

QUALIFICATIONS VALIDATED ANNUALLY
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CUSTOM HYBRID MICROCIRCUITS  
 QML-38534-13  
 31 October 1991  
 SUPERSEDING  
 QML-38534-12  
 17 July 1991

QUALIFIED MANUFACTURERS LIST

OF

FSC 5962
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CUSTOM HYBRID MICROCIRCUITS

QUALIFIED UNDER MILITARY SPECIFICATION

MIL-H-38534

CUSTOM HYBRID MICROCIRCUITS

GENERAL REQUIREMENTS FOR

This list has been prepared for use by or for the Government in the acquisition of products covered by Specification MIL-H-38534. Listing of a product is not intended to and does not connote endorsement of the product by the Department of Defense. This list is subject to change without notice; revision or amendment of this list will be issued as necessary. The listing of a product does not in any way release the supplier from compliance with the individual item specification requirements.

THE ACTIVITY RESPONSIBLE FOR THIS QML IS THE UNITED STATES AIR FORCE, CODE 17. The activity designated as agent for all contacts relative to this QML is the Defense Electronics Supply Center (DESC-EQ), Dayton, OH 45444-5285.

If a manufacturer desires to have test data considered for qualification, he must perform all required qualification tests; the qualification sample must be produced under a valid authorization to test with DESC certified materials and manufacturing construction techniques; and he must comply with the requirements specified in MIL-H-38534 prior to the start of any testing.

The listing of custom hybrid microcircuit materials and manufacturing construction techniques in QML-38534 applies only to products produced on the MIL-STD-1772 certified line(s) at the plant(s) specified on the QML.

Only those products that have been manufactured, assembled, and tested within the United States and its territories, except as provided by international agreement establishing reciprocal and equivalent quality systems and procedures, can be supplied as qualified custom hybrid QML devices.

Custom hybrid microcircuits manufactured, assembled, and tested in accordance with MIL-H-38534 shall bear the "QML" certification mark for SMD controlled hybrid microcircuits and the "CH" (compliant hybrid) certification mark for non-SMD controlled hybrid microcircuits. The certification mark shall be located preceding the date code. The certification mark abbreviation "Q" or "C" may be used for small devices. Products manufactured, assembled, and tested for Class S or Class B, with all the provisions of MIL-H-38534; MIL-STD-883, Test Method 5008; MIL-STD-1772; and with DESC certified materials and manufacturing construction techniques, can be represented as being compliant to the appropriate product assurance levels as listed herein. The information contained in this QML reflects the material and manufacturing construction techniques of the particular test sample(s). Any product represented as being compliant shall be comprised combinatorially of a manufacturer's listing from the materials and manufacturing construction techniques listed herein, as is necessary to meet the requirements of the user. The user shall be responsible for determining if the QML listing is adequate to demonstrate capability for the intended application. Supplemental testing and listing can be accomplished by application and approval of DESC-EQ. Testing is not limited to those materials and manufacturing construction techniques currently listed herein. However, testing must be completed and approved before the product can be shipped or used in the intended application.

To obtain MIL-H-38534 qualified custom hybrid microcircuits, the procurement document must specify that the product be manufactured to MIL-H-38534, and be comprised of materials and manufacturing construction techniques listed herein. Ordering data is contained in paragraph 6.1 of MIL-H-38534. All procurement documents shall meet the requirements of MIL-H-38534, Appendix C (see cautionary note herein).

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CUSTOM HYBRID MICROCIRCUITS  
QML-38534-13

AMSC N/A

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

Caution: Hybrid microcircuit devices that are built tested, and shipped under the QML provision (using certified/qualified manufacturing materials and construction techniques) and in full compliance with MIL-H-38534 and MIL-STD-1772 can be determined by this QML.

Contractor acquiring activities, military program offices, and other government representatives can determine if hybrid microcircuits meet the requirements of MIL-H-38534 and MIL-STD-1772 by:

- a. Product listed in the product eligibility section herein, and
- b. Product marked with "QML" certification for SMD controlled hybrid microcircuits and the "CH" (compliant hybrid certification mark for non-SMD controlled hybrid microcircuits, the certification mark shall precede the date code. the certification mark abbreviation "Q" or "C" may be used for small devices.

Products that do not meet the above conditions are not manufactured on a MIL-STD-1772 certified/qualified line and are not in full compliance with MIL-H-38534 and MIL-STD-1772 requirements. Hybrids microcircuits that require MIL-H-38534 and MIL-STD-1772 and are not listed herein should be carefully reviewed and verified for contract compliance by the acquisition activity. To determine whether new products are in accordance with MIL-H-38534 and MIL-STD-1772 you may call the agent for the qualifying activity (DESC-EQ).

NOTES:

- 1/ The QML listing can be expanded provided appropriate qualification testing is performed and passed. Therefore the manufacture may accept an order for compliant product not covered by his QML listing, but shall not ship the compliant product until the testing has been successfully completed.
- 2/ Package seal perimeter is listed by largest perimeter successfully tested in inches
- 3/ Package lead counts are listed by maximum number of leads covered by qualification.
- 4/ Caution. Do not use this number for item acquisition. Item acquired to this number may not satisfy the performance requirements of the listed SMD.
- 5/ Inactive for new design, no longer available from manufacturer.

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HYBRID MICROCIRCUITS  
QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Advanced Analog A Division of Intech 2270 Martin Avenue Santa Clara, California 95050-2781		52467	CEXA
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-89-065) EQ(EQC-90-652)	Class H	N/A	AD/DA Converters DC/DC Converters Sample and Hold Amplifier
<b>LOCATION: Santa Clara, CA</b> <b>FLOW: 8002-0044</b> <b>CAPABILITY: thick film on alumina, 2 conductor levels, resistors</b>			
<b>LOCATION: Santa Clara, CA</b> <b>FLOW: 8002-0074</b> <b>CAPABILITY: thick film on alumina, 4 conductor levels, resistors</b>			
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>LOCATION: Santa Clara, CA</b> <b>FLOW: 8002-0044</b> <b>CAPABILITY: polymer conductive epoxy; gold wire bonding</b>		<b>LOCATION: Santa Clara, CA</b> <b>FLOW: 8002-0074</b> <b>CAPABILITY: polymer conductive/nonconductive epoxy, solder; gold aluminum, and copper wire bonding</b>	
<b>ADD-ON ELEMENTS: unpackaged die, chip capacitors, molytab, transformer, chip resistor</b> <b>SUBSTRATE ATTACH: polymer conductive/nonconductive epoxy</b>			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	ceramic dual-in-line	metal, with axial leads	
<b>SEAL METHOD:</b>	seam weld	seam weld	
<b>LEAD COUNT:</b>	24	10	
<b>SEAL PERIMETER:</b>	3.69	6.44	
<b>LEAD FINISH:</b>	gold	nickel/gold	

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Advanced Analog A Division of Intech 2270 Martin Avenue Santa Clara, California 95050-2781	52467	CEXA

SPECIFIC PRODUCT TYPES				PRODUCT TYPE/DESCRIPTION	SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/			
5962-8950901XX	1	RGBDAC3808H.B		D/A conv., triple, 8-bit, video RAM	No
5962-8968301HXX	1	AHE2805S/HB		DC/DC conv., 5V, 15W out, single ch.	No
5962-8968301HZX	1	AHE2805SF/HB		DC/DC conv., 5V, 15W out, single ch.	No
5962-8968302HXX	1	AHE2805S/HBSLV		DC/DC conv., 5V, 15W out, single ch.	No
5962-8968302HZX	1	AHE2805S/HBSLV		DC/DC conv., 5V, 15W out, single ch.	No
5962-8968303HXX	1	AHE2805S/HBMST		DC/DC conv., 5V, 15W out, single ch.	No
5962-8968303HZX	1	AHE2805S/HBMST		DC/DC conv., 5V, 15W out, single ch.	No
5962-9162501HXX	1	AHE2815S/HB		DC/DC conv., 15V, 20W output	No
5962-9162501HZX	1	AHE2815SF/HB		DC/DC conv., 15V, 20W output	No
5962-9162502HXX	1	AHE2815S/HBSLV		DC/DC conv., 15V, 20W output	No
5962-9162502HZX	1	AHE2815SF/HBSLV		DC/DC conv., 15V, 20W output	No
5962-9162503HXX	1	AHE2815S/HBMST		DC/DC conv., 15V, 20W output	No
5962-9162503HZX	1	AHE2815SF/HBMST		DC/DC conv., 15V, 20W output	No
Stock class 5915					
5915-9102001HXX	1	AFC-461		Filter, EMF, 4.0 A	No
5915-9102001HXX	1	AFC-461F		Filter, EMF, 4.0 A	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Aeroflex Laboratories Incorporated 35 South Service Road Plainview, NY 11803		88379	CFAS
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-90-616)	Class H	Linear Analog Digital	
<b>RADIATION HARDNESS LEVEL</b>			
N/A			
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Plainview, NY FLOW: QAP21-241 CAPABILITY: thick film on alumina, 1 conductor levels, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Plainview, NY FLOW: QAP21-241 CAPABILITY: polymer conductive epoxy, eutectic; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, tabs SUBSTRATE ATTACH: polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with axial leads		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	24		
<b>SEAL PERIMETER:</b>	4.08		
<b>LEAD FINISH:</b>	gold		

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Aeroflex Laboratories Incorporated 35 South Service Road Plainview, NY 11803	88379	CFAS

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
5962-8604903YX	1	ARX2402	Single channel driver-receiver	No
5962-8952202XX	1	ARX-2453	Interfaces with manchester encoder-decode 1553 transceiver, dual channel	No
<b>NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT:</b>				<b>19</b>

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Analog Devices Incorporated Micro Electronics Division 829 Woburn Street Wilmington, Massachusetts 01887		51640	CEUJ
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQM-87-2531) EQ(EQC-89-253)	Class H	N/A	AD/DA Converters Voltage Reference Signal Processor
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>LOCATION:</b> Wilmington, MA <b>FLOW:</b> EE-QA-8419 <b>CAPABILITY:</b> thick film on alumina, 2 conductor levels, resistors		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>LOCATION:</b> Wilmington, MA <b>FLOW:</b> EE-QA-8122 <b>CAPABILITY:</b> polymer conductive/non-conductive epoxy; gold and aluminum wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors, chip resistor <b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	ceramic dual-in-line	TO can	
<b>SEAL METHOD:</b>	seam weld	projection weld	
<b>LEAD COUNT:</b>	32	12	
<b>SEAL PERIMETER:</b>	4.35	0.942	
<b>LEAD FINISH:</b>	gold	gold	

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HYBRID MICRO CIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Analog Devices Incorporated Micro Electronics Division 829 Woburn Street Wilmington, Massachusetts 01887	51640	CEUJ

SPECIFIC PRODUCT TYPES				PRODUCT TYPE/DESCRIPTION	SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/			
8300201JX	1	DAC87		D/A Conv., 12-bit, programmable	Yes
8503001XX 5/	1	2700SD		Reference, Precision Voltage, +10V	Yes
8503002XX 5/	1	2700UD		Reference, Precision Voltage, +10V	Yes
8503003XX 5/	1	2701SD		Reference, Precision Voltage, -10V	Yes
8503004XX 5/	1	2702SD		Reference, Precision Voltage, +/-10V	Yes
8503005YX	1	2702UD		Reference, Precision Voltage, +/-10V	Yes
8503006YX	1	2701UD		Reference, Precision Voltage, -10V	Yes
5962-8850901XX	1	AD390S		D/A conv, 12-bit, bipolar, linear, quad	Yes
5962-8850902XX	1	AD390T		D/A conv, 12-bit, bipolar, linear, quad	Yes
5962-8851001XX	1	AD394S		D/A conv, 12-bit, bipolar	Yes
5962-8851002XX	1	AD394T		D/A conv, 12-bit, quad, bipolar	Yes
5962-8851003XX	1	AD395S		D/A conv, 12-bit, quad, unipolar	Yes
5962-8851004XX	1	AD395T		D/A conv, 12-bit, quad, unipolar	Yes
5962-8865801XX	1	AD578X		A/D conv, 12-bit, high speed	Yes
5962-8865802XX	1	AD578T		A/D conv, 12-bit, high speed	Yes
5962-8865803XX	1	AD578ZSD		A/D conv, 12-bit, high speed	No
5962-8865804XX	1	AD578ZTD		A/D conv, 12-bit, high speed	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 22

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HYBRID MICROCIRCUITS  
QML-38534-13



MANUFACTURER		CAGE CODE	SYMBOL CODE
Analog Devices Incorporated Computer Labs Division (CLD) 7910 Triad Center Drive Greensboro, North Carolina 27409		34031	CETW

QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQM-87-1030) EQ(EQM-89-506) EQ(EQC-89-038) EQ(EQC-91-177) EQ(EQC-91-748)	Class H	N/A	Buffer Data Converters Op-Amp Track and Hold

**SUBSTRATE FABRICATION OPERATION (S) 1/**

LOCATION: Greensboro, NC  
 FLOW: QAP 3060  
 CAPABILITY: thick film on alumina, 1 conductor level, resistors

LOCATION: Greensboro, NC  
 FLOW: QAP 3060  
 CAPABILITY: thin film on alumina, 1 conductor level, resistors

**ASSEMBLY OPERATION(S) 1/**

LOCATION: Greensboro, NC  
 FLOW: QAP 3060  
 CAPABILITY: polymer conductive epoxy; gold and aluminum wire bonding

LOCATION: N/A  
 FLOW: N/A  
 CAPABILITY: N/A

**ADD-ON ELEMENTS:** unpackaged die, chip capacitors  
**SUBSTRATE ATTACH:** polymer nonconductive epoxy

**PACKAGE INFORMATION 1/ 2/ 3/**

PACKAGE TYPE:	TO can	metal, with axial leads
SEAL METHOD:	projection Weld	seam Weld
LEAD COUNT:	12	24
SEAL PERIMETER:	1.91	4.08
LEAD FINISH:	gold & solder	gold & solder

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Analog Devices Incorporated Computer Labs Division (CLD) 7910 Triad Center Drive Greensboro, North Carolina 27409	34031	CETW

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
8001301ZX	1	0032	Op amp, thick film	Yes
8001401ZX	1	0033	Hi Speed Buffer Amp, Volt. Foll., FET in	Yes
5962-8857901XC	1	HOS-050A	Op Amp, Video, Fast Settling, +/- 15mV	Yes
5962-8857902XC	1	HOS-060SH	Op Amp, Video, Fast Settling, +/- 1.5mV	Yes

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 17

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HYBRID MICROCIRCUITS  
QML-38534-13

<b>MANUFACTURER</b>			<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Apex Microtechnology Corporation 5980 North Shannon Road Tucson, AZ 85741			60024	CFAB
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-89-071) EQ(EQC-91-347)	Class H	N/A	Power Operational Amplifier	
<b>SUBSTRATE FABRICATION OPERATION(S) 1/</b>				
<b>LOCATION:</b> Tucson, AZ <b>FLOW:</b> FLOW 01 <b>CAPABILITY:</b> thick film on beryllium oxide, 1 conductor level, resistors		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A		
<b>ASSEMBLY OPERATION(S) 1/</b>				
<b>LOCATION:</b> Tucson, AZ <b>FLOW:</b> FLOW 10, FLOW 99 <b>CAPABILITY:</b> polymer conductive epoxy, solder; aluminum wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A		
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors <b>SUBSTRATE ATTACH:</b> solder				
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>				
<b>PACKAGE TYPE:</b>	TO can			
<b>SEAL METHOD:</b>	projection weld			
<b>LEAD COUNT:</b>	8			
<b>SEAL PERIMETER:</b>	2.67			
<b>LEAD FINISH:</b>	gold			

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Apex Microtechnology Corporation 5980 North Shannon Road Tucson, AZ 85741	60024	CFAB

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
5962-8762002HXC	1	PA51M/883	High power operational amplifier	No
5962-9063801HXX	1	PA07M/883	Power operational amplifier	No
5962-9065901HXX	1	PA12M/883	Operational amplifier, power	No
5962-9067901HXX	1	PA02M/883	Power operational amplifier	No
5962-9072301HXX	1	PA08M/883	Power operational amplifier	No
5962-9082801HXX	1	PA10M/883	Power operational amplifier	No
5962-9162101HXX	1	PA83M/883	Power operational amplifier	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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HYBRID MICROCIRCUITS  
QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Beckman Industrial Corporation Electronic Technologies Division 4141 Palm Street Fullerton, California 92635		73138	CEXB
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-89-071)	Class H	Data Converters Voltage Regulator Analog	
<b>RADIATION HARDNESS LEVEL</b>			
N/A			
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>LOCATION:</b> Fullerton, CA <b>FLOW:</b> 800-403-1 <b>CAPABILITY:</b> thick film on alumina, 1 conductor level, resistors		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>LOCATION:</b> Fullerton, CA <b>FLOW:</b> 800-403-1 <b>CAPABILITY:</b> polymer conductive epoxy, eutectic; gold wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors, chip resistors, molytabs <b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with peripheral leads		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	38		
<b>SEAL PERIMETER:</b>	3.58		
<b>LEAD FINISH:</b>	solder		

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/ QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Beckman Industrial Corporation Electronic Technologies Division 4141 Palm Street Fullerton, California 92635	73138	CExB

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Boeing Electronics Company 20403 Sixty-Eighth Avenue South Kent, Washington 98124	81205	CEUW

<b>QUALIFICATION LETTER(S)</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQM-87-2947) EQ(EQC(91-624) EQ(EQC-91-046) EQ(EQC(91-438) EQ(EQC-91-079) EQ(EQC(91-624) EQ(EQC-91-228) EQ(EQC-91-630) EQ(EQC-91-672)	N/A	Custom
<b>PRODUCT CLASS DESIGNATOR</b>	<b>Class H</b>	

**SUBSTRATE FABRICATION OPERATION (S) 1/**

**LOCATION:** Kent, WA  
**FLOW:** D900-10476-1-2  
**CAPABILITY:** thick film on alumina, 10 conductor levels, resistors; thick film on beryllia, 5 conductor levels

**LOCATION:** N/A  
**FLOW:** N/A  
**CAPABILITY:** N/A

**ASSEMBLY OPERATION(S) 1/**

**LOCATION:** Kent, WA  
**FLOW:** D900-10476-1-2  
**CAPABILITY:** polymer conductive/nonconductive epoxy, eutectic; gold wire and ribbon bonding

**LOCATION:** N/A  
**FLOW:** N/A  
**CAPABILITY:** N/A

**ADD-ON ELEMENTS:** unpackaged die, chip capacitors, tabs  
**SUBSTRATE ATTACH:** polymer nonconductive epoxy

**PACKAGE INFORMATION 1/ 2/ 3/**

**PACKAGE TYPE:** metal, with axial leads  
**SEAL METHOD:** seam weld  
**LEAD COUNT:** 30  
**SEAL PERIMETER:** 5.86  
**LEAD FINISH:** gold

metal, with peripheral leads  
 seam weld  
 94  
 9.16  
 gold

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Boeing Electronics Company 20403 Sixty-Eighth Avenue South Kent, Washington 98124	81205	CEUW

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 3

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HYBRID MICROCIRCUITS  
QML-38534-13



<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
CTS Microelectronics 1201 Cumberland Avenue West Lafayette, Indiana 47906		23223	CEUR
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQN-88-1587) EQ(EQN-87-2173)	Class H	N/A	Analog Converter Power Converter
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>LOCATION:</b> West Lafayette, IN <b>FLOW:</b> STD-RC-HIREL, STD-TF-MLT-LYR <b>CAPABILITY:</b> thick film on alumina, 3 conductor levels; Thick film on alumina, 1 conductor level, resistors		<b>LOCATION:</b> West Lafayette, IN <b>FLOW:</b> STD-THINFLM-BD1 <b>CAPABILITY:</b> thin film on alumina, 1 conductor level, resistors	
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>LOCATION:</b> West Lafayette, IN <b>FLOW:</b> STD-C&W-1772 <b>CAPABILITY:</b> polymer conductive/nonconductive epoxy, eutectic; gold wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors, chip resistors <b>SUBSTRATE ATTACH:</b> polymer conductive/nonconductive epoxy, solder, eutectic			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	ceramic dual-in-line	<b>TO can</b>	Metal, with peripheral leads
<b>SEAL METHOD:</b>	solder	projection weld	Seam weld
<b>LEAD COUNT:</b>	14	12	30
<b>SEAL PERIMETER:</b>	1.39	2.75	4.40
<b>LEAD FINISH:</b>	gold	gold/solder	Gold

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
CTS Microelectronics 1201 Cumberland Avenue West Lafayette, Indiana 47906	23223	CEUR

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
7801301XX	1	CTS0002	Amplifier, current, thick/thin film	Yes
7801301GX	1	CTS0002XB	Amplifier, current, thick/thin film	Yes
8001301ZX	1	CTS00322B	Op Amp, thick film	No
8001401ZX	1	CTS00332B	Hi Speed Buffer Amp, Volt. Foll., FET in	No
8508701ZX	1	CTS00412B	Hi Pwr. Op Amp, Ext. Comp., 2.0A out	No
8508801YX	1	CTS00212B	Hi Pwr. Op Amp, Ext. Comp., 1.0A out	No
5962-8761701XX	1	CTS00061B	Driver, High Voltage, 1.5A	No
5962-8761702XX	1	CTS00081B	Driver, High Voltage, 3.0A	No

**NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 7**

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Canadian Marconi Company 2442 Trenton Avenue Montreal, Quebec, Canada H3P 1Y9		90073	CDDF
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-91-720)	Class H	Voltage Regulator	
<b>RADIATION HARDNESS LEVEL</b>			
N/A			
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>LOCATION:</b> Montreal, Canada <b>FLOW:</b> 411-146425-000 <b>CAPABILITY:</b> Thick film on alumina, 1 conductor levels, resistors		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>LOCATION:</b> Montreal, Canada <b>FLOW:</b> 411-146426-000 <b>CAPABILITY:</b> polymer conductive and nonconductive epoxy, eutectic, gold wire bonding.		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitor. <b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy.			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with axial leads		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	16		
<b>SEAL PERIMETER:</b>	3.61		
<b>LEAD FINISH:</b>	gold		

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Canadian Marconi Company 2442 Trenton Avenue Montreal, Quebec Canada H3P 1Y9	90073	CDDF

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Comlinear Corporation 4800 Wheaton Drive Fort Collins, Colorado 80525		62839	CEYA
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-89-0244) EQ(EQC-90-0392) EQ(EQC-90-0393) EQ(EQC-91-0704)	Class H	Data Converters Op-Amp	
<b>RADIATION HARDNESS LEVEL</b>		<b>SUBSTRATE FABRICATION OPERATION (S)</b>	
N/A		1/	
<b>LOCATION: Fort Collins, CO</b>		<b>LOCATION: N/A</b>	
<b>FLOW: TFS-01-001</b>		<b>FLOW: N/A</b>	
<b>CAPABILITY: thin film on alumina, 1 conductor level, resistors</b>		<b>CAPABILITY: N/A</b>	
<b>ASSEMBLY OPERATION(S)</b>		<b>ASSEMBLY OPERATION(S)</b>	
1/ 2/ 3/		1/	
<b>LOCATION: Fort Collins, CO</b>		<b>LOCATION: N/A</b>	
<b>FLOW: PDS-01-001</b>		<b>FLOW: N/A</b>	
<b>CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding</b>		<b>CAPABILITY: N/A</b>	
<b>ADD-ON ELEMENTS: unpackaged die, chip capacitors</b>			
<b>SUBSTRATE ATTACH: polymer nonconductive epoxy</b>			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	TO can	<b>Ceramic dual-in-line</b>	
<b>SEAL METHOD:</b>	projection weld	<b>Seam weld</b>	
<b>LEAD COUNT:</b>	12	40	
<b>SEAL PERIMETER:</b>	1.81	6.22	
<b>LEAD FINISH:</b>	Gold & solder	Gold & solder	

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Comlinear Corporation 4800 Wheaton Drive Fort Collins, Colorado 80525	62839	CEYA

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8959401XX	1	CLC231A8C	Op amp, wideband, high speed	YES
5962-8985801XX	1	CLC206A8C	Op amp, wideband	YES
5962-8991001XX	1	CLC200A8C	Op amp, wideband, high speed	YES
5962-8991101XX	1	CLC220A8C	Op amp, wideband	YES
5962-9083301HXX	1	CLC201A8C	Op amp, wideband	YES
5962-9083501HXX	1	CLC205A8C	Op amp, wideband	YES
5962-9083601HXX	1	CLC221A8C	Op amp, wideband	NO

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 2

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Datel Incorporated 11 Cabot Boulevard Mansfield, MA 02048-1194		50721	CFAT

<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-90-0626) EQ(EQC-90-0677) EQ(EQC-91-029)	Class H	N/A	Digital

**SUBSTRATE FABRICATION OPERATION (S) 1/**

LOCATION: Mansfield, MA  
 FLOW: D-4552  
 CAPABILITY: thick film on alumina, 2 conductor levels

LOCATION: N/A  
 FLOW: N/A  
 CAPABILITY: N/A

**ASSEMBLY OPERATION(S) 1/**

LOCATION: Mansfield, MA  
 FLOW: D-4552  
 CAPABILITY: polymer conductive/nonconductive epoxy;  
 gold wire bonding

LOCATION: N/A  
 FLOW: N/A  
 CAPABILITY: N/A

**ADD-ON ELEMENTS:** unpackaged die, chip capacitors, chip resistors  
**SUBSTRATE ATTACH:** polymer nonconductive epoxy

**PACKAGE INFORMATION 1/ 2/ 3/**

<b>PACKAGE TYPE:</b>	ceramic dual-in-line
<b>SEAL METHOD:</b>	seam weld
<b>LEAD COUNT:</b>	32
<b>SEAL PERIMETER:</b>	5.57
<b>LEAD FINISH:</b>	gold

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/ QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Datel Incorporated 11 Cabot Boulevard Mansfield, MA 02048-1194	50721	CFAT

SPECIFIC PRODUCT TYPES					SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION		
5962-8850801XX	1	ADC-HX/883B	A/D Conv., 12-bit, 20us conversion time	No	
5962-8850802XX	1	ADC-Hz/883B	A/D Conv., 12-bit, 8us conversion time	No	
5962-8952801XX	1	DAC HKB/883B	D/A Conv., 12-bit, binary input code	No	
5962-8952802XX	1	DAC HKB-2/883B	D/A Conv., 12-bit, two's complement	No	
5962-8953101XX	1	DAC HPB/883B	D/A Conv., 16-bit, 0 to +10, +5 volts output	No	
5962-8953102XX	1	DAC HPB-1/883B	D/A Conv., 16-bit, +10 volts output	No	

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 1

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 HYBRID MICROCIRCUITS  
 QML-38534-13



<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Elantec Incorporated 1996 Tarob Court Milpitas, California 95035		64762	CEWO
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQM-88-1646) EQ(FQC-90-0804)	Class H	Analog Converter Power Converter	
<b>RADIATION HARDNESS LEVEL</b>			
N/A			
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Milpitas, CA FLOW: FCA-0002 CAPABILITY: thick film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Milpitas, CA FLOW: FCA-0004, FCA-0008, FCA-0015 CAPABILITY: eutectic; aluminum & gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die			
<b>SUBSTRATE ATTACH:</b> solder, polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	TO can		
<b>SEAL METHOD:</b>	projection weld		
<b>LEAD COUNT:</b>	12		
<b>SEAL PERIMETER:</b>	2.31		
<b>LEAD FINISH:</b>	gold & solder		

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Elantec Incorporated 1996 Tarob Court Milpitas, California 95035	64762	CEWO

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
7801301XX	1	0002	Amplifier, current, thick film	Yes
8001301ZX	1	0032	Op amp, thick film	Yes
8001401ZX	1	0033	Hi Speed Buffer Amp, Volt. Foll., FET in	Yes
8508701ZX	1	0041	Hi Power Op Amp, Ext. Comp., 0.2A Out.	Yes
8508801YX	1	ELH0021K	Hi pwr. Op amp, ext. comp., 1.0A Out.	Yes
8508901YX	1	ELH0101AK	Hi pwr. Op amp, wideband, thick film	Yes
8508902YX	1	ELH0101K	Hi pwr. Op amp, wideband, thick film	Yes
5962-8965901XX	1	EL2004G/883B	Buffer amp, FET in.	Yes

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 1

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Film Microelectronics Incorporated 10-B Centennial Drive Peabody, Massachusetts 01960		27851	CEYB
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-89-233)	Class H	Power (Buffer) Bi-polar	
<b>RADIATION HARDNESS LEVEL</b>		<b>ASSEMBLY OPERATION(S)</b>	
N/A		SUBSTRATE FABRICATION OPERATION (S) 1/ 1/	
<b>LOCATION: Burlington, MA</b>		<b>LOCATION: N/A</b>	
<b>FLOW: 52-0069</b>		<b>FLOW: N/A</b>	
<b>CAPABILITY: thin film on Beryllia, 1 conductor level</b>		<b>CAPABILITY: N/A</b>	
<b>LOCATION: Peabody, MA</b>		<b>LOCATION: N/A</b>	
<b>FLOW: 52-0015</b>		<b>FLOW: N/A</b>	
<b>CAPABILITY: polymer conductive epoxy; gold wire bonding</b>		<b>CAPABILITY: N/A</b>	
<b>ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors</b>			
<b>SUBSTRATE ATTACH: polymer nonconductive epoxy</b>			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with peripheral leads		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	19		
<b>SEAL PERIMETER:</b>	4.78		
<b>LEAD FINISH:</b>	gold		

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Film Microelectronics Incorporated 10-B Centennial Drive Peabody, Massachusetts 01960	27851	CEYB

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
General Microcircuits Corporation 780 Boston Road BillERICA, Massachusetts 08121		67294	CEYC
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-89-0235)	Class H	N/A	Custom
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: BillERICA, MA FLOW: 10000 CAPABILITY: thin film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: BillERICA, MA FLOW: 10000 CAPABILITY: polymer conductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors <b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with peripheral leads		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	22		
<b>SEAL PERIMETER:</b>	2.05		
<b>LEAD FINISH:</b>	gold		

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
General Microcircuits Corporation 780 Boston Road Billerica, Massachusetts 08121	67294	CEYC

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Hewlett-Packard Company Optical Communications Division 370 West Trimble Road San Jose, California 95131		50434	CEUS
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQM-87-2594) EQ(EQM-88-1265) EQ(EQC-90-0754)	Class H	Optocoupler	
	<b>RADIATION HARDNESS LEVEL</b>		
	N/A		
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: San Jose, CA FLOW: 5956-9439-20,5956-8000-20,5956-9523-30,5956-9526-30 CAPABILITY: light emitting diode fabrication ,integrated circuit fabrication		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: San Jose, CA FLOW: 1CP1-0016-3 CAPABILITY: eutectic; gold and aluminum wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die SUBSTRATE ATTACH: eutectic, solder			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	ceramic dual-in-line	leadless chip carrier	
<b>SEAL METHOD:</b>	solder	solder	
<b>LEAD COUNT:</b>	16	20	
<b>SEAL PERIMETER:</b>	1.28	0.92	
<b>LEAD FINISH:</b>	gold, solder	solder	

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Hewlett-Packard Company Optical Communications Division 370 West Trimble Road San Jose, California 95131	50434	CEUS

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
8102801EX	1	6N134	Optocoupler, dual channel	Yes
8302401EX	1	6N140A	Optocoupler, quad	Yes
5962-8767901EX	1	4N55/883B	Optocoupler, dual channel	Yes
5962-8767902PX	1	HCPL-5531	Optocoupler, dual channel	Yes
5962-87679032A	1	HCPL-6531	Optocoupler, dual channel	No
5962-8876801PX	1	HCPL-5201	Optocoupler, single channel	Yes
5962-8876901PX	1	HCPL-5231	Optocoupler, dual channel	Yes
5962-88769022X	1	HCPL-6231	Optocoupler, dual channel	No
5962-8947701PX	1	HCPL-5761	Optocoupler, AC/DC logic interface	No
5962-8957001PX	1	HCPL-5401	Optocoupler, high speed, single channel	Yes
5962-8957101PX	1	HCPL-5431	Optocoupler, high speed, dual channel	Yes
5962-89571022X	1	HCPL-6431	Optocoupler, high speed, high speed	Yes
5962-8957201EX	1	HCPL-1931	Optocoupler, dual channel, dual channel	Yes
5962-8978501PX	1	HCPL-5731	Optocoupler-line receiver, dual channel	Yes
5962-89785022X	1	HCPL-6731	Optocoupler, dual channel	No
5962-8981001PX	1	HCPL-5701	Optocoupler, dual channel, LCC package	No
5962-9085401PX	1	HCPL-5501	Optocoupler, single channel, high gain	No
			Optocoupler, single ch.,transistr out	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 21

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 HYBRID MICROCIRCUITS  
 QML-38534-13



<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Honeywell Incorporated Sperry Central Manufacturing 21111 North Nineteenth Avenue Phoenix, Arizona 85036		58960	CEUT
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQM-87-1933) EQ(EQC-90-0768)	Class H	Analog Digital Drive controller	
<b>RADIATION HARDNESS LEVEL</b>			
N/A			
<b>SUBSTRATE FABRICATION OPERATION (S) I/</b>			
<b>LOCATION:</b> Phoenix, AZ <b>FLOW:</b> 51549 <b>CAPABILITY:</b> thick film on alumina, 2 conductor levels, resistors		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S) I/</b>			
<b>LOCATION:</b> Phoenix, AZ <b>FLOW:</b> 51550 <b>CAPABILITY:</b> polymer conductive/nonconductive epoxy; gold wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die <b>SUBSTRATE ATTACH:</b> eutectic			
<b>PACKAGE INFORMATION I/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b> metal, with peripheral leads <b>SEAL METHOD:</b> seam weld <b>LEAD COUNT:</b> 36 <b>SEAL PERIMETER:</b> 3.5 <b>LEAD FINISH:</b> gold			

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Honeywell Incorporated Sperry Central Manufacturing 21111 North Nineteenth Avenue Phoenix, Arizona 85036	58960	CEUT

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A
<b>NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 1</b>				

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Honeywell Incorporated Military Avionics Division 13350 U. S. Highway 19 South Clearwater, Florida 34624		09128	CEWN
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQM-88-1324)	Class H	Data converters Signal processors	
<b>RADIATION HARDNESS LEVEL</b>	<b>SUBSTRATE FABRICATION OPERATION (S)</b>		
N/A	1/		
<b>LOCATION:</b> Clearwater, FL <b>FLOW:</b> DR16393 <b>CAPABILITY:</b> thin film on alumina, 1 conductor level, resistors		<b>LOCATION:</b> Clearwater, FL <b>FLOW:</b> DR16393 <b>CAPABILITY:</b> thick film on alumina, 6 conductor levels, thick film on alumina, 3 conductor levels, resistors	
<b>ASSEMBLY OPERATION(S)</b>			
1/			
<b>LOCATION:</b> Clearwater, FL <b>FLOW:</b> DR16393 <b>CAPABILITY:</b> polymer conductive/nonconductive epoxy; gold wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors <b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with peripheral leads	metal, with axial leads	
<b>SEAL METHOD:</b>	seam weld	seam weld	
<b>LEAD COUNT:</b>	16	16	
<b>SEAL PERIMETER:</b>	2.77	2.0	
<b>LEAD FINISH:</b>	gold	gold	

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Honeywell Incorporated Military Avionics Division 13350 U. S. Highway 19 South Clearwater, Florida 34624	09128	CEWN

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Hughes Aircraft Company Microelectronics Circuit Division Space Business Unit 500 Superior Avenue Building 700 P. O. Box H Newport Beach, California 92658-8903		55267	CEYN
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-89-341)	Class H	N/A	Analog Digital
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>LOCATION:</b> Space Business Unit, Newport Beach, CA <b>FLOW:</b> 1051091 <b>CAPABILITY:</b> thick film on alumina, 1 conductor level, resistors		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>LOCATION:</b> Space Business Unit, Newport Beach, CA <b>FLOW:</b> 1120379 <b>CAPABILITY:</b> polymer conductive epoxy, eutectic; gold wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors, molytab <b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with axial leads		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	22		
<b>SEAL PERIMETER:</b>	2.03		
<b>LEAD FINISH:</b>	gold		

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<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Hughes Aircraft Company Microelectronics Circuit Division Multichip Microcircuit Business Unit (E1000) 500 Superior Avenue Building 700 P. O. Box H Newport Beach, California 92658-8903		55267	CEYN
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-90-326)	Class H	Analog Digital	
<b>RADIATION HARDNESS LEVEL</b>	<b>SUBSTRATE FABRICATION OPERATION (S)</b> 1/		
N/A	LOCATION: Multichip Microcircuit Business Unit, Newport, CA      LOCATION: N/A FLOW: 1051089      FLOW: N/A CAPABILITY: thin film on alumina, 1 conductor level, resistors      CAPABILITY: N/A		
<b>ASSEMBLY OPERATION(S)</b> 1/			
LOCATION: Multichip Microcircuit Business Unit, Newport, CA      LOCATION: N/A FLOW: 1050994      FLOW: N/A CAPABILITY: polymer conductive epoxy, eutectic; gold wire bonding		CAPABILITY: N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors, chip resistor			
<b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION</b> 1/ 2/ 3/			
<b>PACKAGE TYPE:</b>	leadless chip carrier		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	68		
<b>SEAL PERIMETER:</b>	4.25		
<b>LEAD FINISH:</b>	solder		

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Hughes Aircraft Company Microelectronics Circuit Division Space/Multichip Micro. Business Unit 500 Superior Avenue Building 700 P. O. Box H Newport Beach, California 92658	55267	CEYN

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Hycomp Incorporated 165 Cedar Hill Street Marlborough, Massachusetts 01752		34707	CEYP
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-89-421)	Class H	Voltage Reference Analog	
<b>RADIATION HARDNESS LEVEL</b>			
N/A			
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Marlborough, MA FLOW: EMA-75 CAPABILITY: thin film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Marlborough, MA FLOW: EMA-75 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors, chip resistors			
<b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	ceramic dual-in-line		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	10		
<b>SEAL PERIMETER:</b>	2.9		
<b>LEAD FINISH:</b>	gold		

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HYBRID MICROCIRCUITS  
QML-38534-13



**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Hycorp Incorporated 165 Cedar Hill Street Marlborough, Massachusetts 01752	34707	CEYP

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
8503001YX	1	2700SD	Reference, Precision Voltage, +10V	No
8503002XX	1	2700UD	Reference, Precision Voltage, +10V	No
8503003XX	1	2701SD	Reference, Precision Voltage, -10V	No
8503004XX	1	2702SD	Reference, Precision Voltage, +/-10V	No
8503005YX	1	2702UD	Reference, Precision Voltage, +/-10V	No
8503006YX	1	2701UD	Reference, Precision Voltage, -10V	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 22

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Hytek Microsystems Incorporated 400 Hot Springs Road Carson City, Nevada 89706		0ANM4	CEYO
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-89-382)	Class H	Active Delay Line	
<b>RADIATION HARDNESS LEVEL</b>			
N/A			
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>LOCATION:</b> Carson City, NV <b>FLOW:</b> RN1005-002 <b>CAPABILITY:</b> thick film on alumina, 2 conductor levels, resistors		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>LOCATION:</b> Carson City, NV <b>FLOW:</b> RN1005-002 <b>CAPABILITY:</b> polymer conductive/nonconductive epoxy, solder; gold wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors, inductors <b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b> platform <b>SEAL METHOD:</b> projection weld <b>LEAD COUNT:</b> 14 <b>SEAL PERIMETER:</b> 2.75 <b>LEAD FINISH:</b> solder			

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Hytek Microsystems Incorporated 400 Hot Springs Road Carson City, Nevada 89706	0ANM4	CEYO

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A
<b>NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT:</b>				<b>74</b>

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
ILC Data Device Corporation 105 Wilbur Place Bohemia, New York 11716		19645	CEPB

<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-90-220) EQ(EQC-91-104) EQ(EQC-91-306) EQ(EQC-91-308) EQ(EQC-91-386) EQ(EQC-91-667)	Class H	N/A	1553 Bus Data Converters

**SUBSTRATE FABRICATION OPERATION (S) 1/**

LOCATION: Bohemia, NY  
 FLOW: 41637  
 CAPABILITY: thick film on alumina, 5 conductor levels, resistors

LOCATION: Bohemia, NY  
 FLOW: 41638  
 CAPABILITY: thin film on alumina, 1 conductor level, resistors

**ASSEMBLY OPERATION(S) 1/**

LOCATION: Bohemia, NY  
 FLOW: 36070, 36071  
 CAPABILITY: polymer conductive/nonconductive epoxy, solder; gold wire bonding

LOCATION: N/A  
 FLOW: N/A  
 CAPABILITY: N/A

**ADD-ON ELEMENTS:** unpackaged die, chip capacitors  
**SUBSTRATE ATTACH:** polymer nonconductive epoxy, solder

**PACKAGE INFORMATION 1/ 2/ 3/**

<b>PACKAGE TYPE:</b>	metal, with axial leads	metal, with peripheral leads	ceramic dual-in-line
<b>SEAL METHOD:</b>	seam weld	seam weld	seam weld
<b>LEAD COUNT:</b>	94	82	24
<b>SEAL PERIMETER:</b>	10.26	7.58	4.09
<b>LEAD FINISH:</b>	gold	gold	gold

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
ILC Data Device Corporation 30 Orville Drive Bohemia, New York 11716		19645	CEPB
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-90-657)	Class H	Data Converters	
	<b>RADIATION HARDNESS LEVEL</b>		
	N/A		

**SUBSTRATE FABRICATION OPERATION (S) 1/**

LOCATION: Bohemia, NY  
 FLOW: 41639  
 CAPABILITY: thick film on alumina, 3 conductor levels, resistors

LOCATION: Bohemia, NY  
 FLOW: 41638  
 CAPABILITY: thin film on alumina, 1 conductor level, resistors

**ASSEMBLY OPERATION(S) 1/**

LOCATION: Bohemia, NY (Power Line)  
 FLOW: 41634  
 CAPABILITY: polymer conductive epoxy; gold wire bonding

LOCATION: N/A  
 FLOW: N/A  
 CAPABILITY: N/A

**ADD-ON ELEMENTS:** unpackaged die, chip capacitors, chip resistors  
**SUBSTRATE ATTACH:** polymer conductive/nonconductive epoxy

**PACKAGE INFORMATION 1/ 2/ 3/**

<b>PACKAGE TYPE:</b>	metal, with axial leads
<b>SEAL METHOD:</b>	seam weld
<b>LEAD COUNT:</b>	24
<b>SEAL PERIMETER:</b>	4.10
<b>LEAD FINISH:</b>	gold

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW, QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
IILC Data Device Corporation 105 Wilbur Place Bohemia, New York 11716	19645	CEPB

SPECIFIC PRODUCT TYPES				PRODUCT TYPE/DESCRIPTION	SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/			
5962-86049022X	1	BUS63105II		1553 Single Ch., Dvr./Rec., Low Power	Yes
5962-8604902TX	1	BUS63106II		1553 Single Ch., Dvr./Rec., Low Power	Yes
5962-8604902XC	1	BUS63105		1553 Single Ch., Dvr./Rec.	No
5962-8753501XA	1	BUS65112		1553 Remote Terminal Unit, Dual Redun.	Yes
5962-8753501YA	1	BUS65117		1553 Remote Terminal Unit, Dual Redun.	Yes
5962-8757902XA	1	BUS63125II		1553 Dual Ch., Dvr./Rec., Low Pwr., -15V	Yes
5962-8757902XC	1	BUS63125II		1553 Dual Ch., Dvr./Rec., Low Pwr., -15V	Yes
5962-8757902YC	1	BUS63126II		1553 Dual Ch., Dvr./Rec., Low Pwr., -15V	Yes
5962-8768701XC	1	HSDC8920A883B		R/S-to-digi. conv., 400Hz, +/-4.0 ARCMIN	Yes
5962-8768702XC	1	HSDC8920883B		R/S-to-digi. conv., 400Hz, +/-2.6 ARCMIN	No
5962-8851702XA	1	DAC02310-113		D/A Conv., 14-bit, deglitched	No
5962-8851702XC	1	DAC02310-113		D/A Conv., 14-bit, deglitched	Yes
5962-8851702YA	1	DAC02311-113		D/A Conv., 14-bit, deglitched	No
5962-8851702YC	1	DAC02311-113		D/A Conv., 14-bit, deglitched	No
5962-8851701XA	1	DAC02310-112		D/A Conv., 14-bit, deglitched	Yes
5962-8851701XC	1	DAC02310-112		D/A Conv., 14-bit, deglitched	Yes
5962-8851701YA	1	DAC02311-112		D/A Conv., 14-bit, deglitched	No
5962-8851701YC	1	DAC02311-112		D/A Conv., 14-bit, deglitched	No
5962-8854201XC	1	ADC00300-112		A/D Conv., 12-bit track/hold	Yes
5962-8858501XX	1	BUS65600-883B		1553 Bus Cntrl/RTU/MT, Dual Redundant	No
5962-8869201XA	1	BUS61553-883B		1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869201XC	1	BUS61553-883B		1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869201YA	1	BUS61563-883B		1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869201YC	1	BUS61563-883B		1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
ILC Data Device Corporation 105 Wilbur Place Bohemia, New York 11716	19645	CEPB

SPECIFIC PRODUCT TYPES			PRODUCT TYPE/DESCRIPTION	SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/		
5962-8869202XA	1	BUS61554-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869202XC	1	BUS61554-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869202YC	1	BUS61564-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	No
5962-8869203XC	1	BUS61555-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	No
5962-8869203YC	1	BUS61565-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869204XC	1	BUS61556-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	No
5962-8944704HXC	1	BUS63135II	Dual channel, driver-reciever, rec.idle	Yes
5962-8944704HYC	1	BUS63136II	Dual channel, driver-reciever, rec.idle	No
5962-8949903XC	1	SDC14560-605	S/D Conv,11.8V,400Hz,Prog. Res.,2 Mn.Arc	Yes
5962-8982601XC	1	BUS63127II	Low power, dual channel, driver-reciever	Yes
5962-8982601YC	1	BUS63128II	Low power, dual channel, driver-reciever	Yes
5962-8990803XC	1	SDC14565-616	11.8V,400 Hz,80 Hz BW,R/D Converter	Yes
5962-9055101XC	1	SDC14567-111	DR/D converter,400Hz,+/-6.0 min. acc.	Yes
5962-9055102XC	1	SDC14567-112	DR/D converter,400Hz,+/-4.0 min. acc.	Yes
5962-9055103XC	1	SDC14567-114	DR/D converter,400Hz,+/-2.0 min. acc.	Yes
5962-9055104XC	1	SDC14567-115	DR/D converter,400Hz,+/-1.0 min. acc.	Yes
5962-9055105XC	1	SDC14569-111	DR/D converter,trim.vel.,400Hz,+/-6.0acc	Yes
5962-9055106XC	1	SDC14569-112	DR/D converter,trim.vel.,400Hz,+/-4.0acc	No
5962-9055107XC	1	SDC14569-114	DR/D converter,trim.vel.,400Hz,+/-2.0acc	No
5962-9055108XC	1	SDC14569-115	DR/D converter,trim.vel.,400Hz,+/-1.0acc.	No
5962-9055401XC	1	HSDC8915A883B	R/D or S/D converter,+/-2.6 arcmin acc.	No
5962-9055402XC	1	HSDC8915883B	R/D or S/D converter,+/-4.0 arcmin acc.	No
5962-9070701HXC	1	SDC14500-635	S/D converter,400Hz,11.8v,acc.+/-2.6	No
5962-9070702HXC	1	SDC14500-636	S/D converter,400Hz,11.8v,acc.+/-4.0	No
5962-9070703HXC	1	SDC14502-605	S/D converter,400Hz,11.8v,acc.+/-2.6	No
5962-9070704HXC	1	SDC14502-606	S/D converter,400Hz,11.8v,acc.+/-4.0	No
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING			MIL-H-38534 COMPLIANT:	1

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HYBRID MICROCIRCUITS  
QML-38534-XX

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Interpoint Corporation 10301 Willows Road Redmond, Washington 98052		50821	CEUU
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQM-87-2838) EQ(EQM-89-0439)	Class H	Linear amplifier Signal processor Data converters Analog, Digital	
	<b>RADIATION HARDNESS LEVEL</b>		
	N/A		
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Redmond, WA FLOW: QA-039 CAPABILITY: thick film on alumina, 2 conductor levels, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Redmond, WA FLOW: QA-039 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ADD-ON ELEMENTS: unpackaged die, chip capacitors</b>			
<b>SUBSTRATE ATTACH: polymer nonconductive epoxy</b>			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with axial leads		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	38		
<b>SEAL PERIMETER:</b>	6.0		
<b>LEAD FINISH:</b>	gold		

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**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Interpoint Corporation 10301 Willows Road Redmond, Washington 98052	50821	CEUU

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
ITT Avionics Division 100 Kingsland Road Clifton, New Jersey 07014		28527	CEWQ
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQM-88-1955) EQ(EQC-91-367) EQ(EQC-91-543) EQ(EQC-91-556)	Class H	N/A	Memory Custom
<b>LOCATION: Clifton, NJ</b>			
<b>FLOW: TFH-102</b>			
<b>CAPABILITY: thick film on alumina, 8 conductor levels, resistors</b>			
<b>LOCATION: Clifton, NJ</b>		<b>LOCATION: N/A</b>	
<b>FLOW: TFH-103</b>		<b>FLOW: N/A</b>	
<b>CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding</b>		<b>CAPABILITY: N/A</b>	
<b>ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors, ceramic posts, tabs</b>			
<b>SUBSTRATE ATTACH: polymer nonconductive/conductive epoxy</b>			
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with axial leads	metal, with peripheral leads	
<b>SEAL METHOD:</b>	seam weld	seam weld	
<b>LEAD COUNT:</b>	78	94	
<b>SEAL PERIMETER:</b>	7.94	9.16	
<b>LEAD FINISH:</b>	gold	gold	

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
ITT Avionics Division 100 Kingsland Road Clifton, New Jersey 07014	28527	CEWQ

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0				

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
M.S. Kennedy Corporation 8170 Thompson Road Clay, NY 13041		51651	CFAA
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-90-451) EQ(EQC-90-507)	Class H	N/A	High Power DC-Amplifier
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Clay, NY FLOW: 2422-1563 CAPABILITY: thick film on alumina, 1 conductor level, resistors		LOCATION: Clay, NY FLOW: 2422-1563 CAPABILITY: thick film on beryllia, 2 conductor levels, resistors	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Clay, NY FLOW: 2422-1518 CAPABILITY: polymer conductive/nonconductive epoxy, eutectic; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors, chip resistors			
<b>SUBSTRATE ATTACH:</b> polymer conductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	TO can		
<b>SEAL METHOD:</b>	projection weld		
<b>LEAD COUNT:</b>	12		
<b>SEAL PERIMETER:</b>	3.14		
<b>LEAD FINISH:</b>	gold		

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
M.S. Kennedy Corporation 8170 Thompson Road Clay, NY 13041	51651	CFAA

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Marconi Circuit Technology Corporation 160 Smith Street Farmingdale, NY 11735		32116	(TBD)
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-91-369)	Class H	N/A	Digital
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Farmingdale, NY FLOW: 11-2915 CAPABILITY: thick film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Farmingdale, NY FLOW: 11-2915 CAPABILITY: polymer conductive/nonconductive epoxy and eutectic, gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, tabs SUBSTRATE ATTACH: solder			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with peripheral leads		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	22		
<b>SEAL PERIMETER:</b>	2.05		
<b>LEAD FINISH:</b>	gold		

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE		
Marconi Circuit Technology Corporation 160 Smith Street Farmingdale NY 11735	32116	(TBD)		
SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
<b>NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 2</b>				

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Martin Marietta Building E-8 12506 Lake Underhill Drive Orlando, FL 32862-8007		04939	(TBD)
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-91-402)	Class H	Analog	
<b>RADIATION HARDNESS LEVEL</b>	<b>SUBSTRATE FABRICATION OPERATION (S)</b> 1/		
N/A	LOCATION: N/A FLOW: N/A CAPABILITY: N/A		
<b>LOCATION: N/A</b>		<b>ASSEMBLY OPERATION(S)</b> 1/	
<b>FLOW: N/A</b>		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>CAPABILITY: co-fire package</b>		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ADD-ON ELEMENTS: unpackaged die, chip capacitors</b>			
<b>SUBSTRATE ATTACH: N/A</b>			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	ceramic leadless chip carrier		
<b>SEAL METHOD:</b>	solder		
<b>LEAD COUNT:</b>	68		
<b>SEAL PERIMETER:</b>	3.8		
<b>LEAD FINISH:</b>	gold		

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HYBRID MICRO CIRCUITS  
QML-38534-13



**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Martin Marietta Building E-8 12505 Lake Underhill Drive Orlando, FL 32862-8007	04939	(TBD)

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 2

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Micro-Rel Division Medtronic Incorporated 2343 West Tenth Place Tempe, Arizona 85281		8K957	CEUZ
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-91-417)	Class H	N/A	Linear
<b>LOCATION: Tempe, AZ</b>			
<b>FLOW: 1403818</b>			
<b>CAPABILITY: co-fire on alumina, 5 conductor levels</b>			
<b>LOCATION: Tempe, AZ</b>		<b>LOCATION: N/A</b>	
<b>FLOW: 1403818</b>		<b>FLOW: N/A</b>	
<b>CAPABILITY: polymer conductive epoxy; gold wire bonding</b>		<b>CAPABILITY: N/A</b>	
<b>ADD-ON ELEMENTS: unpackaged die, chip capacitors</b>			
<b>SUBSTRATE ATTACH: N/A</b>			
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	leadless chip carrier	metal, with axisle leads	
<b>SEAL METHOD:</b>	solder	seam weld	
<b>LEAD COUNT:</b>	76	36	
<b>SEAL PERIMETER:</b>	3.5	4.36	
<b>LEAD FINISH:</b>	solder	gold	

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HYBRID MICROCIRCUITS  
QML-38534-13

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 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Micro-Rel Division Medtronic Incorporated 2343 West Tenth Place Tempe, Arizona 85281	8K957	CEUZ

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
5962-8757908XC	1	MR63125MPR	low power, dual channel, driver-receiver	No
<b>NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT:</b>				<b>0</b>

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Micro System Engineering Incorporated 6024 Southwest Jean Road Lake Oswego, OR 97034		75800	CFAU
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-90-619) FQ(EQC-91-737)	Class H	N/A	Digital Power
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>LOCATION:</b> Lake Oswego, OR <b>FLOW:</b> 3100002 <b>CAPABILITY:</b> thick film on alumina, 2 conductor levels, resistors		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>LOCATION:</b> Lake Oswego, OR <b>FLOW:</b> 3100001 <b>CAPABILITY:</b> polymer conductive/nonconductive epoxy, eutectic, solder; gold and aluminum wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors, chip resistors <b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with axial leads	ceramic, dual-in-line	
<b>SEAL METHOD:</b>	seam weld	seam weld	
<b>LEAD COUNT:</b>	34	30	
<b>SEAL PERIMETER:</b>	5.0	5.0	
<b>LEAD FINISH:</b>	gold	gold	

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 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Micro System Engineering Incorporated 6024 Southwest Jean Road Lake Oswego, OR 97034	75800	CFAU

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Micro Networks Company 324 Clarke Street Worcester, Massachusetts 01606		50507	CEVQ
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQM-88-0709) EQ(EQC-91-235)	Class H	N/A	Data converters Track and Hold Amplifier
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Worcester, MA FLOW: FC-23 CAPABILITY: thin film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Worcester, MA FLOW: FC-25 CAPABILITY: polymer conductive/nonconductive epoxy, eutectic; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	ceramic dual-in-line		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	24		
<b>SEAL PERIMETER:</b>	4.7		
<b>LEAD FINISH:</b>	gold		

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Micro Networks Company 324 Clarke Street Worcester, Massachusetts 01606	50507	CEVQ

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
5962-8768801XX	1	MN3008HF/B	D/A Conv., 8-bit, 0 to 4V output	Yes
5962-8768802XX	1	MN3009HF/B	D/A Conv., 8-bit, -2V to +2V Output	No
5962-8958301HXX	1	MN5295H/B	A/D Conv., 16-bit	No
5962-8958301YX	1	MN5200H/B	A/D Conv., 12-bit, 0 to -10V, Int. Comp.	No
5962-8958302YX	1	MN5203H/B	A/D Conv., 12-bit, -5 to +5V, Int. Comp.	No
5962-8958303YX	1	MN5201H/B	A/D Conv., 12-bit, -10 to +10V, Int. Comp.	No
5962-8958304YX	1	MN5204H/B	A/D Conv., 12-bit, 0 to -10V, Ext. Comp.	No
5962-8958305YX	1	MN5202H/B	A/D Conv., 12-bit, -5 to +5V, Ext. Comp.	No
5962-8958306YX	1	MN5205H/B	A/D Conv., 12-bit, -10 to +10V, Ext. Comp.	No
5962-8958307YX	1	MN5206H/B	A/D Conv., 12-bit, 0 to +10V, Int. Comp.	No
5962-8958401YX	1	MN5210H/B	A/D Conv., 12-bit, 0 to -10V, Int. Comp., HS	No
5962-8958402YX	1	MN5213H/B	A/D Conv., 12-bit, -5 to +5V, Int. Comp., HS	No
5962-8958403YX	1	MN5211H/B	A/D Conv., 12-bit, -10 to +10V, Int. Comp., HS	Yes
5962-8958404YX	1	MN5214H/B	A/D Conv., 12-bit, 0 to -10V, Ext. Comp., HS	No
5962-8958405YX	1	MN5212H/B	A/D Conv., 12-bit, -5 to +5V, Ext. Comp., HS	No
5962-8958406YX	1	MN5215H/B	A/D Conv., 12-bit, -10 to +10V, Ext. Comp., HS	Yes
5962-8958407YX	1	MN5216H/B	A/D Conv., 12-bit, 0 to +10V, Int. Comp., HS	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 200

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 HYBRID MICROCIRCUITS  
 QML-38534-13

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 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Micro Networks Company 324 Clarke Street Worcester, Massachusetts 01606	50507	CEVQ

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8959501XX	1	MN5245H/B	D/A Conv., 12-bit, 0 to+5V	No
5962-8959502XX	1	MN5245AH/B	A/D Conv., 12-bit, 0 to+5 V, 3-State output	No
5962-8959503XX	1	MN5246H/B	A/D Conv., 12-bit, ± 2.5 V	No
5962-8959504XX	1	MN5246AH/B	A/D Conv., 12-bit, ±2.5V, 3-State output	No
5962-8971801XX	1	MN3020H/B	A/D Conv., 8-bit, with input register	No
5962-9073001HXX	1	MN376	High speed track and hold amplifier	No

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 HYBRID MICROCIRCUITS  
 QML-38534-13



<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Micropac Industries, Incorporated 905 East Walnut Street Garland, TX 75040		31757	CEJG
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-91-178) EQ(EQC-91-647)	Class H	Custom	
	<b>RADIATION HARDNESS LEVEL</b>		
	N/A		
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>LOCATION:</b> Garland, TX (Hybrid Line)		<b>LOCATION:</b> N/A	
<b>FLOW:</b> 90138		<b>FLOW:</b> N/A	
<b>CAPABILITY:</b> thick film on alumina, 5 conductor level, resistors		<b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>LOCATION:</b> Garland, TX (Hybrid Line)		<b>LOCATION:</b> N/A	
<b>FLOW:</b> 90138		<b>FLOW:</b> N/A	
<b>CAPABILITY:</b> polymer conductive/nonconductive epoxy; gold wire bonding		<b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors, chip resistors			
<b>SUBSTRATE ATTACH:</b> solder, polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with axial leads	metal, with peripheral leads	
<b>SEAL METHOD:</b>	seam weld	seam weld	
<b>LEAD COUNT:</b>	28	46	
<b>SEAL PERIMETER:</b>	5.0	5.0	
<b>LEAD FINISH:</b>	gold	gold	

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HYBRID MICROCIRCUITS  
QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Micropac Industries, Incorporated 912 East Walnut Street Garland, TX 75040		31757	CEJG
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-90-625) EQ(EQC-91-328) EQ(EQC-91-338)	Class H	Power	
	<b>RADIATION HARDNESS LEVEL</b>		
	N/A		
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Garland, TX (Power Line) FLOW: 90138 CAPABILITY: thick film on alumina, 1 conductor level, resistors; thick film on beryllia, 2 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Garland, TX (Power Line) FLOW: 90138 CAPABILITY: polymer conductive epoxy and solder; gold and aluminum wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy, solder			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	TO can		
<b>SEAL METHOD:</b>	projection weld		
<b>LEAD COUNT:</b>	2		
<b>SEAL PERIMETER:</b>	2.27		
<b>LEAD FINISH:</b>	gold		

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HYBRID MICRO CIRCUITS  
QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Micropac Industries, Incorporated 725 East Walnut Street Garland, TX 75040		31757	CEJG
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-90-624) EQ(EQC-91-188) EQ(EQC-91-466)	Class H	Optocoupler	
	<b>RADIATION HARDNESS LEVEL</b>		
	N/A		
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
<b>LOCATION:</b> Garland, TX (Optocoupler Line)		<b>LOCATION:</b> N/A	
<b>FLOW:</b> 90138		<b>FLOW:</b> N/A	
<b>CAPABILITY:</b> thick film on alumina, 2 conductor level, resistors		<b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>LOCATION:</b> Garland, TX (Optocoupler Line)		<b>LOCATION:</b> N/A	
<b>FLOW:</b> 90138		<b>FLOW:</b> N/A	
<b>CAPABILITY:</b> polymer conductive epoxy; gold wire bonding		<b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die			
<b>SUBSTRATE ATTACH:</b> polymer conductive/nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	ceramic dual-in-line	leadless chip carrier	
<b>SEAL METHOD:</b>	solder	solder	
<b>LEAD COUNT:</b>	16	24	
<b>SEAL PERIMETER:</b>	1.89	1.60	
<b>LEAD FINISH:</b>	gold	solder	

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Micropac Industries, Incorporated 725, 905 & 925 East Walnut Street Garland, TX 75040	31757	CEJG

SPECIFIC PRODUCT TYPES				PRODUCT TYPE/DESCRIPTION	SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/			
8102801EX	1	6N134/883B		Optical coupler (dual)	Yes
8302401EX	1	6N140/883B		Four channel optical coupler	Yes
5962-9063801HXX	1	MIOP42119/883		Op amp, high power	No
5962-9065901HXX	1	MIOP42109/883		Op amp. power	No
5962-9072301HXX	1	MIOP42116/883		Op amp, high power	No
5962-9082801HXX	1	MIOP42115/883		Op amp, high power	No
5962-8762001XX	1	MIOP42106/883		Op amp, high power	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 7

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HYBRID MICROCIRCUITS  
QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Natel Engineering Co., Inc. 4550 Runway Street Simi Valley, CA 93063-3493		09059	CFEN
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-91-714)	Class H	N/A	Synchro (Resolver) to Digital Converter
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Simi Valley, CA FLOW: NHPS-01.001 CAPABILITY: Thick film on alumina, 3 conductor levels		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Simi Valley, CA FLOW: NHPS-01.001 CAPABILITY: polymer conductive and nonconductive epoxy, gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip conductors, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	<b>SEAL METHOD:</b>	<b>LEAD COUNT:</b>	<b>SEAL PERIMETER:</b>
Metal, with axial leads	Seam weld	32	5.76
<b>LEAD FINISH:</b>	gold		

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HYBRID MICROCIRCUITS  
QML-38534-13

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Natel Engineering Co., Inc. 4550 Runway Street Simi Valley, CA 93063-3493	09059	CFEN

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
N/A	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 22

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HYBRID MICROCIRCUITS  
QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
National Hybrid, Incorporated 2200 Smithtown Ave Ronkonkoma, NY 11779		57363	CFAQ
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-90-557)	Class H	Linear, Sample and Hold Data Converters, Data Bus Digitals, Custom, Amplifier	
<b>RADIATION HARDNESS LEVEL</b>		<b>FABRICATION OPERATION (S)</b>	
N/A		1/	
<b>LOCATION: Ronkonkoma, NY</b>			
<b>FLOW: FL1772A7THK</b>			
<b>CAPABILITY: thick film on alumina, 2 gold conductive layers, resistors. thick film on beryllia, 1 gold conductive layer.</b>			
<b>LOCATION: Ronkonkoma, NY</b>		<b>LOCATION: N/A</b>	
<b>FLOW: FL883500834</b>		<b>FLOW: N/A</b>	
<b>CAPABILITY: polymer conductive epoxy, eutectic; gold wire bonding</b>		<b>CAPABILITY: N/A</b>	
<b>ADD-ON ELEMENTS: unpackaged die, chip resistors</b>			
<b>SUBSTRATE ATTACH: polymer nonconductive epoxy</b>			
<b>ASSEMBLY OPERATION(S) 1/</b>			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal package, axial leads		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	24		
<b>SEAL PERIMETER:</b>	4.08		
<b>LEAD FINISH:</b>	gold		

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
National Hybrid, Incorporated 2200 Smithtown Avenue Ronkonkoma, NY 11779	57363	CFAQ

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
5962-8604906YX	1	NHI-1509	Dual channel digital driver-receiver	No
<b>NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 2</b>				

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 HYBRID MICROCIRCUITS  
 QML-38534-13



<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
National Semiconductor 5900 South Calle Santa Cruz Tucson, Arizona 85706		27014	CCXP
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQM-87-1840) EQ(EQC-90-0627)	Class H	N/A	Analog Converter Power Converter
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Santa Clara, CA FLOW: 902471 CAPABILITY: thick film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Tucson, AZ FLOW: (TU) AS-4000H CAPABILITY: eutectic; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ADD-ON ELEMENTS: unpackaged die, tab</b>			
<b>SUBSTRATE ATTACH: solder</b>			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	TO can		
<b>SEAL METHOD:</b>	projection weld		
<b>LEAD COUNT:</b>	8		
<b>SEAL PERIMETER:</b>	2.638		
<b>LEAD FINISH:</b>	solder		

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
National Semiconductor 5900 South Calle Santa Cruz Tucson, Arizona 85706	27014	CCXP

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
7801301XX	3	0002	Amplifier, current, thick film	Yes
8001301ZX	1	LH0032G	Op amp, thick film	No
8001401ZX	1	LH0033G	Hi Spd. Buffr. Amp., Vol. Fol., Fet in	No
8508701ZX	1	LH0041G/883	Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	No
8508801XX	1	LH0021	Hi Pwr. Op Amp, Ext. Comp.	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 1

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b> Omnirel Corporation 205 Crawford Street Leominster, MA 01453		<b>CAGE CODE</b> 69210	<b>SYMBOL CODE</b> CESN
<b>QUALIFICATION LETTER(S)</b> EQ(EQC-91-408)	<b>PRODUCT CLASS DESIGNATOR</b> Class H	<b>TECHNOLOGY TYPES</b> Voltage Regulator	
<b>RADIATION HARDNESS LEVEL</b> N/A	<b>SUBSTRATE FABRICATION OPERATION (S)</b> 1/		
LOCATION: Leominster, MA FLOW: D070002G CAPABILITY: Thick film on alumina, 2 conductor levels,			
<b>ASSEMBLY OPERATION(S)</b> 1/			
LOCATION: Leominster, MA FLOW: D050015G CAPABILITY: solder, gold and aluminum wire bonding			
ADD-ON ELEMENTS: unpackaged die SUBSTRATE ATTACH: solder			
<b>PACKAGE INFORMATION</b> 1/ 2/ 3/			
PACKAGE TYPE: Metal, with peripheral leads SEAL METHOD: Seam weld LEAD COUNT: 5 SEAL PERIMETER: 2.47 LEAD FINISH: Nickel/tin			

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/ QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b> Omnirel Corporation 205 Crawford Street Leominster, MA 01453	<b>CAGE CODE</b> 69210	<b>SYMBOL CODE</b> CESN
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**SPECIFIC PRODUCT TYPES**

STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8949001XX	1	OM7509SC/883B	Linear, Dual, Pos. and Neg. Regulator	No

**NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 13**

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Philips Circuit Assemblies 100 Providence Pike Slatersville, RI 02876		25403	(TBD)
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-91-0159)	Class H	N/A	Analog Digital Linear
<b>SUBSTRATE FABRICATION OPERATION (S) I/</b>			
<b>LOCATION:</b> Slatersville, RI <b>FLOW:</b> Form 145 <b>CAPABILITY:</b> thin film on alumina, 1 conductor level, resistor		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S) I/</b>			
<b>LOCATION:</b> Slatersville, RI <b>FLOW:</b> Form 539 <b>CAPABILITY:</b> polymer conductive epoxy; gold wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors <b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, peripheral lead		
<b>SEAL METHOD:</b>	solder seam seal		
<b>LEAD COUNT:</b>	14		
<b>SEAL PERIMETER:</b>	1.52		
<b>LEAD FINISH:</b>	gold		

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b> Philips Circuit Assemblies 100 Providence Pike Slatersville, RI 02876	<b>CAGE CODE</b> 25403	<b>SYMBOL CODE</b> (TBD)
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SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Raytheon Company Microwave and Power Tube Division Industrial Components Operation P. O. Box 5300 465 Centre Street Quincy, Massachusetts 02269		94144	CETX
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQM-87-1031) EQ(EQC-91-668) EQ(EQC-91-669)	Class H	N/A	Amplifier
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Quincy, MA FLOW: 38756 CAPABILITY: thick film on alumina, 8 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Quincy, MA FLOW: 38230, 42771 CAPABILITY: polymer conductive/nonconductive epoxy and eutectic; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy, solder			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with axial leads	metal, with peripheral leads	
<b>SEAL METHOD:</b>	seam weld	seam weld	
<b>LEAD COUNT:</b>	13	76	
<b>SEAL PERIMETER:</b>	2.76	6.36	
<b>LEAD FINISH:</b>	gold	gold	

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HYBRID MICROCIRCUITS  
QML-38534-13

<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
94144	CETX

**MANUFACTURER**  
 Raytheon Company  
 Microwave and Power Tube Division  
 Industrial Components Operation  
 P. O. Box 5300  
 465 Centre Street  
 Quincy, Massachusetts 02269

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 1

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 HYBRID MICROCIRCUITS  
 QML-38534-13



<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
SIPEX Corporation Hybrid Systems Division 22 Linnell Circle Billerica, MA 01821		33256	CFAC
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-90-506)	Class H	N/A	AD Converters Sample and Hold Amplifier
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Billerica, MA FLOW: 239-0232 CAPABILITY: thin film on alumina, 1 gold conductor layer, resistors.		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Billerica, MA FLOW: 239-0458 CAPABILITY: polymer conductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	ceramic dual-in-line		
<b>SEAL METHOD:</b>	seam weld		
<b>LEAD COUNT:</b>	24		
<b>SEAL PERIMETER:</b>	4.07		
<b>LEAD FINISH:</b>	gold		

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
SIPEX Corporation Hybrid Systems Division 22 Linnell Circle Billerica, MA 01821	33256	CFAC

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8956601HCX	1	HS9716TB	16-bit sample and hold amplifier	No
<b>NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0</b>				

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Teledyne Components 40 Allied Drive Dedham, Massachusetts 02026		29832	CETY
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQM-87-1114)	Class H	N/A	linear buffer amplifier
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Dedham, MA FLOW: 80710825 CAPABILITY: thick film on alumina, 1 conductor levels, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Dedham, MA FLOW: 80320260 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	<b>SEAL METHOD:</b>	<b>LEAD COUNT:</b>	<b>SEAL PERIMETER:</b>
TO can	projection weld	12	2.00
			gold

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Teledyne Components 40 Allied Drive Dedham, Massachusetts 02026	29832	CETY

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
80014012X	1	0033	Hi Speed Buffer Amp, Volt. Foll., FET in	No
<b>NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT:</b>				<b>1</b>

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HYBRID MICROCIRCUITS  
QML-38534-13

<b>MANUFACTURER</b> Teledyne Microelectronics 12964 Panama Street Los Angeles, California 90066		<b>CAGE CODE</b> 16170	<b>SYMBOL CODE</b> CEOL
<b>QUALIFICATION LETTER(S)</b> EQ(EQM-87-1898)	<b>PRODUCT CLASS DESIGNATOR</b> Class H	<b>RADIATION HARDNESS LEVEL</b> N/A	<b>TECHNOLOGY TYPES</b> Data converters linear
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Los Angeles, CA FLOW: 7700530 Exhibit 2.5 CAPABILITY: thick film on alumina, 7 conductor levels		LOCATION: Los Angeles, CA FLOW: 7700530 Exhibit 2.4 CAPABILITY: thin film on alumina, 2 conductor levels, resistors	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Los Angeles, CA FLOW: 700530 Exhibit 2.6 CAPABILITY: polymer conductive epoxy, solder; gold and aluminum wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: solder			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b> SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	metal, with peripheral leads seam weld 46 5.00 gold		

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:** The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/ QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Teledyne Microelectronics 12964 Panama Street Los Angeles, California 90066	16170	CEOL

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 17

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b> Texas Instruments Inc DSEG/MPS Hybrids P. O. Box 655012 Dallas, TX 75265		<b>CAGE CODE</b> 96214	<b>SYMBOL CODE</b> CFCA
<b>QUALIFICATION LETTER(S)</b> EQ(EQC-91-031)	<b>PRODUCT CLASS DESIGNATOR</b> Class H	<b>TECHNOLOGY TYPES</b> linear	
<b>RADIATION HARDNESS LEVEL</b> N/A		<b>SUBSTRATE FABRICATION OPERATION (S)</b> 1/	
<b>LOCATION:</b> Dallas, Texas <b>FLOW:</b> AII-HYB-005 <b>CAPABILITY:</b> thick film on alumina, 5 conductor levels, resistors		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ASSEMBLY OPERATION(S)</b> 1/			
<b>LOCATION:</b> Dallas, Texas <b>FLOW:</b> AII-HYB-005 <b>CAPABILITY:</b> polymer conductive epoxy; gold wire bonding		<b>LOCATION:</b> N/A <b>FLOW:</b> N/A <b>CAPABILITY:</b> N/A	
<b>ADD-ON ELEMENTS:</b> unpackaged die, chip capacitors			
<b>SUBSTRATE ATTACH:</b> polymer nonconductive epoxy			
<b>PACKAGE INFORMATION</b> 1/ 2/ 3/			
<b>PACKAGE TYPE:</b> metal, with axial leads			
<b>SEAL METHOD:</b> seam weld			
<b>LEAD COUNT:</b> 64			
<b>SEAL PERIMETER:</b> 7.88			
<b>LEAD FINISH:</b> gold			

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/ QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Texas Instruments Inc DSEG/MPS Hybrids P. O. Box 655012 Dallas, TX 75265	96214	CFCA

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

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 HYBRID MICROCIRCUITS  
 QML-38534-13



<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Vitarel Microelectronics 6828 Nancy Ridge Drive San Diego, California 92121		66632	CEXE
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>TECHNOLOGY TYPES</b>	
EQ(EQC-89-0107)	Class H	Op-amp analog digital	
<b>RADIATION HARDNESS LEVEL</b>	<b>SUBSTRATE FABRICATION OPERATION (S)</b>		
N/A	1/		
<b>LOCATION: San Diego, CA</b>		<b>LOCATION: N/A</b>	
<b>FLOW: PF9001010</b>		<b>FLOW: N/A</b>	
<b>CAPABILITY: thick film on alumina, 1 conductor levels, resistors</b>		<b>CAPABILITY: N/A</b>	
<b>ASSEMBLY OPERATION(S)</b>		<b>ASSEMBLY OPERATION(S)</b>	
1/		1/	
<b>LOCATION: San Diego, CA</b>		<b>LOCATION: N/A</b>	
<b>FLOW: PF9001004, PF9001007, PF900103</b>		<b>FLOW: N/A</b>	
<b>CAPABILITY: polymer conductive epoxy; gold wire bonding</b>		<b>CAPABILITY: N/A</b>	
<b>ADD-ON ELEMENTS: unpackaged die</b>			
<b>SUBSTRATE ATTACH: polymer nonconductive epoxy</b>			
<b>PACKAGE INFORMATION</b>			
1/ 2/ 3/			
<b>PACKAGE TYPE:</b>	TO can		
<b>SEAL METHOD:</b>	projection weld		
<b>LEAD COUNT:</b>	8		
<b>SEAL PERIMETER:</b>	1.26		
<b>LEAD FINISH:</b>	gold		

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Vitarel Microelectronics 6828 Nancy Ridge Drive San Diego, California 92121	66632	CEXE

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

**NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0**

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 HYBRID MICROCIRCUITS  
 QML-38534-13

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
Westinghouse Electric Corporation 7323 Aviation Boulevard Baltimore, MD 21203		97942	CFAR
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-90-567) EQ(EQC-91-629)	Class H	N/A	Custom Digital Analog Power
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Baltimore, MD FLOW: 1L88-2461-1/MT CAPABILITY: thick film on alumina, 8 conductor levels		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Baltimore, MD FLOW: 1L88-2461-5/DM CAPABILITY: polymer conductive/nonconductive epoxy, eutectic; gold and aluminum wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors, spacer post, tab SUBSTRATE ATTACH: polymer nonconductive epoxy, solder			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	metal, with peripheral leads	power, metal, with peripheral leads	
<b>SEAL METHOD:</b>	seam weld	seam weld	
<b>LEAD COUNT:</b>	68	12	
<b>SEAL PERIMETER:</b>	5.92	6.0	
<b>LEAD FINISH:</b>	gold	gold	

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Westinghouse Electric Corporation 7323 Aviation Boulevard Baltimore, MD 21203	97942	CFAR

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

<b>MANUFACTURER</b>		<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
White Technology 4246 East Wood Street Phoenix, Arizona 85040		54230	CEWR
<b>QUALIFICATION LETTER(S)</b>	<b>PRODUCT CLASS DESIGNATOR</b>	<b>RADIATION HARDNESS LEVEL</b>	<b>TECHNOLOGY TYPES</b>
EQ(EQC-90-019)	Class H	N/A	linear (oscillator)
<b>SUBSTRATE FABRICATION OPERATION (S) 1/</b>			
LOCATION: Phoenix, AZ FLOW: 106B00006 CAPABILITY: thick film on alumina, 1 conductor levels, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ASSEMBLY OPERATION(S) 1/</b>			
LOCATION: Phoenix, AZ FLOW: 106B00006 CAPABILITY: polymer conductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
<b>ADD-ON ELEMENTS: unpackaged die, chip resistors</b>			
<b>SUBSTRATE ATTACH: polymer nonconductive epoxy</b>			
<b>PACKAGE INFORMATION 1/ 2/ 3/</b>			
<b>PACKAGE TYPE:</b>	platform		
<b>SEAL METHOD:</b>	projection weld		
<b>LEAD COUNT:</b>	16		
<b>SEAL PERIMETER:</b>	3.53		
<b>LEAD FINISH:</b>	gold		

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HYBRID MICROCIRCUITS  
QML-38534-13

**PRODUCT ELIGIBILITY:**The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.  
 The listing does not in anyway represent or imply interchangeability, equivalency.

<b>MANUFACTURER</b>	<b>CAGE CODE</b>	<b>SYMBOL CODE</b>
White Technology 4246 East Wood Street Phoenix, Arizona 85040	54230	CEWR

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
None	N/A	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 1

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 HYBRID MICROCIRCUITS  
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APPROVED SOURCE  
MASTER PRODUCT LISTING

TABLE I

PRODUCT ELIGIBILITY: The manufacturers listed below have certified that the following Hybrid Microcircuits are built, tested, and shipped using MIL-STD-1772 CERTIFIED FLOW/QUALIFIED MATERIALS and MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
7801301GX	CTS0002	Amplifier, current, thick/thin film	CTS Corporation
7801301XX	CTS0002XB	Amplifier, current, thick/thin film	CTS Corporation
7801301XX	ELH0002H/883B	Amplifier, current, thick film	Elantec Incorporated
7801301XX	LH0002H/883B	Amplifier, current, thick film	National Semiconductor Corporation
8001301ZX	ADLH0032G/883B	Op amp, thick film	Analog Devices Computer Labs Div.
8001301ZX	CTS0032ZB	Op amp, thick film	CTS Corporation
8001301ZX	ELH0032G/883E10003	Op amp, thick film	Elantec Incorporated
8001301ZX	-----	Op amp, thick film	NO APPROVED SOURCE
8001301ZX	TP0032-83	Op amp, thick film	Teledyne Components
8001401ZX	ADLH0033G/883B	Hi Spd. Buffer, Amp., Vol. Fol., FET in	Analog Devices Computer Labs Div.
8001401ZX	CTS0033ZB	Hi Spd. Buffer, Amp., Vol. Fol., FET in	CTS Corporation
8001401ZX	ELH0033G/883B	Hi Spd. Buffer, Amp., Vol. Fol., FET in	Elantec Incorporated
8001401ZX	LH0033G	Hi Spd. Buffer, Amp., Vol. Fol., FET in	National Semiconductor Corporation
8001401ZX	TP0033-83	Hi Spd. Buffer, Amp., Vol. Fol., FET in	Teledyne Components
8102801EX	6N134/883B	Optocoupler, Dual Channel	Hewlett-Packard Company
8102801EX	-----	Optocoupler, Dual Channel	NO APPROVED SOURCE
8102801EX	-----	Optocoupler, Dual Channel	NO APPROVED SOURCE
8102802PX	-----	Optocoupler, Dual Channel	NO APPROVED SOURCE
8102803ZX	-----	Optocoupler, Dual Channel	NO APPROVED SOURCE
8300201JX	DAC87CBI	D/A Conv., 12-bit, Programmable	Analog Devices MED
8300201XX	-----	D/A Conv., 12-bit, Programmable	NO APPROVED SOURCE
8302401EX	6N140A/883B	Optocoupler, Quad	Hewlett-Packard Company
8302401EX	6N140A/883B	Optocoupler, Quad	Micropac Industries Incorporated
85030013X	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503001CX	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503001XX	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503001YX	2700SD/883B	Reference, Precision Voltage, +10V	Analog Devices MED

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
8503001YX	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
85030023X	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503002CX	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503002XX	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503002YX	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
85030033X	-----	Reference, Precision Voltage, -10V	NO APPROVED SOURCE
8503003CX	-----	Reference, Precision Voltage, -10V	NO APPROVED SOURCE
8503003XX	-----	Reference, Precision Voltage, -10V	NO APPROVED SOURCE
8503003YX	-----	Reference, Precision Voltage, -10V	NO APPROVED SOURCE
85030043X	-----	Reference, Precision Voltage, +/-10V	NO APPROVED SOURCE
8503004CX	-----	Reference, Precision Voltage, +/-10V	NO APPROVED SOURCE
8503004XX	-----	Reference, Precision Voltage, +/-10V	NO APPROVED SOURCE
8503004YX	-----	Reference, Precision Voltage, +/-10V	NO APPROVED SOURCE
85030053X	-----	Reference, Precision Voltage, +/-10V	NO APPROVED SOURCE
8503005CX	-----	Reference, Precision Voltage, +/-10V	NO APPROVED SOURCE
8503005YX	2701SD/883B	Reference, Precision Voltage, +/-10V	Analog Devices MED
85030063X	HC2701SD/883B	Reference, Precision Voltage, +/-10V	Hycomp Incorporated
8503006CX	-----	Reference, Precision Voltage, -10V	NO APPROVED SOURCE
8503006YX	2701UD/883B	Reference, Precision Voltage, -10V	Analog Devices MED
85087012X	HC2701SD/883B	Reference, Precision Voltage, -10V	Hycomp Incorporated
8508701ZX	CTS0041ZBNEW	Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	CTS Corporation
8508701ZX	ELH0041G/883B	Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	Elantec Incorporated
8508801YX	LH0041G/883	Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	National Semiconductor Corporation
8508801YX	CTS00212B	Hi Pwr. Op Amp., Ext. Comp., 1.0A Out.	CTS Corporation
8508801YX	ELH0021K/E10036	Hi Pwr. Op Amp, Ext. Comp., 1.0A Out.	Elantec Incorporated
8508901YX	LH0021K	Hi Pwr. Op Amp, Ext. Comp., 1.0A Out.	National Semiconductor Corporation
8508902YX	ELH0101AK/E10039	Power Op amp., Wideband, Thick Film	Elantec Incorporated
5962-8604901XX	ELH0101K/E10038	Power Op Amp., Wideband, Thick Film	Elantec Incorporated
5962-8604902TX	-----	1553 Single Ch. Drvr/Rec	NO APPROVED SOURCE
5962-8604902ZX	BUS-83106II	1553 Single Ch. Drvr/Rec., Low Power	ILC Data Device Corporation
	BUS-63105II	1553 Single Ch. Drvr/Rec., Low Power	ILC Data Device Corporation

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HYBRID MICROCIRCUITS  
QML-38534-13



TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8604903YX	ARX2402	1553 Single Ch. Drvr/Rec.	Aeroflex Laboratories Incorporated
5962-8604904UX	-----	1553 Single Ch. Drvr/Rec., Low Power	NO APPROVED SOURCE
5962-8604905XX	-----	1553 Single Ch. Drvr/Rec.	NO APPROVED SOURCE
5962-8604905XX	-----	1553 Single Ch. Drvr/Rec.	NO APPROVED SOURCE
5962-8604906TX	-----	1553 Single Ch. Drvr/Rec.	NO APPROVED SOURCE
5962-8604906YX	NHI-1509	1553 Single Ch. Drvr/Rec.	National Hybrid Incorporated
5962-8604907XX	-----	1553 Single Ch. Drvr/Rec.	NO APPROVED SOURCE
5962-8753501XX	BUS-65112	1553 Remote Terminal Unit, Dual Red.	ILC Data Device Corporation
5962-8753501YX	BUS-65117	1553 Remote Terminal Unit, Dual Red.	ILC Data Device Corporation
5962-8753502XX	-----	1553 Remote Terminal Unit, Dual Red.	NO APPROVED SOURCE
5962-8753502YX	-----	1553 Remote Terminal Unit, Dual Red.	NO APPROVED SOURCE
5962-8757901XX	-----	1553 Dual Ch. Drvr/Rec., -15V	NO APPROVED SOURCE
5962-8757901YX	-----	1553 Dual Ch. Drvr/Rec., -15V	NO APPROVED SOURCE
5962-8757902XX	BUS-6312511	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	ILC Data Device Corporation
5962-8757902YX	BUS-6312611	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	ILC Data Device Corporation
5962-8757903XX	-----	1553 Dual Ch. Drvr/Rec., -15V	NO APPROVED SOURCE
5962-8757903YX	-----	1553 Dual Ch. Drvr/Rec., -15V	NO APPROVED SOURCE
5962-8757904XX	-----	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	NO APPROVED SOURCE
5962-8757904YX	-----	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	NO APPROVED SOURCE
5962-8757905XX	-----	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	NO APPROVED SOURCE
5962-8757905YX	-----	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	NO APPROVED SOURCE
5962-8757906XX	-----	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	NO APPROVED SOURCE
5962-8757906YX	-----	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	NO APPROVED SOURCE
5962-8757907XX	-----	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	NO APPROVED SOURCE
5962-8757907YX	-----	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	NO APPROVED SOURCE
5962-8757908XX	MR63125MPR	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	Micro-Rel
5962-8757908YX	-----	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	NO APPROVED SOURCE
5962-8761701XX	CTS000061B	Driver, High Voltage, 1.5 Amp.	NO APPROVED SOURCE
5962-8761702XX	CTS000081B	Driver, High Voltage, 3.0 Amp.	CTS Corporation
5962-8762001XX	42106	Op Amp, High Power	CTS Corporation
5962-8762002YX	PA51M/883	Op Amp, High Power	Micro-Rel
5962-8763201XX	-----	Op Amp, High Power	NO APPROVED SOURCE
5962-8767901EX	4N55/883B	1553 Remote Term., Dual Red., Low Pwr.	Micro-Rel
5962-8767902PX	HCPL-5531	Optocoupler, Dual Channel	Micro-Rel
5962-87679032A	HCPL-6531	Optocoupler, Dual Channel	Micro-Rel

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STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8768701XX	HSDC-8920A-883B	R/S to Dig. Conv., 400Hz, +/-2.6 arcmin.	ILC Data Device Corporation
5962-8768702XX	HSDC-8920-883B	R/S to Dig. Conv., 400Hz, +/-4.0 arcmin.	ILC Data Device Corporation
5962-8768801XX	MN3008H/B	D/A Conv., 8-bit, 0 to 4V Output	Micronetworks Incorporated
5962-8768801YX	-----	D/A Conv., 8-bit, 0 to 4V Output	NO APPROVED SOURCE
5962-8768802XX	MN3009H/B	D/A Conv., 8-bit, -2 to +2V Output	Micronetworks Incorporated
5962-8768802YX	-----	D/A Conv., 8-bit, -2 to +2V Output	NO APPROVED SOURCE
5962-8850801XX	ADC-HX/883B	A/D Conv., 12-bit, 20 microseconds	Datel Incorporated
5962-8850802XX	ADC-HZ/883B	A/D Conv., 12-bit, 8 microseconds	Datel Incorporated
5962-8850802YX	MNADC87H/B	A/D Conv., 12-bit, 8 microseconds	Micronetworks Incorporated
5962-8850901XX	AD390SD/883B	D/A Conv., 12-bit, bipolar, linear, quad	Analog Devices MED
5962-8850902XX	AD390TD/883B	D/A Conv., 12-bit, bipolar, linear, quad	Analog Devices MED
5962-8851001XX	AD394SD/883B	D/A Conv., 12-bit, quad, bipolar	Analog Devices MED
5962-8851002XX	AD394TD/883B	D/A Conv., 12-bit, quad, bipolar	Analog Devices MED
5962-8851003XX	AD395SD/883B	D/A Conv., 12-bit, quad	Analog Devices MED
5962-8851004XX	AD395TD/883B	D/A Conv., 12-bit, quad	Analog Devices MED
5962-8851401XX	-----	12-bit data acq. sys., 8-ch. diff.inp.	NO APPROVED SOURCE
5962-8851402XX	-----	12-bit data acq. sys., 16ch. sng-ended	NO APPROVED SOURCE
5962-8851402YX	-----	12-bit data acq. sys., 16ch. sng-ended	NO APPROVED SOURCE
5962-8851701XX	DAC-02310-112	D/A Conv., 14-bit, deglitched	ILC Data Device Corporation
5962-8851701YX	DAC-02311-112	D/A Conv., 14-bit, deglitched	ILC Data Device Corporation
5962-8851702XX	DAC-02310-113	D/A Conv., 14-bit, deglitched	ILC Data Device Corporation
5962-8851702YX	DAC-02311-113	D/A Conv., 14-bit, deglitched	ILC Data Device Corporation
5962-8854201XX	ADC00300-112	D/A Conv., 12-bit, track/hold	ILC Data Device Corporation
5962-8854201YX	-----	D/A Conv., 12-bit, track/hold	NO APPROVED SOURCE
5962-8857901XX	HOS-050A/883B	Video Op Amp, Fast Settling	Analog Devices Computer Labs Div.
5962-8857902XX	HOS-060SH/883B	Video Op Amp, Fast Settling	Analog Devices Computer Labs Div.
5962-8858501XX	BUS-65600-883B	1553 Bus Controller, RTU & Monitor	ILC Data Device Corporation
5962-8858501YX	-----	1553 Bus Controller, RTU & Monitor	NO APPROVED SOURCE
5962-8858601XX	-----	1553 to Microprocessor Interface	NO APPROVED SOURCE
5962-8858601YX	-----	1553 to Microprocessor Interface	NO APPROVED SOURCE
5962-8862901XX	-----	D/A Conv., 12-bit, Quad	NO APPROVED SOURCE
5962-8865801XX	AD578SD/883B	A/D Conv., 12-bit, High Speed	Analog Devices MED
5962-8865802XX	AD578TD/883B	A/D Conv., 12-bit, High Speed	Analog Devices MED
5962-8865803XX	AD578ZSD/883B	A/D Conv., 12-bit, High Speed	Analog Devices MED
5962-8865804XX	AD578ZTD/883B	A/D Conv., 12-bit, High Speed	Analog Devices MED

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STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8869201XX	BUS61553-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869201YX	BUS61563-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869202XX	BUS61554-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869202YX	BUS61564-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869203XX	BUS61555-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869203YX	BUS61565-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869204XX	BUS61556-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8870101XX	-----	Power Op Amp, High Current	NO APPROVED SOURCE
5962-8876801PX	HCPL-5201	Optocoupler, Single Channel, Hi Speed	Hewlett-Packard Company
5962-8876901PX	HCPL-5231	Optocoupler, Dual Channel, Hi Speed	Hewlett-Packard Company
5962-88769022X	HCPL-6231	Optocoupler, Dual Channel, High Speed	Hewlett-Packard Company
5962-8877601XX	-----	A/D Conv., 8-bit, Flash	NO APPROVED SOURCE
5962-8944701HUX	-----	1553 Dual Ch. Drvr/Rec, Idle High	NO APPROVED SOURCE
5962-8944701HXX	-----	1553 Dual Ch. Drvr/Rec, Idle High	NO APPROVED SOURCE
5962-8944701HYX	-----	1553 Dual Ch. Drvr/Rec, Idle High	NO APPROVED SOURCE
5962-8944701HZX	-----	1553 Dual Ch. Drvr/Rec, Idle High	NO APPROVED SOURCE
5962-8944702HXX	-----	1553 Dual Ch. Drvr/Rec, Idle High	NO APPROVED SOURCE
5962-8944702HXY	-----	1553 Dual Ch. Drvr/Rec, Idle High	NO APPROVED SOURCE
5962-8944703HXX	-----	1553 Dual Ch. Drvr/Rec, Idle High	NO APPROVED SOURCE
5962-8944703HXY	-----	1553 Dual Ch. Drvr/Rec, Idle High	NO APPROVED SOURCE
5962-8944704HXX	BUS63135II	1553 Dual Ch. Drvr/Rec, Idle High	ILC Data Device Corporation
5962-8944704HXY	BUS63136II	1553 Dual Ch. Drvr/Rec, Idle High	ILC Data Device Corporation
5962-8947701PX	HCPL-5761	Optocoupler, AC/DC Logic Interface	Hewlett-Packard Company
5962-8949001XX	OM7509SC/883B	Voltage Regulator, Dual, +15 & -15V	Omnirel Corporation
5962-8949801XX	-----	S/D Conv., 90V, 400Hz, 2 min. accuracy	NO APPROVED SOURCE
5962-8949802XX	-----	S/D Conv., 90V, 400Hz, 1 min. accuracy	NO APPROVED SOURCE
5962-8949901XX	-----	S/D Conv., 11.8V, 400Hz., 2 min. accrcy	NO APPROVED SOURCE
5962-8949902XX	-----	S/D Conv., 11.8V, 400Hz., 1 min. accrcy	NO APPROVED SOURCE
5962-8949903XX	SDC14560-605	S/D Conv., 11.8V, 400Hz., 80 HzBW, 2 min	ILC Data Device Corporation
5962-8949904XX	-----	S/D Conv., 11.8V, 400Hz., 2 min. accrcy	NO APPROVED SOURCE
5962-8949905XX	-----	S/D Conv., 11.8V, 400Hz., 1 min. accrcy	NO APPROVED SOURCE
5962-8949906XX	-----	S/D Conv., 11.8V, 400Hz., 80 HzBW, 2 min	NO APPROVED SOURCE
5962-8950901XX	RGBDAC3808H/B	D/A Conv., Triple, 8-bit, Video RAM	Advanced Analog
5962-8952201XX	-----	1553 Transceiver, Dual Channel, 5V	NO APPROVED SOURCE
5962-8952202XX	ARX-2453	1553 Transceiver, Dual Channel, 5V	Aeroflex Laboratories Incorporated

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STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8952202YX	-----	1553 Transceiver, Dual Channel, 5V	NO APPROVED SOURCE
5962-8952203XX	-----	1553 Transceiver, Dual Channel, 5V	NO APPROVED SOURCE
5962-8952203YX	-----	1553 Transceiver, Dual Channel, 5V	NO APPROVED SOURCE
5962-8952204XX	-----	1553 Transceiver, Dual Channel	NO APPROVED SOURCE
5962-8952205XX	-----	1553 Transceiver, Dual Channel	NO APPROVED SOURCE
5962-8952205YX	-----	1553 Transceiver, Dual Channel	NO APPROVED SOURCE
5962-8952801XX	DAC-HBK/883B	D/A Conv., 12-bit, binary input	Datel Incorporated
5962-8952802XX	DAC-HBK-2/883B	D/A Conv., 12-bit, two's complmnt.	Datel Incorporated
5962-8953101HXX	DAC-HPB/883B	D/A Conv., 16-bit, 0 to 10V & +/-5V Out	Datel Incorporated
5962-8953102HXX	DAC-HPB-1/883B	D/A Conv., 16-bit, +/- 10V Output	Datel Incorporated
5962-8953102HYX	-----	D/A Conv., 16-bit, +/- 10V Output	NO APPROVED SOURCE
5962-8953103HYX	-----	D/A Conv., 16-bit, 0 to +10V Output	NO APPROVED SOURCE
5962-8953104HYX	-----	D/A Conv., 16-bit, +/- 5V Output	NO APPROVED SOURCE
5962-8956301HXX	-----	A/D Conv., 16-bit, shrt.cycle 14-bit	NO APPROVED SOURCE
5962-8956302HXX	-----	A/D Conv., 16-bit, shrt.cycle 13-bit	NO APPROVED SOURCE
5962-8956501XX	-----	Sample/Hold Multiplexer, Dual 8-ch.	NO APPROVED SOURCE
5962-8956601HCX	HS9716TB	Sample/Hold Amp., 16-bit	Sipex Corporation
5962-8956901HXX	MN5295H/B	A/D Conv., 16-bit, High Speed	Micronetworks Incorporated
5962-8957001PX	HCPL-5401	Optocoupler, Single Ch., High Speed	Hewlett-Packard Company
5962-8957101PX	HCPL-5431	Optocoupler, Dual Ch., Hi Spd, Com Sup	Hewlett-Packard Company
5962-89571022X	HCPL-6431	Optocoupler, Dual Ch., Hi Spd, Sep Sup	Hewlett-Packard Company
5962-8957201EX	HCPL-1931	Optocoupler, Dual Ch., Line Receiver	Hewlett-Packard Company
5962-8958301YX	MN5200H/B	A/D Conv., 12-bit, 0 to -10V Int. Ref.	Micronetworks Incorporated
5962-8958302YX	MN5203H/B	A/D Conv., 12-bit, 0 to -10V Ext. Ref.	Micronetworks Incorporated
5962-8958303YX	MN5201H/B	A/D Conv., 12-bit, -5 to +5V Int. Ref.	Micronetworks Incorporated
5962-8958304YX	MN5204H/B	A/D Conv., 12-bit, -5 to +5V Ext. Ref.	Micronetworks Incorporated
5962-8958305YX	MN5202H/B	A/D Conv., 12-bit, -10 to -10V Int. Ref.	Micronetworks Incorporated
5962-8958306YX	MN5205H/B	A/D Conv., 12-bit, -10 to -10V Ext. Ref.	Micronetworks Incorporated
5962-8958307YX	MN5206H/B	A/D Conv., 12-bit, 0 to 10V Int. Ref.	Micronetworks Incorporated
5962-8958401YX	MN5210H/B	ADC, Hi Sp, 12-bit, 0 to -10V Int. Ref.	Micronetworks Incorporated
5962-8958402YX	MN5213H/B	ADC, Hi Sp, 12-bit, 0 to -10V Ext. Ref.	Micronetworks Incorporated
5962-8958403YX	MN5211H/B	ADC, Hi Spd, 12-bit, -5 to 5V Int. Ref.	Micronetworks Incorporated
5962-8958404YX	MN5214H/B	ADC, Hi Spd, 12-bit, -5 to 5V Ext. Ref.	Micronetworks Incorporated
5962-8958405YX	MN5212H/B	ADC, Hi Spd, 12-bit, -10 to 10V Int. Ref.	Micronetworks Incorporated
5962-8958406YX	MN5215H/B	ADC, Hi Spd, 12-bit, -10 to 10V Ext. Ref.	Micronetworks Incorporated

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STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8958407YX	MN5216H/B	ADC, Hi Spd, 12-bit, 0 to 10V Int. Ref.	Micronetworks Incorporated
5962-8959201XX	-----	1553 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959201YX	-----	1553 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959202XX	-----	Unv1 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959202YX	-----	Unv1 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959203XX	-----	1553 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959203YX	-----	1553 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959204XX	-----	Unv1 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959204YX	-----	Unv1 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959205XX	-----	1553 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959205YX	-----	1553 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959206XX	-----	1553 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959206YX	-----	1553 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8959401XX	CLC231A8C	Op Amp, Wideband, High Speed	Comlinear Corporation
5962-8959501XX	5245H/B	A/D Conv, 12-bit, 0 to 5V	Micronetworks Incorporated
5962-8959501YX	-----	A/D Conv, 12-bit, 0 to 5V	NO APPROVED SOURCE
5962-8959502XX	5245AH/B	A/D Conv, 12-bit, 0 to 5V, 3-state inp.	Micronetworks Incorporated
5962-8959502YX	-----	A/D Conv, 12-bit, 0 to 5V, 3-state inp.	NO APPROVED SOURCE
5962-8959503XX	5246H/B	A/D Conv, 12-bit, +/-2.5V	Micronetworks Incorporated
5962-8959503YX	-----	A/D Conv, 12-bit, +/-2.5V	NO APPROVED SOURCE
5962-8959504XX	5246AH/B	A/D Conv, 12-bit, +/-2.5V, 3-state inp.	Micronetworks Incorporated
5962-8959504YX	-----	A/D Conv, 12-bit, +/-2.5V, 3-state inp.	NO APPROVED SOURCE
5962-8965901XX	EL2004G/883B	Buffer Amp, FET in.	Elantec Incorporated
5962-8965901YX	-----	Buffer Amp, FET in.	NO APPROVED SOURCE
5962-8968301HXX	AHE2805S/HB	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8968301HZX	AHE2805SF/HB	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8968302HXX	AHE2805S/HB-SLV	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8968302HZX	AHE2805SF/HB-SLV	DC/LC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8968303HXX	AHE2805S/HB-MSTR	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8968303HZX	AHE2805SF/HB-MSTR	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8971801XX	MN3020H/B	D/A Conv., 8-bit, w/ input register	Micronetworks Incorporated
5962-8971801YX	-----	D/A Conv., 8-bit, w/ input register	NO APPROVED SOURCE
5962-8978501PX	HCPL-5731	Optocoupler, Dual Ch., Common supplies	Hewlett-Packard Company
5962-89785022X	HCPL-6731	Optocoupler, Dual Ch., Separate supplies	Hewlett-Packard Company
5962-8979901XX	-----	1553 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE

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STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8979902XX	-----	1553 Driver/Rec., Single Ch., Low Pwr.	NO APPROVED SOURCE
5962-8981001PX	HCPL-5701	Optocoupler, Sngl Ch., Low Cur., Hi Gn.	Hewlett-Packard Company
5962-89813013X	-----	Op Amp, Wideband, Fast Settling	NO APPROVED SOURCE
5962-8981301GX	-----	Op Amp, Wideband, Fast Settling	NO APPROVED SOURCE
5962-8982601XX	BUS-631271I	Driver/Receiver, Dual Channel	ILC Data Device Corporation
5962-8982601YX	BUS-631281I	Driver/Receiver, Dual Channel	ILC Data Device Corporation
5962-8982602XX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8982602YX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8982603XX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8982603YX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8982604XX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8982604YX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8982605XX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8982605YX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8982606XX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8982606YX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8985801XX	CLC206A8C	Operational Amplifier, Wideband	Comlinear Corporation
5962-8990801XX	-----	R/D Conv., 400Hz., 11.8V	NO APPROVED SOURCE
5962-8990802XX	-----	R/D Conv., 400Hz., 11.8V	NO APPROVED SOURCE
5962-8990803XX	SDC14565-616	R/D Conv., 400Hz., 80Hz. BW, 11.8V	ILC Data Device Corporation
5962-8990804XX	-----	R/D Conv., 400Hz, 11.8V, trimmed velocity	NO APPROVED SOURCE
5962-8990805XX	-----	Resolver to Digital Conv., 11.8V	NO APPROVED SOURCE
5962-8991001XX	CLC200A8C	Operational Amp, Wideband, High Speed	Comlinear Corporation
5962-8991101XX	CLC220A8C	Operational Amplifier, Wideband	Comlinear Corporation
5962-8997901XX	-----	A/D Converter, 8-bit, flash	NO APPROVED SOURCE
5962-8997901XX	-----	A/D Converter, 8-bit, flash	NO APPROVED SOURCE
5962-9055101XX	SDC14567-111	R/D Conv., 1.0V, 400 Hz., LSB Acc.:6 min.	ILC Data Device Corporation
5962-9055102XX	SDC14567-112	R/D Conv., 1.0V, 400 Hz., LSB Acc.:4 min.	ILC Data Device Corporation
5962-9055103XX	SDC14567-114	R/D Conv., 1.0V, 400 Hz., LSB Acc.:2 min.	ILC Data Device Corporation
5962-9055104XX	SDC14567-115	R/D Conv., 1.0V, 400 Hz., LSB Acc.:1 min.	ILC Data Device Corporation
5962-9055105XX	SDC14569-111	R/D Conv., 1.0V, 400 Hz., LSB Acc.:6 min.	ILC Data Device Corporation
5962-9055106XX	SDC14569-112	R/D Conv., 1.0V, 400 Hz., LSB Acc.:4 min.	ILC Data Device Corporation
5962-9055107XX	SDC14569-114	R/D Conv., 1.0V, 400 Hz., LSB Acc.:2 min.	ILC Data Device Corporation
5962-9055108XX	SDC14569-115	R/D Conv., 1.0V, 400 Hz., LSB Acc.:1 min.	ILC Data Device Corporation
5962-9055401XX	HSDC-8915A-883B	R/D or S/D Converter, +/-2.6 arcmin acc	ILC Data Device Corporation

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STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-9055402XX	HSDC-8915-883B	R/D or S/D Converter, +/-4.0 arcmin acc	ILC Data Device Corporation
5962-9057001HXX	-----	D/A Converter, 12-bit, w/ input reg.	NO APPROVED SOURCE
5962-9063601HXX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9063601HXX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9063602HXX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9063602HXX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9063603HXX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9063604HXX	-----	Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9063801HXX	PA07M/883	Operational Amplifier, High Power	Apex Microtechnology Corporation
5962-9063801HXX	MIOP42114/883	Operational Amplifier, High Power	Micropac Industries Incorporated
5962-9065901HXX	PA12M/883	Operational Amplifier, Power	Apex Microtechnology Corporation
5962-9065901HXX	MIOP42109/883	Operational Amplifier, Power	Micropac Industries Incorporated
5962-9067901HXX	PA02M/883	Operational Amplifier, Power	Apex Microtechnology Corporation
5962-9070701HXX	SDC14500-635	S/D Converter, 400Hz, 11.8V, acc. +/-2.6	ILC Data Device Corporation
5962-9070702HXX	SDC14500-636	S/D Converter, 400Hz, 11.8V, acc. +/-4.0	ILC Data Device Corporation
5962-9070703HXX	SDC14502-605	S/D Converter, 60Hz, 90V, acc. +/-2.6 arcmin	ILC Data Device Corporation
5962-9070704HXX	SDC14502-606	S/D Converter, 60Hz, 90V, acc. +/-4.0 arcmin	ILC Data Device Corporation
5962-9072301HXX	MIOP42116/883	Operational Amplifier, High Power	Micropac Industries Incorporated
5962-9073001HXX	MN376	Amplifier, Track & Hold, High Speed	Micronetworks Incorporated
5962-9079501HXX	-----	A/D Converter, 16-bit, High Speed	NO APPROVED SOURCE
5962-9079502HXX	-----	A/D Converter, 16-bit, High Speed	NO APPROVED SOURCE
5962-9082001HXX	-----	Synchro-Resolver to Digital Converter	NO APPROVED SOURCE
5962-9082002HXX	-----	Synchro-Resolver to Digital Converter	NO APPROVED SOURCE
5962-9082801HXX	PA10M/883	Operational Amplifier, High Power	Apex Microtechnology Corporation
5962-9082801HXX	MIOP42115/883	Operational Amplifier, High Power	Micropac Industries Incorporated
5962-9082901HXX	-----	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082902HXX	-----	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082903HUX	-----	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082904HUX	-----	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082905HTX	-----	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082905HTX	-----	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082906HTX	-----	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082906HXX	-----	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082907HTX	-----	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082907HXX	-----	Driver/Receiver, Single Channel	NO APPROVED SOURCE

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STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-9082907HXX	---	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082908HXX	---	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082908HXX	---	Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9083301HXX	---	Operational Amplifier, Wideband	Comlinear Corporation
5962-9083301HXX	CLC201A8C	Op Amp, Wideband	Comlinear Corporation
5962-9083501HXX	CLC205A8C	Operational Amplifier, Wideband	Comlinear Corporation
5962-9083601HXX	CLC221A8C	Optocoupler, Single Ch., transistr out	Hewlett-Packard Company
5962-9085401HPX	HCPL-5501	DC/DC Converter, Single Ch., 12V, 20W	NO APPROVED SOURCE
5962-9158001HXX	---	DC/DC Converter, Single Ch., 12V, 20W	NO APPROVED SOURCE
5962-9158001HXX	---	DC/DC Converter, Single Ch., 12V, 20W	NO APPROVED SOURCE
5962-9158002HXX	---	DC/DC Converter, Single Ch., 12V, 20W	NO APPROVED SOURCE
5962-9158002HXX	---	DC/DC Converter, Single Ch., 12V, 20W	NO APPROVED SOURCE
5962-9158003HXX	---	DC/DC Converter, Single Ch., 12V, 20W	NO APPROVED SOURCE
5962-9158003HXX	---	DC/DC Converter, Single Ch., 12V, 20W	NO APPROVED SOURCE
5962-9162101HXX	PASJM/883	Operational Amplifier, Power	Apex Microtechnology Corporation
5962-9162501HXX	AHE2815S/HB	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9162501HXX	AHE2815SF/HB	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9162502HXX	AHF2815S/HB-SLV	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9162502HXX	AHE2815SF/HB-SLV	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9162503HXX	AHE2815S/HB-MSTR	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9162503HXX	AHE2815SF/HB-MSTR	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5915-9102001HXX	AFC-461	Filter, EMI, 4.0A	Advanced Analog
5915-9102001HXX	AFC-461F	Filter, EMI, 4.0A	Advanced Analog

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CROSS REFERENCE

TABLE II

PRODUCT ELIGIBILITY: The manufacturers listed below have certified that the following Hybrid Microcircuits are built, tested, and shipped using MIL-STD-1772 CERTIFIED FLOW/QUALIFIED MATERIALS and MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
1553 BUS CONTROL			
1553 Bus Controller, RTU & Monitor	5962-8858501XX	BUS-65600-883B	ILC Data Device Corporation NO APPROVED SOURCE
1553 Bus Controller, RTU & Monitor	5962-8858501YX	-----	
1553 BUS/MICROPROCESSOR INTERFACE			
1553 to Microprocessor Interface	5962-8858601XX	-----	NO APPROVED SOURCE
1553 to Microprocessor Interface	5962-8858601YX	-----	NO APPROVED SOURCE
1553 SINGLE CHANNEL DRIVER/RECEIVER			
1553 Single Ch. Dvr/Rec	5962-8604901XX	-----	NO APPROVED SOURCE
1553 Single Ch. Dvr/Rec., Low Power	5962-8604902TX	BUS-83106II	ILC Data Device Corporation
1553 Single Ch. Dvr/Rec., Low Power	5962-8604902ZX	BUS-63105II	ILC Data Device Corporation
1553 Single Ch. Dvr/Rec.	5962-8604903YX	ARX2402	Aeroflex Laboratories Incorporated
1553 Single Ch. Dvr/Rec., Low Power	5962-8604904UX	-----	NO APPROVED SOURCE
1553 Single Ch. Dvr/Rec.	5962-8604905XX	-----	NO APPROVED SOURCE
1553 Single Ch. Dvr/Rec.	5962-8604905XX	-----	NO APPROVED SOURCE
1553 Single Ch. Dvr/Rec.	5962-8604906TX	-----	NO APPROVED SOURCE
1553 Single Ch. Dvr/Rec.	5962-8604906YX	NHI-1509	National Hybrid Incorporated
1553 Single Ch. Dvr/Rec.	5962-8604907XX	-----	NO APPROVED SOURCE
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959201XX	-----	NO APPROVED SOURCE
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959201YX	-----	NO APPROVED SOURCE
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959203XX	-----	NO APPROVED SOURCE
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959203YX	-----	NO APPROVED SOURCE
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959205XX	-----	NO APPROVED SOURCE

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PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
1553 SINGLE CHANNEL DRIVER/RECEIVER			
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959205YX	---	NO APPROVED SOURCE
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959206XX	---	NO APPROVED SOURCE
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959206YX	---	NO APPROVED SOURCE
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8979901XX	---	NO APPROVED SOURCE
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8979902XX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082901HXX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082902HXX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082903HUX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082904HUX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082905HTX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082905HYX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082906HTX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082906HYX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082907HTX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082907HXX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082907HYX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082908HXX	---	NO APPROVED SOURCE
Driver/Receiver, Single Channel	5962-9082908HYX	---	NO APPROVED SOURCE
1553 DUAL CHANNEL DRIVER/RECEIVER			
1553 Dual Ch. Drvr/Rec., -15V	5962-8757901XX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., -15V	5962-8757901YX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757902XX	BUS-631251I	ILC Data Device Corporation
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757902YX	BUS-631261I	ILC Data Device Corporation
1553 Dual Ch. Drvr/Rec., -15V	5962-8757903XX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., -15V	5962-8757903YX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757904XX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757904YX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757905XX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757905YX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757906XX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757906YX	---	NO APPROVED SOURCE

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
1553 DUAL CHANNEL DRIVER/RECEIVER			
1553 Dual Ch. Drvr/Rec, Low Pwr -15V	5962-8757907XX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Low Pwr -15V	5962-8757907YX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Low Pwr -15V	5962-8757908XX	MR63125MPR	Micro-Rel
1553 Dual Ch. Drvr/Rec, Low Pwr -15V	5962-8757908YX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944701HUX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944701HXX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944701HYX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944701HZX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944702HXX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944702HYX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944703HXX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944703HYX	---	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944704HXX	BUS63135II	ILC Data Device Corporation
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944704HYX	BUS63136II	ILC Data Device Corporation
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944704HXX	BUS-63127II	ILC Data Device Corporation
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944704HYX	BUS-63128II	ILC Data Device Corporation
Driver/Receiver, Dual Channel	5962-8982601XX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982601YX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982602XX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982602YX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982603XX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982603YX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982604XX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982604YX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982605XX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982605YX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982606XX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-8982606YX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-9063601HXX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-9063601HYX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-9063602HXX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-9063602HYX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-9063603HXX	---	NO APPROVED SOURCE
Driver/Receiver, Dual Channel	5962-9063604HXX	---	NO APPROVED SOURCE

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
<b>1553 MULTIPLEXER</b>			
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869201XX	BUS61553-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869201YX	BUS61563-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869202XX	BUS61554-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869202YX	BUS61564-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869203XX	BUS61555-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869203YX	BUS61565-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869204XX	BUS61556-883B	ILC Data Device Corporation
<b>1553 REMOTE TERMINAL UNIT</b>			
1553 Remote Terminal Unit, Dual Red.	5962-8753501XX	BUS-65112	ILC Data Device Corporation
1553 Remote Terminal Unit, Dual Red.	5962-8753501YX	BUS-65117	ILC Data Device Corporation
1553 Remote Terminal Unit, Dual Red.	5962-8753502XX	-----	NO APPROVED SOURCE
1553 Remote Terminal Unit, Dual Red.	5962-8753502YX	-----	NO APPROVED SOURCE
1553 Remote Term., Dual Red., Low Pwr.	5962-8763201XX	-----	NO APPROVED SOURCE
<b>1553 TRANSCEIVER</b>			
1553 Transceiver, Dual Channel, 5V	5962-8952201XX	-----	NO APPROVED SOURCE
1553 Transceiver, Dual Channel, 5V	5962-8952202XX	ARX-2453	Aeroflex Laboratories Incorporated
1553 Transceiver, Dual Channel, 5V	5962-8952202YX	-----	NO APPROVED SOURCE
1553 Transceiver, Dual Channel, 5V	5962-8952203XX	-----	NO APPROVED SOURCE
1553 Transceiver, Dual Channel, 5V	5962-8952203YX	-----	NO APPROVED SOURCE
1553 Transceiver, Dual Channel	5962-8952204XX	-----	NO APPROVED SOURCE
1553 Transceiver, Dual Channel	5962-8952205XX	-----	NO APPROVED SOURCE
1553 Transceiver, Dual Channel	5962-8952205YX	-----	NO APPROVED SOURCE
<b>ANALOG/DIGITAL CONVERTER</b>			
A/D Conv., 12-bit, 20 microseconds	5962-8850801XX	ADC-11X/883B	Datel Incorporated
A/D Conv., 12-bit, 8 microseconds	5962-8850802XX	ADC-HZ/883B	Datel Incorporated
A/D Conv., 12-bit, 8 microseconds	5962-8850802YX	MNADC87H/B	Micronetworks Incorporated
A/D Conv., 12-bit, High Speed	5962-8865801XX	AD578SD/883B	Analog Devices MED

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER <sup>4/</sup>	SOURCE(S)
<b>ANALOG/DIGITAL CONVERTER</b>			
A/D Conv., 12-bit, High Speed	5962-8865802XX	AD578TD/883B	Analog Devices MED
A/D Conv., 12-bit, High Speed	5962-8865803XX	AD5782SD/883B	Analog Devices MED
A/D Conv., 12-bit, High Speed	5962-8865804XX	AD5782TD/883B	Analog Devices MED
A/D Conv., 8-bit, Flash	5962-8877601XX	-----	NO APPROVED SOURCE
A/D Conv., 16-bit, shrt.cycle 14-bit	5962-8956301HXX	-----	NO APPROVED SOURCE
A/D Conv., 16-bit, shrt.cycle 13-bit	5962-8956302HXX	-----	NO APPROVED SOURCE
A/D Conv., 16-bit, High Speed	5962-8956901HXX	-----	NO APPROVED SOURCE
A/D Conv., 12-bit, 0 to -10V Int. Ref.	5962-8958301YX	MN5295H/B	Micronetworks Incorporated
A/D Conv., 12-bit, 0 to -10V Ext. Ref.	5962-8958302YX	MN5200H/B	Micronetworks Incorporated
A/D Conv., 12-bit, -5 to +5V Int. Ref.	5962-8958303YX	MN5203H/B	Micronetworks Incorporated
A/D Conv., 12-bit, -5 to +5V Ext. Ref.	5962-8958304YX	MN5201H/B	Micronetworks Incorporated
A/D Conv., 12-bit, -10 to -10V Int.Ref.	5962-8958305YX	MN5204H/B	Micronetworks Incorporated
A/D Conv., 12-bit, -10 to -10V Ext.Ref.	5962-8958306YX	MN5202H/B	Micronetworks Incorporated
A/D Conv., 12-bit, 0 to 10V Int. Ref.	5962-8958307YX	MN5205H/B	Micronetworks Incorporated
ADC, Hi Sp, 12-bit, 0 to -10V Int. Ref.	5962-8958401YX	MN5206H/B	Micronetworks Incorporated
ADC, Hi Sp, 12-bit, 0 to -10V Ext. Ref.	5962-8958402YX	MN5210H/B	Micronetworks Incorporated
ADC, Hi Spd, 12-bit, -5 to 5V Int. Ref.	5962-8958403YX	MN5213H/B	Micronetworks Incorporated
ADC, Hi Spd, 12-bit, -5 to 5V Ext. Ref.	5962-8958404YX	MN5211H/B	Micronetworks Incorporated
ADC, Hi Spd, 12-bit, -10 to 10V Int.Ref.	5962-8958405YX	MN5214H/B	Micronetworks Incorporated
ADC, Hi Spd, 12-bit, -10 to 10V Ext.Ref.	5962-8958406YX	MN5212H/B	Micronetworks Incorporated
ADC, Hi Spd, 12-bit, 0 to 10V Int. Ref.	5962-8958407YX	MN5215H/B	Micronetworks Incorporated
A/D Conv, 12-bit, 0 to 5V	5962-8959501XX	MN5216H/B	Micronetworks Incorporated
A/D Conv, 12-bit, 0 to 5V	5962-8959501YX	5245H/B	Micronetworks Incorporated
A/D Conv, 12-bit, 0 to 5V, 3-state inp.	5962-8959502XX	5245AH/B	NO APPROVED SOURCE
A/D Conv, 12-bit, 0 to 5V, 3-state inp.	5962-8959502YX	-----	Micronetworks Incorporated
A/D Conv, 12-bit, +/-2.5V	5962-8959503XX	5246H/B	NO APPROVED SOURCE
A/D Conv, 12-bit, +/-2.5V	5962-8959503YX	-----	Micronetworks Incorporated
A/D Conv, 12-bit, +/-2.5V, 3-state inp.	5962-8959504XX	5246AH/B	NO APPROVED SOURCE
A/D Conv, 12-bit, +/-2.5V, 3-state inp.	5962-8959504YX	-----	Micronetworks Incorporated
A/D Converter, 8-bit, flash	5962-8997901XX	-----	NO APPROVED SOURCE
A/D Converter, 8-bit, flash	5962-8997901YX	-----	NO APPROVED SOURCE
A/D Converter, 16-bit, High Speed	5962-9079501HXX	-----	NO APPROVED SOURCE
A/D Converter, 16-bit, High Speed	5962-9079502HXX	-----	NO APPROVED SOURCE

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
<b>AMPLIFIER, CURRENT</b>			
Amplifier, current, thick/thin film	7801301GX	CTS0002	CTS Corporation
Amplifier, current, thick/thin film	7801301XX	CTS0002XB	CTS Corporation
Amplifier, current, thick film	7801301XX	ELH0002H/883B	Elantec Incorporated
Amplifier, current, thick film	7801301XX	LH0002H/883B	National Semiconductor Corporation
<b>DATA ACQUISITION SYSTEM</b>			
12-bit data acq. sys., 8-ch. diff.inp.	5962-8851401XX	-----	NO APPROVED SOURCE
12-bit data acq. sys., 16ch. sng-ended	5962-8851402XX	-----	NO APPROVED SOURCE
12-bit data acq. sys., 16ch. sng-ended	5962-8851402YX	-----	NO APPROVED SOURCE
<b>DIGITAL/ANALOG CONVERTER</b>			
D/A Conv., 12-bit, Programmable	8300201JX	DAC87CBI	Analog Devices MED
D/A Conv., 12-bit, Programmable	8300201XX	-----	NO APPROVED SOURCE
D/A Conv., 8-bit, 0 to 4V Output	5962-8768801XX	MN3008H/B	Micronetworks Incorporated
D/A Conv., 8-bit, 0 to 4V Output	5962-8768801YX	-----	NO APPROVED SOURCE
D/A Conv., 8-bit, -2 to +2V Output	5962-8768802XX	MN3009H/B	Micronetworks Incorporated
D/A Conv., 8-bit, -2 to +2V Output	5962-8768802YX	-----	NO APPROVED SOURCE
D/A Conv., 12-bit, bipolar, linear, quad	5962-8850901XX	AD390SD/883B	Analog Devices MED
D/A Conv., 12-bit, bipolar, linear, quad	5962-8850902XX	AD390TD/883B	Analog Devices MED
D/A Conv., 12-bit, quad, bipolar	5962-8851001XX	AD394SD/883B	Analog Devices MED
D/A Conv., 12-bit, quad, bipolar	5962-8851002XX	AD394TD/883B	Analog Devices MED
D/A Conv., 12-bit, quad, bipolar	5962-8851003XX	AD395SD/883B	Analog Devices MED
D/A Conv., 12-bit, quad	5962-8851004XX	AD395TD/883B	Analog Devices MED
D/A Conv., 14-bit, deglitched	5962-8851701XX	DAC-02310-112	ILC Data Device Corporation
D/A Conv., 14-bit, deglitched	5962-8851701YX	DAC-02311-112	ILC Data Device Corporation
D/A Conv., 14-bit, deglitched	5962-8851702XX	DAC-02310-113	ILC Data Device Corporation
D/A Conv., 14-bit, deglitched	5962-8851702YX	DAC-02311-113	ILC Data Device Corporation
D/A Conv., 12-bit, track/hold	5962-8854201XX	ADC00300-112	ILC Data Device Corporation
D/A Conv., 12-bit, track/hold	5962-8854201YX	-----	NO APPROVED SOURCE
D/A Conv., 12-bit, Quad	5962-8862901XX	-----	NO APPROVED SOURCE
D/A Conv., Triple, 8-bit, Video RAM	5962-8950901XX	RGBDAC3808H/B	Advanced Analog

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
<b>DIGITAL/ANALOG CONVERTER</b>			
D/A Conv., 12-bit, binary input	5962-8952801XX	DAC-HBK/883B	Datel Incorporated
D/A Conv., 12-bit, two's complmnt.	5962-8952802XX	DAC-HBK-2/883B	Datel Incorporated
D/A Conv., 16-bit, 0 to 10V & +/-5V Out	5962-8953101HXX	DAC-HPB/883B	Datel Incorporated
D/A Conv., 16-bit, +/- 10V Output	5962-8953102HXX	DAC-HPB-1/883B	Datel Incorporated
D/A Conv., 16-bit, +/- 10V Output	5962-8953103HXX	-----	NO APPROVED SOURCE
D/A Conv., 16-bit, 0 to +10V Output	5962-8953104HXX	-----	NO APPROVED SOURCE
D/A Conv., 16-bit, +/- 5V Output	5962-8953105HXX	-----	NO APPROVED SOURCE
D/A Conv., 8-bit, w/ input register	5962-8971801XX	MN3020H/B	Micronetworks Incorporated
D/A Conv., 8-bit, w/ input register	5962-8971802XX	-----	NO APPROVED SOURCE
D/A Converter, 12-bit, w/ input reg.	5962-9057001HXX	-----	NO APPROVED SOURCE
<b>DC/DC CONVERTERS</b>			
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968301HXX	AHE2805S/HB	Advanced Analog
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968302HXX	AHE2605SF/HB	Advanced Analog
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968303HXX	AHE2805S/HB-SLV	Advanced Analog
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968304HXX	AHE2805SF/HB-SLV	Advanced Analog
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968305HXX	AHE2805S/HB-MSTR	Advanced Analog
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968306HXX	AHE2805SF/HB-MSTR	Advanced Analog
DC/DC Converter, Single Ch., 12V, 20W	5962-9158001HXX	-----	NO APPROVED SOURCE
DC/DC Converter, Single Ch., 12V, 20W	5962-9158002HXX	-----	NO APPROVED SOURCE
DC/DC Converter, Single Ch., 12V, 20W	5962-9158003HXX	-----	NO APPROVED SOURCE
DC/DC Converter, Single Ch., 12V, 20W	5962-9158004HXX	-----	NO APPROVED SOURCE
DC/DC Converter, Single Ch., 12V, 20W	5962-9158005HXX	-----	NO APPROVED SOURCE
DC/DC Converter, Single Ch., 15V, 20W	5962-9162501HXX	AHE2815S/HB	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9162502HXX	AHE2815SF/HB	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9162503HXX	AHE2815S/HB-SLV	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9162504HXX	AHE2815SF/HB-SLV	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9162505HXX	AHE2815S/HB-MSTR	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9162506HXX	AHE2815SF/HB-MSTR	Advanced Analog

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HYBRID MICROCIRCUITS  
QML-38534-13

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
<b>DRIVER, HIGH VOLTAGE</b>			
Driver, High Voltage, 1.5 Amp.	5962-8761701XX	CTS0006IB	CTS Corporation
Driver, High Voltage, 3.0 Amp.	5962-8761702XX	CTS0008IB	CTS Corporation
<b>UNIVERSAL DRIVER/RECEIVER</b>			
Unvl Driver/Rec., Single Ch., Low Pwr.	5962-8959202XX	-----	NO APPROVED SOURCE
Unvl Driver/Rec., Single Ch., Low Pwr.	5962-8959202YX	-----	NO APPROVED SOURCE
Unvl Driver/Rec., Single Ch., Low Pwr.	5962-8959204XX	-----	NO APPROVED SOURCE
Unvl Driver/Rec., Single Ch., Low Pwr.	5962-8959204YX	-----	NO APPROVED SOURCE
<b>FILTER, EMI</b>			
Filter, EMI, 4.0A	5915-9102001HXX	AFC-461	Advanced Analog
Filter, EMI, 4.0A	5915-9102001H2X	AFC-461F	Advanced Analog
<b>OPERATIONAL AMPLIFIER</b>			
Op amp, thick film	80013012X	ADLH0032G/883B	Analog Devices Computer Labs Div.
Op amp, thick film	80013012X	CTS0032ZB	CTS Corporation
Op amp, thick film	80013012X	ELH0032G/883E10003	Elantec Incorporated
Op amp, thick film	80013012X	-----	NO APPROVED SOURCE
Op amp, thick film	80013012X	TP0032-83	Teledyne Components
Op Amp, Wideband, High Speed	5962-8959401XX	CLC231A8C	Comlinear Corporation
Op Amp, Wideband, Fast Settling	5962-89813013X	-----	NO APPROVED SOURCE
Op Amp, Wideband, Fast Settling	5962-8981301GX	-----	NO APPROVED SOURCE
Operational Amplifier, Wideband	5962-8985801XX	CLC206A8C	Comlinear Corporation
Operational Amp, Wideband, High Speed	5962-8991001XX	CLC200A8C	Comlinear Corporation
Operational Amplifier, Wideband	5962-8991101XX	CLC220A8C	Comlinear Corporation
<b>POWER OPERATIONAL AMPLIFIER</b>			
Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	85087012X	CTS0041ZBNEW	CTS Corporation
Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	85087012X	ELH0041G/883B	Elantec Incorporated



TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
<p><b>POWER OPERATIONAL AMPLIFIER</b></p> <p>Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.                      Hi Pwr. Op Amp., Ext. Comp., 1.0A Out.                      Hi Pwr. Op Amp, Ext. Comp., 1.0A Out.                      Hi Pwr. Op Amp, Ext. Comp., 1.0A Out.                      Power Op amp., Wideband, Thick Film                      Power Op Amp., Wideband, Thick Film                      Op Amp, High Power                      Op Amp, High Power                      Power Op Amp, High Current                      Operational Amplifier, High Power                      Operational Amplifier, High Power                      Operational Amplifier, Power                      Operational Amplifier, Power                      Operational Amplifier, Power                      Operational Amplifier, High Power                      Operational Amplifier, High Power                      Operational Amplifier, High Power                      Operational Amplifier, Power</p>	<p>8508701ZX                      8508801YX                      8508801YX                      8508801YX                      8508901YX                      8508902YX                      5962-8762001XX                      5962-8762002YX                      5962-8870101XX                      5962-9063801HXX                      5962-9063801HXX                      5962-9065901HXX                      5962-9065901HXX                      5962-9067901HXX                      5962-9072301HXX                      5962-9082801HXX                      5962-9082801HXX                      5962-9162101HXX</p>	<p>LH0041G/883                      CTS00212B                      ELH0021K/E10036                      LH0021K                      ELH0101AK/E10039                      ELH0101K/E10038                      42106                      PA51M/883                      -----                      PA07M/883                      MIOP42114/883                      PA12M/883                      MIOP42109/883                      PA02M/883                      MIOP42116/883                      PA10M/883                      MIOP42115/883                      PA83M/883</p>	<p>National Semiconductor Corporation                      CTS Corporation                      Elantec Incorporated                      National Semiconductor Corporation                      Elantec Incorporated                      Elantec Incorporated                      Micropac Industries Incorporated                      Apex Microtechnology Corporation                      NO APPROVED SOURCE                      Apex Microtechnology Corporation                      Micropac Industries Incorporated                      Apex Microtechnology Corporation                      Micropac Industries Incorporated                      Apex Microtechnology Corporation                      Micropac Industries Incorporated                      Apex Microtechnology Corporation                      Micropac Industries Incorporated                      Apex Microtechnology Corporation                      Micropac Industries Incorporated                      Apex Microtechnology Corporation</p>
<p><b>VIDEO OPERATIONAL AMPLIFIER</b></p> <p>Video Op Amp, Fast Settling                      Video Op Amp, Fast Settling                      Operational Amplifier, Wideband                      Op Amp, Wideband                      Operational Amplifier, Wideband</p> <p><b>OPTOCOUPLER</b></p> <p>Optocoupler, Dual Channel                      Optocoupler, Dual Channel                      Optocoupler, Dual Channel                      Optocoupler, Dual Channel</p>	<p>5962-8857901XX                      5962-8857902XX                      5962-9083301HXX                      5962-9083301HXX                      5962-9083601HXX</p> <p>8102801EX                      8102801EX                      8102801EX                      8102802PX</p>	<p>HOS-050A/883B                      HOS-060SH/883B                      CLC201A8C                      CLC205A8C                      CLC221A8C                      -----                      6N134/883B                      -----                      -----                      -----</p>	<p>Analog Devices Computer Labs Div.                      Analog Devices Computer Labs Div.                      Comlinear Corporation                      Comlinear Corporation                      Comlinear Corporation</p> <p>Hewlett-Packard Company                      NO APPROVED SOURCE                      NO APPROVED SOURCE                      NO APPROVED SOURCE</p>

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TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
<b>OPTOCOUPLER</b>			
Optocoupler, Dual Channel	81028032X	-----	NO APPROVED SOURCE
Optocoupler, Quad	8302401EX	6N140A/883B	Hewlett-Packard Company
Optocoupler, Quad	8302401EX	6N140A/883B	Micropac Industries Incorporated
Optocoupler, Dual Channel	5962-8767901EX	4N55/883B	Hewlett-Packard Company
Optocoupler, Dual Channel	5962-8767902PX	HCPL-5531	Hewlett-Packard Company
Optocoupler, Dual Channel	5962-87679032A	HCPL-6531	Hewlett-Packard Company
Optocoupler, Single Channel, Hi Speed	5962-8876801PX	HCPL-5201	Hewlett-Packard Company
Optocoupler, Dual Channel, Hi Speed	5962-8876901PX	HCPL-5231	Hewlett-Packard Company
Optocoupler, Dual Channel, High Speed	5962-88769022X	HCPL-6231	Hewlett-Packard Company
Optocoupler, AC/DC Logic Interface	5962-8947701PX	HCPL-5761	Hewlett-Packard Company
Optocoupler, Single Ch., High Speed	5962-8957001PX	HCPL-5401	Hewlett-Packard Company
Optocoupler, Dual Ch., Hi Spd, Com Sup	5962-8957101PX	HCPL-5431	Hewlett-Packard Company
Optocoupler, Dual Ch., Hi Spd, Sep Sup	5962-89571022X	HCPL-6431	Hewlett-Packard Company
Optocoupler, Dual Ch., Line Receiver	5962-8957201EX	HCPL-1931	Hewlett-Packard Company
Optocoupler, Dual Ch., Common supplies	5962-8978501PX	HCPL-5731	Hewlett-Packard Company
Optocoupler, Dual Ch., Separate spples	5962-89785022X	HCPL-6731	Hewlett-Packard Company
Optocoupler, Sngl Ch., Low Cur., Hi Gn.	5962-8981001PX	HCPL-5701	Hewlett-Packard Company
Optocoupler, Single Ch., transistr out	5962-9085401HPX	HCPL-5501	Hewlett-Packard Company
<b>REFERENCE, PRECISION VOLTAGE</b>			
Reference, Precision Voltage, +10V	85030013X	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503001CX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503001XX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503001YX	2700SD/883B	Analog Devices MFD
Reference, Precision Voltage, +10V	8503001YX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	85030023X	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503002CX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503002XX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503002YX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503002YX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, -10V	85030033X	-----	NO APPROVED SOURCE
Reference, Precision Voltage, -10V	8503003CX	-----	NO APPROVED SOURCE

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PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
<b>REFERENCE, PRECISION VOLTAGE</b>			
Reference, Precision Voltage, -10V	8503003XX	---	NO APPROVED SOURCE
Reference, Precision Voltage, -10V	8503003YX	---	NO APPROVED SOURCE
Reference, Precision Voltage, -10V	8503003YX	---	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	85030043X	---	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	8503004CX	---	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	8503004XX	---	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	8503004YX	---	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	8503004YX	---	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	85030053X	---	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	8503005CX	---	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	8503005YX	2701SD/883B	Analog Devices MED
Reference, Precision Voltage, +/-10V	8503005YX	HC2701SD/883B	Hycomp Incorporated
Reference, Precision Voltage, -10V	85030063X	---	NO APPROVED SOURCE
Reference, Precision Voltage, -10V	8503006CX	---	NO APPROVED SOURCE
Reference, Precision Voltage, -10V	8503006YX	2701UD/883B	Analog Devices MED
Reference, Precision Voltage, -10V	8503006YX	HC2701UD/883B	Hycomp Incorporated
<b>R/D CONVERTERS</b>			
R/D Conv., 400Hz., 11.8V	5962-8990801XX	---	NO APPROVED SOURCE
R/D Conv., 400Hz., 11.8V	5962-8990802XX	---	NO APPROVED SOURCE
R/D Conv., 400Hz., 80Hz. BW, 11.8V	5962-8990803XX	SDC14565-616	ILC Data Device Corporation
R/D Conv., 400Hz., 11.8V, trimmed velocity	5962-8990804XX	---	NO APPROVED SOURCE
Resolver to Digital Conv., 11.8V	5962-8990805XX	---	NO APPROVED SOURCE
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 6 min.	5962-9055101XX	SDC14567-111	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 4 min.	5962-9055102XX	SDC14567-112	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 2 min.	5962-9055103XX	SDC14567-114	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 1 min.	5962-9055104XX	SDC14567-115	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 6 min.	5962-9055105XX	SDC14569-111	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 4 min.	5962-9055106XX	SDC14569-112	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 2 min.	5962-9055107XX	SDC14569-114	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 1 min.	5962-9055108XX	SDC14569-115	ILC Data Device Corporation

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PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
<b>R/S TO DIGITAL CONVERTERS</b>			
R/S to Dig. Conv., 400Hz, +/-2.6 arcmin.	5962-8768701XX	HSDC-8920A-883B	ILC Data Device Corporation
R/S to Dig. Conv., 400Hz, +/-4.0 arcmin.	5962-8768702XX	HSDC-8920-883B	ILC Data Device Corporation
R/D or S/D Converter, +/-2.6 arcmin acc	5962-9055401XX	HSDC-8915A-883B	ILC Data Device Corporation
R/D or S/D Converter, +/-4.0 arcmin acc	5962-9055402XX	HSDC-8915-883B	ILC Data Device Corporation
Synchro-Resolver to Digital Converter	5962-9082001HXX	---	NO APPROVED SOURCE
Synchro-Resolver to Digital Converter	5962-9082002HXX	---	NO APPROVED SOURCE
<b>S/D CONVERTERS</b>			
S/D Conv., 90V, 400Hz, 2 min. accuracy	5962-8949801XX	---	NO APPROVED SOURCE
S/D Conv., 90V, 400Hz, 1 min. accuracy	5962-8949802XX	---	NO APPROVED SOURCE
S/D Conv., 11.8V, 400Hz, 2 min. accrcy	5962-8949901XX	---	NO APPROVED SOURCE
S/D Conv., 11.8V, 400Hz, 1 min. accrcy	5962-8949902XX	---	NO APPROVED SOURCE
S/D Conv., 11.8V, 400Hz, .80 HzBW, 2 min	5962-8949903XX	SDC14560-605	ILC Data Device Corporation
S/D Conv., 11.8V, 400Hz, 2 min. accrcy	5962-8949904XX	---	NO APPROVED SOURCE
S/D Conv., 11.8V, 400Hz, 1 min. accrcy	5962-8949905XX	---	NO APPROVED SOURCE
S/D Conv., 11.8V, 400Hz, .80 HzBW, 2 min	5962-8949906XX	---	NO APPROVED SOURCE
S/D Converter, 400Hz, 11.8V, acc. +/-2.6	5962-9070701HXX	SDC14500-635	ILC Data Device Corporation
S/D Converter, 400Hz, 11.8V, acc. +/-4.0	5962-9070702HXX	SDC14500-636	ILC Data Device Corporation
S/D Converter, 60Hz, 10V, acc. +/-2.6 arcmin	5962-9070703HXX	SDC14502-605	ILC Data Device Corporation
S/D Converter, 60Hz, 10V, acc. +/-4.0 arcmin	5962-9070704HXX	SDC14502-606	ILC Data Device Corporation
<b>SAMPLE/HOLD</b>			
Sample/Hold Multiplexer, Dual 8-ch.	5962-8956501XX	---	NO APPROVED SOURCE
Sample/Hold Amp., 16-bit	5962-8956601HCX	HS9716TB	Sipex Corporation
<b>VOLTAGE FOLLOWER</b>			
Hi Spd. Buffr. Amp., Vol. Fol., FET in	80014012X	ADLH0033G/883B	Analog Devices Computer Labs Div.
Hi Spd. Buffr. Amp., Vol. Fol., FET in	80014012X	CTS00332B	CTS Corporation
Hi Spd. Buffr. Amp., Vol. Fol., FET in	80014012X	ELH0033G/883B	Elantec Incorporated
Hi Spd. Buffr. Amp., Vol. Fol., FET in	80014012X	LH0033G	National Semiconductor Corporation

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PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
<b>VOLTAGE FOLLOWER</b> Hi Spd. Buffr. Amp., Vol. Fol., FET in Buffer Amp, FET in. Buffer Amp, FET in.	80014012X 5962-8965901XX 5962-8965901YX	TP0033-83 EL2004G/883B -----	Teledyne Components Eiantec Incorporated NO APPROVED SOURCE
<b>VOLTAGE REGULATOR</b> Voltage Regulator, Dual, +15 & -15V	5962-8949001XX	OM7509SC/883B	Omnirel Corporation
<b>AMPLIFIER, TRACK AND HOLD</b> Amplifier, Track & Hold, High Speed	5962-9073001HXX	MN376	Micronetworks Incorporated

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