

REVISIONS

LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
A	Add device type 02. Inactivate device type 01 (no approved source of supply).	88-09-20	M. A. Frye
B	Add device types 03 through 07. Add vendors CAGE 32116, 5Y243, 57363, and 88379. Changed to reflect MIL-H-38534 processing. Editorial changes throughout.	89-12-04	W. Heckman
C	Add device type 08. Add vendor CAGE 8K957. Editorial changes throughout.	91-01-16	W. Heckman
D	Corrections to table I and figure 3. Editorial changes throughout.	92-03-03	Alan Barone
E	Changes in accordance with NOR 5962-R189-92.	92-04-27	Gregory A. Lude
F	Redrawn with changes. Add case outlines U and Z. Add device type 09. Editorial changes throughout.	92-11-11	K. A. Cottongim
G	Changes in accordance with NOR 5962-R110-94.	94-02-17	Kendall A. Cottongim
H	Changes in accordance with NOR 5962-R013-96.	95-12-15	Kendall A. Cottongim
J	Not used.		
K	Not used.		
L	Incorporated NOR's 5962-R110-94 and 5962-R013-96. Made changes to table I for device type 07. Redraw entire document.	96-06-20	K. A. Cottongim
M	Inactivate device types 03, 04, and 07 for new design. Add device type 10.	98-01-28	K. A. Cottongim
N	Rewrite paragraphs 4.2.a.2. and 4.3.3.b.2 to add T _c .	04-11-05	Raymond Monnin
P	Table I, Total current, I _{CC1-SB} , I _{CC1-25} , I _{CC1-50} , I _{CC1-100} for device type 05; change the maximum limit from 25 mA to 60 mA. (4 places) -gz	07-05-10	Robert M. Heber
R	Add case outline T. Correct paragraphs 4.2.a.2. and 4.3.3.b.2. -gz	10-11-08	Charles F. Saffle

THE ORIGINAL FIRST SHEET OF THIS DRAWING HAS BEEN REPLACED.

REV																				
SHEET																				
REV	R	R	R	R	R	R	R	R	R	R										
SHEET	15	16	17	18	19	20	21	22	23	24										
REV STATUS OF SHEETS				REV	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
				SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	14	
PMIC N/A					PREPARED BY Donald R. Osborne	<p align="center">DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990 http://www.dsccl.dla.mil</p> <p align="center">MICROCIRCUIT, HYBRID, DIGITAL, DUAL CHANNEL, 15 VOLT, DRIVER-RECEIVER, RECEIVER IDLE NORMALLY LOW</p>														
STANDARD MICROCIRCUIT DRAWING					CHECKED BY D. A. Di Cenzo															
THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE					APPROVED BY N. A. Hauck															
AMSC N/A					DRAWING APPROVAL DATE 87-08-06															
					REVISION LEVEL R	SIZE A	CAGE CODE 67268	5962-87579												
						SHEET 1 OF 24														

1.3 Absolute maximum ratings. 1/

Supply voltage range:	
V _{CC} (devices 01, 03, 04, 05, 07, 08, and 10).....	-0.3 V dc to +18 V dc
V _{EE} (devices 01-04, 06, 07, 08, 09, and 10).....	+0.3 V dc to -18 V dc
V _{CC1} (all devices).....	-0.3 V dc to +7 V dc
Logic input voltage.....	-0.3 V dc to V _{CC1}
Receiver differential voltage.....	40 V _{P-P}
Receiver common mode voltage range.....	-10 V dc to +10 V dc
Driver peak output current.....	200 mA
Power dissipation (P _D) at T _C = +125°C:	
(devices 01 and 08).....	4 W
(device 02).....	3 W
(device 03).....	3.3 W 2/
(devices 04 and 10).....	2 W 2/
(device 05).....	0.96 W 2/
(devices 06 and 09).....	1.65 W 2/
(device 07).....	3 W
Storage temperature range.....	-65°C to +150°C
Lead temperature (soldering, 10 seconds).....	+300°C
Junction temperature (T _J):	
(devices 01-04, 06, 07, 08, 09, and 10).....	+160°C
(device 05).....	+150°C
Thermal resistance, junction-to-case (θ _{JC}):	
(devices 01 and 05).....	8.8°C/W
(devices 02, 08, and 10).....	7.0°C/W
(device 03).....	47.2°C/W
(device 04).....	88°C/W
(devices 06 and 09).....	18°C/W
(device 07).....	60°C/W
Thermal resistance, junction-to-ambient (θ _{JA}):	
(devices 01 and 05).....	28.8°C/W
(devices 02, 08, and 10).....	27.0°C/W
(device 03).....	67.2°C/W
(device 04).....	108°C/W
(devices 06 and 09).....	35°C/W
(device 07).....	80°C/W

1.4 Recommended operating conditions.

Supply voltage range:	
V _{CC} (devices 01, 03, 04, 05, 07, and 10).....	+14.25 V dc to +15.75 V dc
V _{CC} (device 08).....	+11.25 V dc to +15.75 V dc
V _{EE} (devices 01-04, 06, 07, 09, and 10).....	-14.25 V dc to -15.75 V dc
V _{EE} (device 08).....	-11.25 V dc to -15.75 V dc
V _{CC1} (all devices).....	+4.5 V dc to +5.5 V dc
Logic input voltage.....	0 V dc to +5 V dc
Receiver differential voltage:	
(devices 01, 02, 03, 06, and 09).....	30 V _{P-P}
(devices 04, 05, 07, 08, and 10).....	40 V _{P-P}
Receiver common mode voltage range:	
(devices 01, 02, 03, 04, 06, and 09).....	-5 V dc to +5 V dc
(devices 05, 07, 08, and 10).....	-10 V dc to +10 V dc
Driver peak output current (all devices).....	180 mA
Serial data rate.....	1.0 MHz maximum
Junction temperature (T _J):	
(devices 01, 02, 03, 05, 06, 08, 09, and 10).....	+150°C
(devices 04 and 07).....	+160°C
Case operating temperature range (T _C).....	-55°C to +125°C

1/ Stresses above the absolute maximum rating may cause permanent damage to the device. Extended operation at the maximum levels may degrade the performance and affect reliability.

2/ One channel transmitting at 100 percent duty cycle and the second channel is at standby.

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2. APPLICABLE DOCUMENTS

2.1 Government specification, standards, and handbooks. The following specification, standards, and handbooks form a part of this drawing to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATION

MIL-PRF-38534 - Hybrid Microcircuits, General Specification for.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-883 - Test Method Standard Microcircuits.
 MIL-STD-1835 - Interface Standard for Electronic Component Case Outlines.

DEPARTMENT OF DEFENSE HANDBOOKS

MIL-HDBK-103 - List of Standard Microcircuit Drawings.
 MIL-HDBK-780 - Standard Microcircuit Drawings.
 MIL-HDBK-1553 - Multiplex Applications Handbook.

(Copies of these documents are available online at <https://assist.daps.dla.mil/quicksearch/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2 Order of precedence. In the event of a conflict between the text of this drawing and the references cited herein, the text of this drawing takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Item requirements. The individual item performance requirements for device class H shall be in accordance with MIL-PRF-38534. Compliance with MIL-PRF-38534 may include the performance of all tests herein or as designated in the device manufacturer's Quality Management (QM) plan or as designated for the applicable device class. The manufacturer may eliminate, modify or optimize the tests and inspections herein, however the performance requirements as defined in MIL-PRF-38534 shall be met for the applicable device class. In addition, the modification in the QM plan shall not affect the form, fit, or function of the device for the applicable device class.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-PRF-38534 and herein.

3.2.1 Case outlines. The case outlines shall be in accordance with 1.2.2 herein and figure 1.

3.2.2 Terminal connections. The terminal connections shall be as specified on figure 2.

3.2.3 Timing waveforms. The timing waveforms shall be as specified on figure 3.

3.2.4 Typical bus connections. The typical bus connections shall be as specified on figure 4.

3.3 Electrical performance characteristics. Unless otherwise specified herein, the electrical performance characteristics are as specified in table I and shall apply over the full specified operating temperature range.

3.4 Electrical test requirements. The electrical test requirements shall be the subgroups specified in table II. The electrical tests for each subgroup are defined in table I.

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3.5 Marking of devices. Marking of devices shall be in accordance with MIL-PRF-38534. The device shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's vendor similar PIN may also be marked.

3.6 Data. In addition to the general performance requirements of MIL-PRF-38534, the manufacturer of the device described herein shall maintain the electrical test data (variables format) from the initial quality conformance inspection group A lot sample, for each device type listed herein. Also, the data should include a summary of all parameters manually tested, and for those which, if any, are guaranteed. This data shall be maintained under document revision level control by the manufacturer and be made available to the preparing activity (DLA Land and Maritime-VA) upon request.

3.7 Certificate of compliance. A certificate of compliance shall be required from a manufacturer in order to supply to this drawing. The certificate of compliance (original copy) submitted to DLA Land and Maritime-VA shall affirm that the manufacturer's product meets the performance requirements of MIL-PRF-38534 and herein.

3.8 Certificate of conformance. A certificate of conformance as required in MIL-PRF-38534 shall be provided with each lot of microcircuits delivered to this drawing.

4. VERIFICATION

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-PRF-38534 or as modified in the device manufacturer's Quality Management (QM) plan. The modification in the QM plan shall not affect the form, fit, or function as described herein.

4.2 Screening. Screening shall be in accordance with MIL-PRF-38534. The following additional criteria shall apply:

- a. Burn-in test, method 1015 of MIL-STD-883.
 - (1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to either DLA Land and Maritime-VA or the acquiring activity upon request. Also, the test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in method 1015 of MIL-STD-883.
 - (2) T_A or T_C as specified in accordance with table I of method 1015 of MIL-STD-883.
- b. Interim and final electrical test parameters shall be as specified in table II herein, except interim electrical parameter tests prior to burn-in are optional at the discretion of the manufacturer.

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TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions <u>1/</u> -55°C ≤ T _C ≤ +125°C unless otherwise specified	Group A subgroups	Device types	Limits		Unit
					Min	Max	
RECEIVER							
Input level	V _I	Differential input, pin 15 to pin 16 <u>2/</u>	4,5,6	All		40	V _{P-P}
Input common mode voltage range	V _{ICM}	Independent of xfmr or in accordance with MIL- HDBK-1553 section 5.1.2.2 <u>2/ 3/</u>	4,5,6	01,02,03,04, 06,09	-5	+5	mV(pk)
				05,07,08,10	-10	+10	
Output low voltage	V _{OL}	I _{OL} = 16 mA	1,2,3	01,02		0.5	V
		I _{OL} = 4 mA		03,04,07,08, 10		0.5	
		I _{OL} = 8 mA		05,06,09		0.5	
Output high voltage	V _{OH}	I _{OH} = -0.4 mA	1,2,3	All	2.5		V
TRANSMITTER							
Input low voltage	V _{IL}	<u>4/</u>	1,2,3	All		0.7	V
Input high voltage	V _{IH}	<u>4/</u>	1,2,3	All	2		V
Input low current	I _{IL}	V _{IL} = 0.4 V	1,2,3	01,06,09	-1.6		mA
				02	-0.72		
				03	-3.2		
				04,05,08,10	-0.4		
				07	-1.0		
Input high current	I _{IH}	V _{IH} = 2.7 V	1,2,3	All		0.04	mA
Output voltage	V _O	Across 35Ω load <u>5/</u>	1,2,3	01,02,05,06, 08,09	6	9	V _{P-P}
				03,04,07,10	6.5	9	
Output noise voltage	V _{ON}	Across 35Ω load <u>5/</u>	4,5,6	All		10	mV _{P-P}

See footnotes at end of table.

**STANDARD
MICROCIRCUIT DRAWING**

DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

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TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions ^{1/} -55°C ≤ T _C ≤ +125°C unless otherwise specified	Group A subgroups	Device types	Limits		Unit
					Min	Max	
RECEIVER STROBE							
Input low voltage	V _{SIL}	4/	1,2,3	01-03, 05-09,10		0.7	V
				04		0.40	
Input high voltage	V _{SIH}	4/	1,2,3	All	2		V
Input low current	I _{SIL}	V _{SIL} = 0.4 V	1,2,3	01,06,09	-1.6		mA
				02,05	-0.72		
				03	-0.8		
				04,08,10	-0.4		
				07	-1.0		
Input high current	I _{SIH}	V _{SIH} = 2.7 V	1,2,3	All		0.04	mA
TRANSMITTER INHIBIT							
Input low voltage	V _{IIL}	4/	1,2,3	All		0.7	V
Input high voltage	V _{IIH}	4/	1,2,3	All	2		
Input low current	I _{IIL}	V _{SIL} = 0.4 V	1,2,3	01,03,06,09	-1.6		mA
				02	-0.72		
				04,05,08,10	-0.4		
				07	-1.0		
Input high current	I _{IIH}	V _{SIH} = 2.7 V	1,2,3	All		0.04	mA

See footnotes at end of table.

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TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions 1/ -55°C ≤ T _C ≤ +125°C unless otherwise specified	Group A subgroups	Device types	Limits		Unit	
					Min	Max		
POWER SUPPLY								
Total current	I _{CC} -SB	(standby mode)	1,2,3	01 03,08 04,10 05 07		55 32 1 25 44	mA	
	I _{EE} -SB		1,2,3	01,08 06,09 02 03 04,10 07		55 30 35 26 16.5 70		
	I _{CC1} -SB		1,2,3	01,06,09 02 03 04,10 05 07 08		35 45 20 30 60 90 25		
	I _{CC} -25	(25% duty cycle into 35Ω load)	4,5,6	01,04,08,10 03 05 07		55 90 69 100		
	I _{EE} -25		4,5,6	01,06,08,09 02 2/ 03 04,10 07		100 80 26 21 70		
	I _{CC1} -25		4,5,6	01 02 2/ 06,09 03 04,10 05 07 08		35 45 45 20 30 60 90 25		
	I _{CC} -50		(50% duty cycle into 35Ω load)	4,5,6	01,08 03 04,10 05 07			55 140 110 118 155
	I _{EE} -50			4,5,6	01 08 02,06,09 03 04,10 07			145 150 130 26 25 70

See footnotes at end of table.

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TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions <u>1/</u> -55°C ≤ T _C ≤ +125°C unless otherwise specified	Group A subgroups	Device types	Limits		Unit
					Min	Max	
POWER SUPPLY - Continued.							
Total current	I _{CC1} -50	(50% duty cycle into 35Ω load)	4,5,6	01 02,06,09 03 04,10 05 07 08		35 45 20 30 60 90 25	mA
	I _{CC} -100	(100% duty cycle into 35Ω load)	1,2,3	01,08 03 04 05,10 07		55 240 220 209 260	
	I _{EE} -100		1,2,3	01 02 <u>2/</u> 06,08,09 03 04,10 07		255 255 255 26 30 70	
	I _{CC1} -100		1,2,3	01 <u>4/</u> 02 <u>2/</u> 03,08 04,10 05 06,09 07		35 45 20 30 60 55 90	
RECEIVER							
Input resistance	R _{IN}	1 MHz sine wave <u>2/</u>	4,5,6	01-09	7		kΩ
		<u>6/ 7/ 8/</u>		10	(See figure 4)		
Input capacitance	C _{IN}	1 MHz sine wave <u>2/</u> T _C = +25°C	4	01-09		5	pF
		<u>6/ 7/ 8/</u>	4,5,6	10	(See figure 4)		
Threshold voltage	V _{TH}	<u>5/ 9/</u>	1,2,3	08,10	0.56	1.1	V _{P-P}
				01-05	0.56	1.0	
				06,09	0.6	1.2	
				07	0.86	1.1	
	V _{TH}	Group C end-point <u>9/</u> electricals	1,2,3	All	0.50	1.1	V _{P-P}
See footnotes at end of table.							
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TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions <u>1/</u> -55°C ≤ T _C ≤ +125°C unless otherwise specified	Group A subgroups	Device types	Limits		Unit
					Min	Max	
TRANSMITTER							
Output resistance (transmitter off)	R _{OUT}	1 MHz sine wave <u>2/</u>	4,5,6	01-09	10		kΩ
		<u>6/ 7/ 8/</u>		10	(See figure 4)		
Output capacitance (transmitter off)	C _{OUT}	1 MHz sine wave <u>2/</u> T _C = +25°C	4	01-09		5	pF
		<u>6/ 7/ 8/</u>	4,5,6	10	(See figure 4)		
Output offset voltage	V _{OS}	<u>2/ 10/</u>	4,5,6	All	-90	+90	mV(pk)
Peak amplitude variation	A _V	<u>11/</u>	4,5,6	All	-15	+15	%
RECEIVER							
Delay time, input to output	t _{DR}	Delay time from differential input zero crossing to DATA or <u>DATA</u> . <u>2/</u> (See figure 3)	9,10,11	All		400	ns
Strobe delay	t _{DS}	Delay time from strobe rising or falling edge to DATA or <u>DATA</u> . <u>2/</u> (See figure 3)	9,10,11	01-03,05-10		200	
				04		250	
TRANSMITTER							
Rise time	t _R	Output load = 35Ω (See figure 3)	9,10,11	All	100	300	ns
Fall time	t _F	Output load = 35Ω (See figure 3)	9,10,11	All	100	300	ns
Delay time	t _{DT}	(See figure 3) <u>2/</u>	9,10,11	01-03, 05,06,09		250	ns
				04,08		350	
				07,10		200	
Inhibit delay inhibiting	t _{DI-H}	(See figure 3) <u>2/</u>	9,10,11	01-09		450	ns
				10		200	
See footnotes at end of table.							
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TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions <u>1/</u> -55°C ≤ T _C ≤ +125°C unless otherwise specified	Group A subgroups	Device types	Limits		Unit
					Min	Max	
TRANSMITTER - Continued.							
Inhibit delay active	t _{DT-L}	(See figure 3) <u>2/</u>	9,10,11	01-05,08		250	ns
				06,09		300	
				07,10		150	
TRANSMITTER / RECEIVER							
Input impedance	Z _{oi}	In accordance with MIL-HDBK-1553, section 100, appendix A, test plan 5.1.2.3. (See figure 4) Transformer coupled stubs	4,5,6	10	1.0		kΩ
		Direct coupled stubs			2.0		
<p><u>1/</u> V_{CC} = 15 V dc, V_{EE} = -15 V dc, and V_{CC1} = +5 V dc. All specifications and limits are for a single channel with no connections made to the other channel.</p> <p><u>2/</u> This parameter is tested initially and after any process or design change which might affect this parameter.</p> <p><u>3/</u> Common mode rejection for device type 10 is as shown on figure 4.</p> <p><u>4/</u> These parameters are tested on a go-no-go basis in conjunction with other measured parameters and are not directly testable.</p> <p><u>5/</u> See figure 4 for device type 10.</p> <p><u>6/</u> Not measured directly, but as part of input impedance (Z_{IN}). Test in accordance with MIL-HDBK-1553, section 100, appendix A, test plan 5.1.2.3. See figure 4.</p> <p><u>7/</u> This parameter is 100 percent tested for device type 10.</p> <p><u>8/</u> See input impedance test (Z_{oi}) and figure 4.</p> <p><u>9/</u> Threshold is measured in direct coupled mode including the transformer. Threshold is the maximum level on the BUS at which there are no pulses on either receiver output. Divide by 1.4 to obtain threshold in transformer coupled mode. Add 0.14 V in direct coupled mode or 0.10 V in transformer coupled mode to obtain threshold at which no errors are observed when receiver is used with 15530 CMOS Manchester encoder-decoder.</p> <p><u>10/</u> Measured across 35Ω load, 2.5 μs after parity bit mid-bit zero crossing of a 660 μs message.</p> <p><u>11/</u> Measured across 35Ω load, variation of average peak amplitude.</p>							
<p align="center">STANDARD MICROCIRCUIT DRAWING</p> <p align="center">DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990</p>				SIZE A		5962-87579	
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Case outline T.

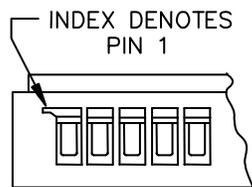
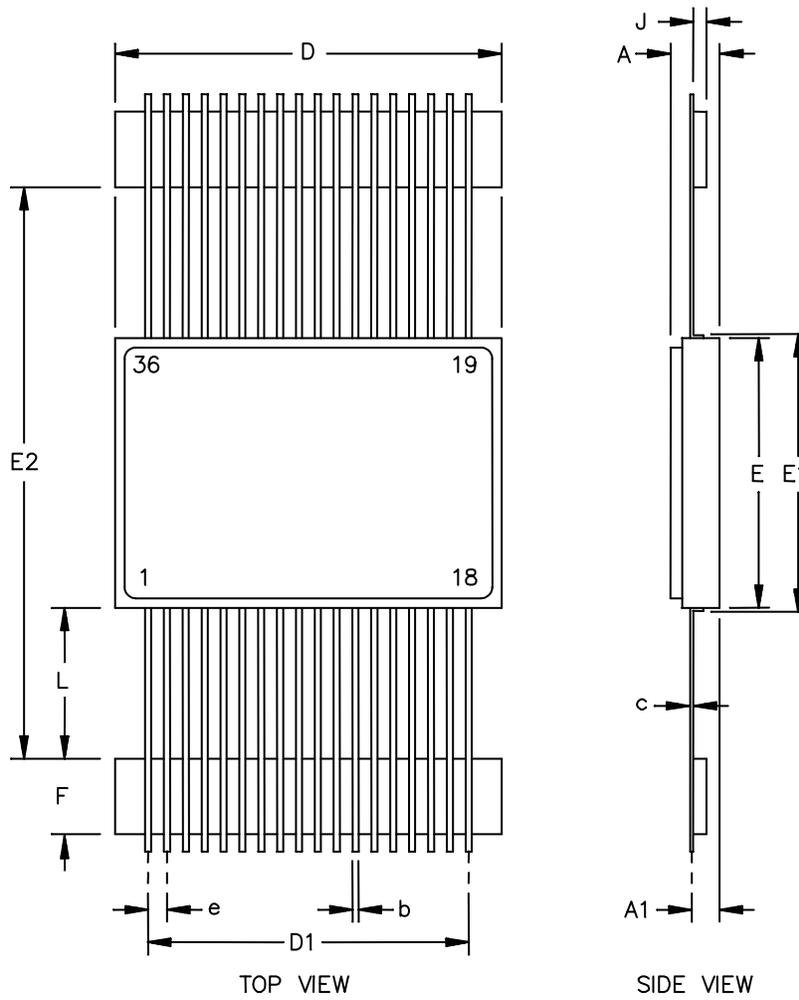


FIGURE 1. Case outlines.

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Case outline T - Continued.

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A		3.30		.130
A1	1.75	2.01	.069	.079
b	0.356	0.457	.014	.018
c	0.152	0.254	.006	.010
D		26.04		1.025
D1	21.46	21.72	.845	.855
E		17.55		.691
E1		18.16		.715
E2	36.58	38.86	1.440	1.530
e	1.14	1.40	.045	.055
F	4.83	5.33	.190	.210
J	0.635	0.889	.025	.035
L	9.65	10.67	.380	.420

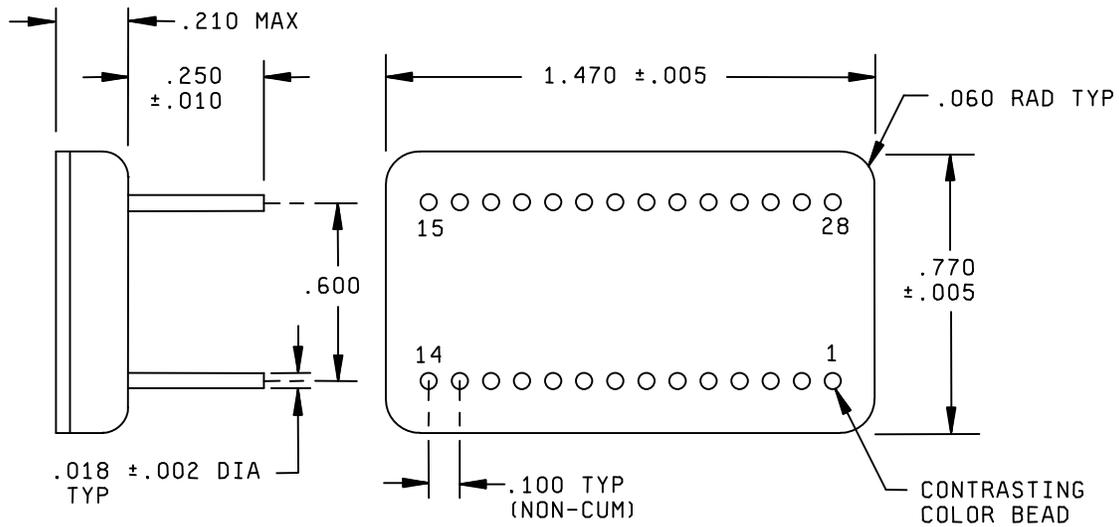
NOTES:

1. The U.S. government preferred system of measurement is the metric SI. This item was designed using inch-pound units of measurement. In case of problems involving conflicts between the metric and inch-pound units, the inch-pound units shall rule.
2. Pin numbers are for reference only
3. Package material is alumina (AL₂O₃).

FIGURE 1. Case outlines - Continued.

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Case outline U.



Inches	mm
.002	0.05
.005	0.13
.010	0.25
.018	0.46
.060	1.52
.100	2.54
.210	5.33
.250	6.35
.600	15.24
.770	19.56
1.470	37.34

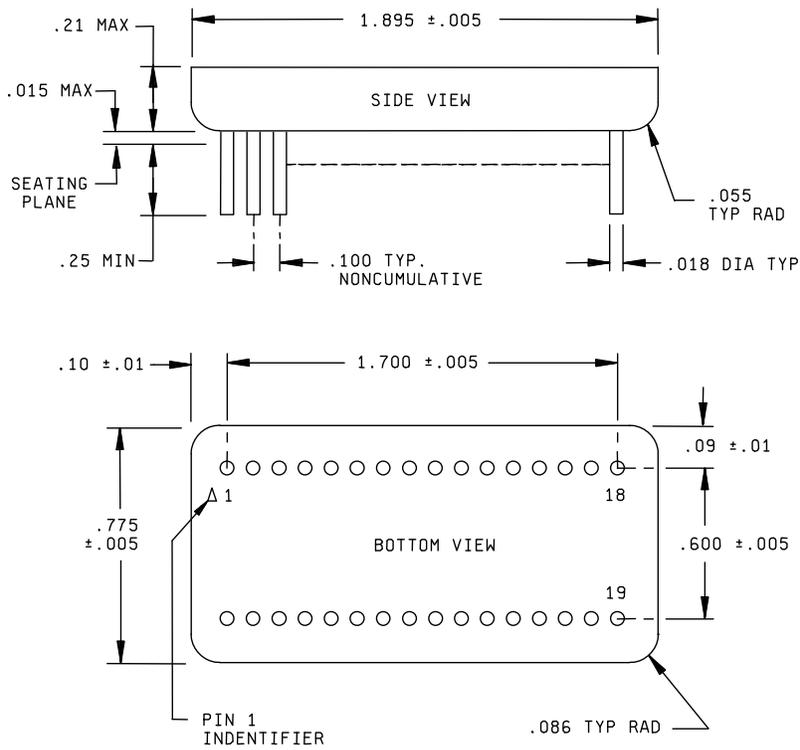
NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Lead identification numbers are for reference only.
4. Lead spacing dimensions apply only at seating plane.

FIGURE 1. Case outlines - Continued.

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		REVISION LEVEL R	SHEET 14

Case outline X.



Inches	mm
.005	0.13
.01	0.3
.015	0.38
.018	0.46
.055	1.40
.086	2.18
.09	2.3
.10	2.5
.100	2.54
.600	15.24
.775	19.68
1.700	43.18
1.895	48.13

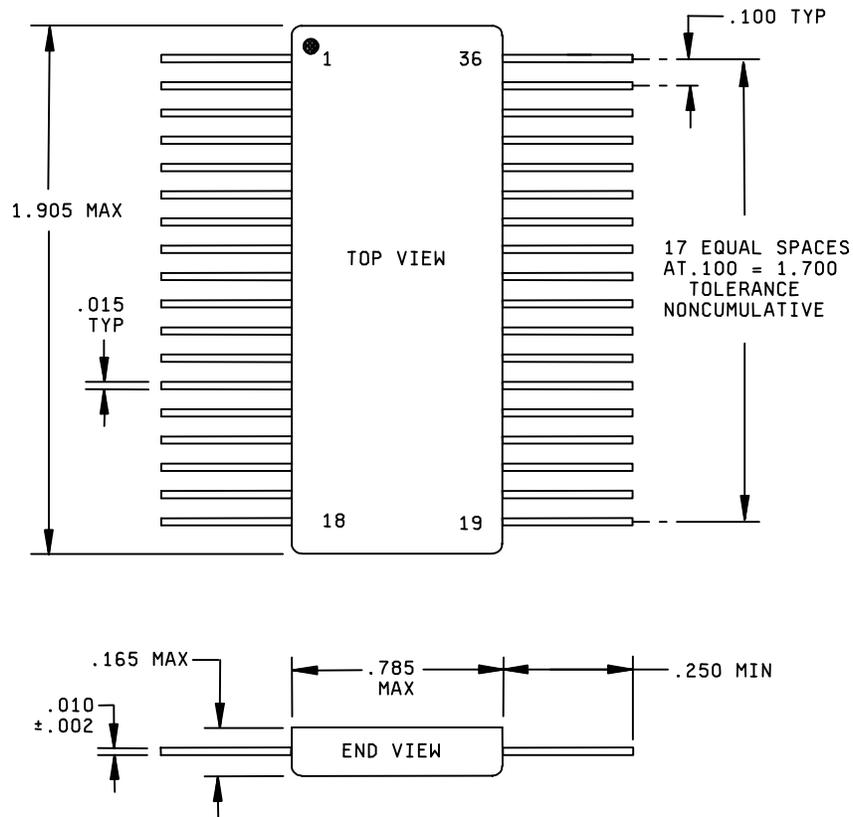
NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Lead identification numbers are for reference only.
4. Lead spacing dimensions apply only at seating plane.

FIGURE 1. Case outlines - Continued.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-87579
		REVISION LEVEL R	SHEET 15

Case outline Y.



Inches	mm
.002	0.05
.010	0.25
.015	0.38
.100	2.54
.165	4.19
.250	6.35
.785	19.94
1.700	43.18
1.905	48.39

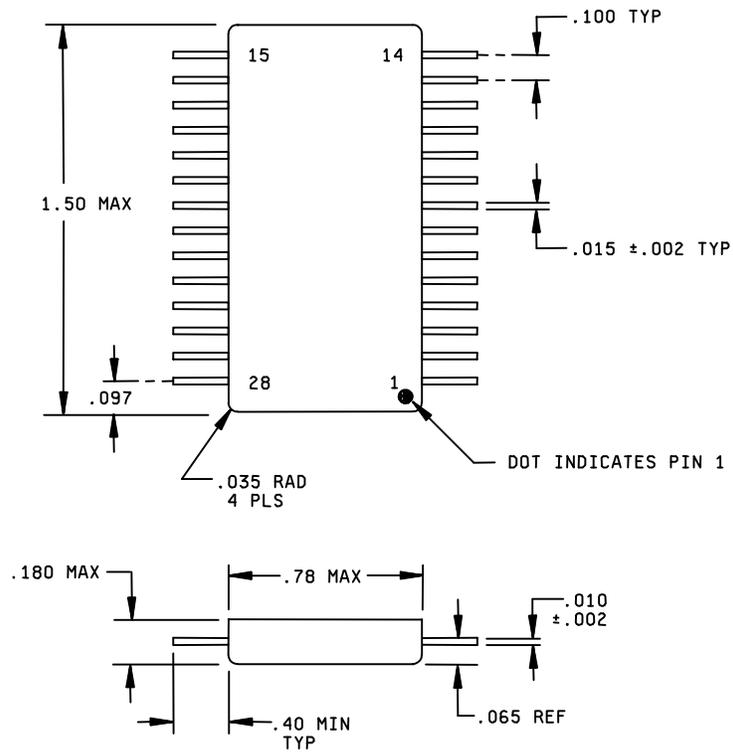
NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Lead identification numbers are for reference only.
4. Lead spacing dimensions apply only at seating plane.

FIGURE 1. Case outlines - Continued.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-87579
		REVISION LEVEL R	SHEET 16

Case outline Z.



Inches	mm
.002	0.05
.003	0.08
.010	0.25
.015	0.38
.035	0.89
.065	1.65
.097	2.46
.100	2.54
.180	4.51
.40	10.16
.78	19.81
1.50	38.10

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Lead identification numbers are for reference only.
4. Lead spacing dimensions apply only at seating plane.

FIGURE 1. Case outlines - Continued.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-87579
		REVISION LEVEL R	SHEET 17

Case outline T.

Pin	Function	Channel
1	TX <u>data</u> out	One
2	TX data out	One
3	GND	One
4	NC	
5	RX data out	One
6	Strobe	One
7	<u>GND</u>	One
8	RX data out	One
9	DNC	
10	TX <u>data</u> out	Two
11	TX data out	Two
12	GND	Two
13	NC	
14	RX data out	Two
15	Strobe	Two
16	<u>GND</u>	Two
17	RX data out	Two
18	NC	
19	NC	
20	RX <u>data</u> in	Two
21	RX data in	Two
22	GND	Two
23	V _{EE}	Two
24	V _{CC1}	Two
25	Inhibit	Two
26	TX <u>data</u> in	Two
27	TX data in	Two
28	NC	
29	RX <u>data</u> in	One
30	RX data in	One
31	GND	One
32	V _{EE}	One
33	V _{CC1}	One
34	Inhibit	One
35	TX <u>data</u> in	One
36	TX data in	One

NOTES:

1. GND pins should all be connected externally.
2. NC = no internal connection.
3. DNC = do not connect.

FIGURE 2. Terminal connections.

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		REVISION LEVEL R	SHEET 18

Case outlines X and Y.

Pin	Function	Channel
1	TX <u>data</u> out	One
2	TX <u>data</u> out	One
3	GND	One
4	NC	
5	RX <u>data</u> out	One
6	Strobe	One
7	GND	One
8	RX <u>data</u> out	One
9	GND or Case	One
10	TX <u>data</u> out	Two
11	TX <u>data</u> out	Two
12	GND	Two
13	NC	
14	RX <u>data</u> out	Two
15	Strobe	Two
16	GND	Two
17	RX <u>data</u> out	Two
18	NC	
19	V _{CC} or NC	Two
20	RX <u>data</u> in	Two
21	RX <u>data</u> in	Two
22	GND	Two
23	V _{EE}	Two
24	V _{CC1}	Two
25	Inhibit	Two
26	TX <u>data</u> in	Two
27	TX <u>data</u> in	Two
28	V _{CC} or NC	One
29	RX <u>data</u> in	One
30	RX <u>data</u> in	One
31	GND	One
32	V _{EE}	One
33	V _{CC1}	One
34	Inhibit	One
35	TX <u>data</u> in	One
36	TX <u>data</u> in	One

NOTES:

1. GND pins should all be connected externally.
2. Device types 01, 03, 04, 05, 07, and 10; pins 19 and 28 are +15 V dc. Device types 02, 06, and 09; pins 19 and 28 are not connected (NC).
3. Device type 06; pins 4 and 13 are available for the thermal protection
4. Device types 06 and 09; pins 3,12, 22, and 31 are not connected (NC).

FIGURE 2. Terminal connections - Continued.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-87579
		REVISION LEVEL R	SHEET 19

Case outlines U and Z.

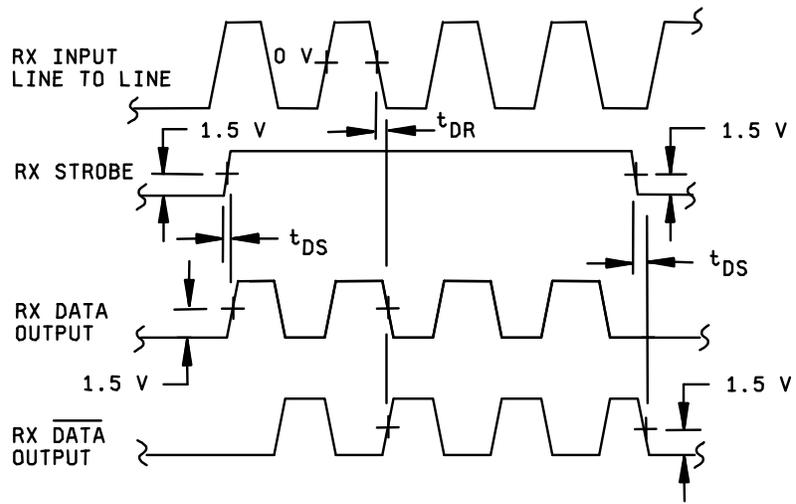
Pin	Function	Channel
1	TX <u>data</u> out/RX <u>data</u> in	One
2	TX data out/RX data in	One
3	GND	One
4	RX <u>strobe</u>	One
5	RX data out	One
6	RX data out	One
7	Case	
8	TX <u>data</u> out/RX <u>data</u> in	Two
9	TX data out/RX data in	Two
10	GND	Two
11	RX <u>strobe</u>	Two
12	RX data out	Two
13	RX data out	Two
14	No connection	
15	GND	Two
16	V _{EE}	Two
17	V _{CC1}	Two
18	TX <u>inhibit</u>	Two
19	TX data in	Two
20	TX data in	Two
21	V _{CC}	Two
22	GND	One
23	V _{EE}	One
24	V _{CC1}	One
25	<u>Inhibit</u>	One
26	TX data in	One
27	TX data in	One
28	V _{CC}	One

NOTE:

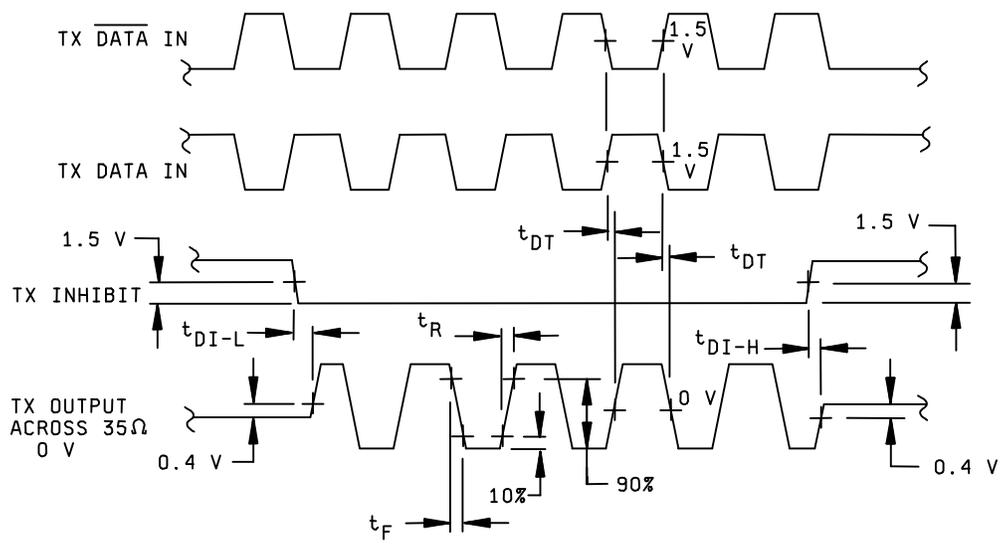
1. GND pins should all be connected externally.

FIGURE 2. Terminal connections - Continued.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-87579
		REVISION LEVEL R	SHEET 20



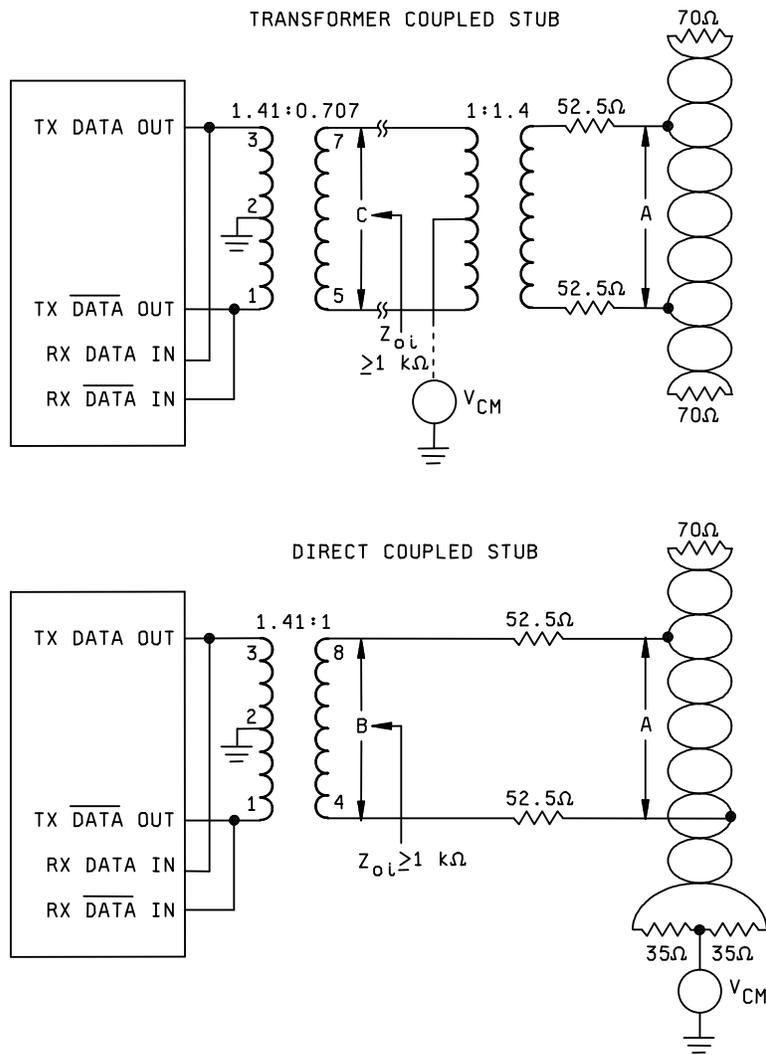
Receiver timing



Transmitter timing

FIGURE 3. Timing waveforms.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-87579
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NOTE:

1. Transformer is a Technitrol, part number 1553-2 or equivalent.

FIGURE 4. Typical bus connections.

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TABLE II. Electrical test requirements.

MIL-PRF-38534 test requirements	Subgroups (in accordance with MIL-PRF-38534, group A test table)
Interim electrical parameters	----
Final electrical parameters	1*, 2, 3, 4, 5, 6, 9, 10, 11
Group A test requirements	1, 2, 3, 4, 5, 6, 9, 10, 11
Group C end-point electrical parameters	1, 2, 3

* PDA applies to subgroup 1.

4.3 Conformance and periodic inspections. Conformance inspection (CI) and periodic inspection (PI) shall be in accordance with MIL-PRF-38534 and as specified herein.

4.3.1 Group A inspection (CI). Group A inspection shall be in accordance with MIL-PRF-38534 and as follows:

- a. Tests shall be as specified in table II herein.
- b. Subgroups 7 and 8 shall be omitted.

4.3.2 Group B inspection (PI). Group B inspection shall be in accordance with MIL-PRF-38534.

4.3.3 Group C inspection (PI). Group C inspection shall be in accordance with MIL-PRF-38534 and as follows:

- a. End-point electrical parameters shall be as specified in table II herein.
- b. Steady-state life test, method 1005 of MIL-STD-883.
 - (1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to either DLA Land and Maritime-VA or the acquiring activity upon request. Also, the test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in method 1005 of MIL-STD-883.
 - (2) T_A or T_C as specified in accordance with table I of method 1005 of MIL-STD-883.
 - (3) Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

4.3.4 Group D inspection (PI). Group D inspection shall be in accordance with MIL-PRF-38534.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-87579
		REVISION LEVEL R	SHEET 23

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-PRF-38534.

6. NOTES

6.1 Intended use. Microcircuits conforming to this drawing are intended for use for Government microcircuit applications (original equipment), design applications, and logistics purposes.

6.2 Replaceability. Microcircuits covered by this drawing will replace the same generic device covered by a contractor-prepared specification or drawing.

6.3 Configuration control of SMD's. All proposed changes to existing SMD's will be coordinated as specified in MIL-PRF-38534.

6.4 Record of users. Military and industrial users shall inform DLA Land and Maritime when a system application requires configuration control and the applicable SMD. DLA Land and Maritime will maintain a record of users and this list will be used for coordination and distribution of changes to the drawings. Users of drawings covering microelectronic devices (FSC 5962) should contact DLA Land and Maritime-VA, telephone (614) 692-0547.

6.5 Comments. Comments on this drawing should be directed to DLA Land and Maritime-VA, Columbus, Ohio 43218-3990, or telephone (614) 692-1081.

6.6 Sources of supply. Sources of supply are listed in MIL-HDBK-103 and QML-38534. The vendors listed in MIL-HDBK-103 and QML-38534 have submitted a certificate of compliance (see 3.7 herein) to DLA Land and Maritime-VA and have agreed to this drawing.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-87579
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STANDARD MICROCIRCUIT DRAWING BULLETIN

DATE: 10-11-08

Approved sources of supply for SMD 5962-87579 are listed below for immediate acquisition information only and shall be added to MIL-HDBK-103 and QML-38534 during the next revisions. MIL-HDBK-103 and QML-38534 will be revised to include the addition or deletion of sources. The vendors listed below have agreed to this drawing and a certificate of compliance has been submitted to and accepted by DLA Land and Maritime-VA. This information bulletin is superseded by the next dated revisions of MIL-HDBK-103 and QML-38534. DLA Land and Maritime maintains an online database of all current sources of supply at <http://www.dsc.dla.mil/Programs/Smcr/>.

Standard microcircuit drawing PIN <u>1/</u>	Vendor CAGE number	Vendor similar PIN <u>2/</u>
5962-8757901XA 5962-8757901YA	<u>3/</u> <u>3/</u>	BUS-63125 BUS-63125
5962-8757902TC 5962-8757902XA 5962-8757902XC 5962-8757902YA 5962-8757902YC	19645 19645 19645 19645 19645	BUS-63123-600 BUS-63125II-140 BUS-63125II-110 BUS-63126II-140 BUS-63126II-110
5962-8757903XA 5962-8757903YA	<u>4/</u> <u>4/</u>	ARX2411 ARX2411FP
5962-8757904UA 5962-8757904XA 5962-8757904YA 5962-8757904ZA	<u>4/</u> <u>4/</u> <u>4/</u> <u>4/</u>	ARX3411 ARX3411 ARX3411FP ARX3411FP
5962-8757905XA 5962-8757905XC 5962-8757905YA 5962-8757905YC	57363 57363 57363 57363	NHI-1500/883 NHI-1500/883 NHI-1500FP/883 NHI-1500FP/883
5962-8757906XA 5962-8757906XC 5962-8757906YA 5962-8757906YC	U4388 U4388 U4388 U4388	FC 1553623 FC 1553623 FC 1553623 FP FC 1553623 FP
5962-8757907XX 5962-8757907YX	<u>4/</u> <u>4/</u>	CT1487-D CT1487-DFP

- 1/ The lead finish shown for each PIN, representing a hermetic package, is the most readily available from the manufacturer listed for that part. If the desired lead finish is not listed contact the Vendor to determine availability.
- 2/ Caution. Do not use this number for item acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.
- 3/ Not available from an approved source.
- 4/ Not available from an approved source. Device type 10 replaces device types 03, 04, and 07.

STANDARD MICROCIRCUIT DRAWING BULLETIN - Continued.

DATE: 10-11-08

Standard microcircuit drawing PIN <u>1/</u>	Vendor CAGE number	Vendor similar PIN <u>2/</u>
5962-8757908XX	<u>3/</u>	MR63125M
5962-8757909XA 5962-8757909XC 5962-8757909YA 5962-8757909YC	U4388 U4388 U4388 U4388	FC 1553621 FC 1553621 FC 1553621 FP FC 1553621 FP
5962-8757910XA 5962-8757910XC 5962-8757910YA 5962-8757910YC	88379 88379 88379 88379	ACT4487-D ACT4487-D ACT4487-DF ACT4487-DF

- 1/ The lead finish shown for each PIN, representing a hermetic package, is the most readily available from the manufacturer listed for that part. If the desired lead finish is not listed contact the Vendor to determine availability.
- 2/ Caution. Do not use this number for item acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.
- 3/ Not available from an approved source.
- 4/ Not available from an approved source. Device type 10 replaces device types 03, 04, and 07.

<u>Vendor CAGE number</u>	<u>Vendor name and address</u>
U4388	C-MAC Microcircuits, Ltd South Denes Great Yarmouth Norfolk NR30 3PX England
19645	Data Device Corporation 105 Wilbur Place Bohemia, NY 11716-2482
57363	National Hybrid, Incorporated 2200 Smithtown Avenue Ronkonkoma, NY 11779-7329
88379	Aeroflex Plainview, Incorporated 35 South Service Road Plainview, NY 11803-4101

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