

**REVISIONS**

LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
A	Added the RHA designator "R" to paragraph 1.2. Made correction to paragraph 4.3.5.1.3, removed the last sentence. Table I: corrected Output voltage low max limit from "0.4" to "0.5". Table II: corrected the subgroups for the RHA end point electrical parameters. -sld	15-04-16	Charles F. Saffle



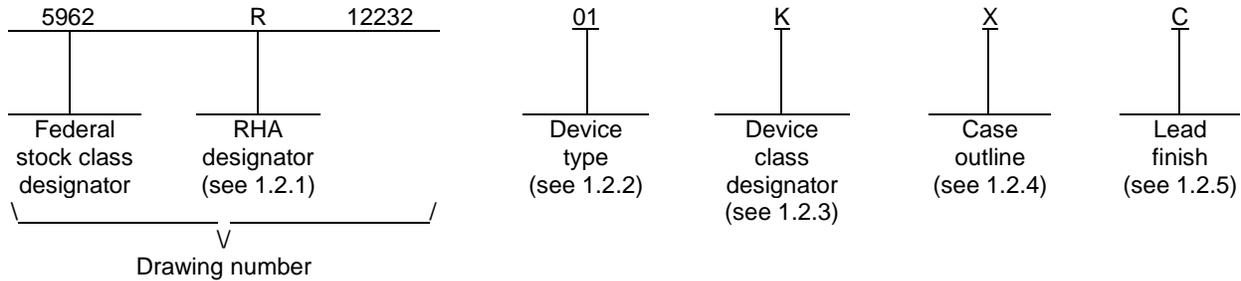
REV																			
SHEET																			
REV	A	A																	
SHEET	15	16																	
REV STATUS OF SHEETS	REV		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
	SHEET		1	2	3	4	5	6	7	8	9	10	11	12	13	14			

PMIC N/A	PREPARED BY Steve L. Duncan	<p align="center"><b>DLA LAND AND MARITIME</b>  <b>COLUMBUS, OHIO 43218-3990</b>  <a href="http://www.landandmaritime.dla.mil/">http://www.landandmaritime.dla.mil/</a></p>		
<b>STANDARD MICROCIRCUIT DRAWING</b>  THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE	CHECKED BY Greg Cecil			
	APPROVED BY Charles F.Saffle			
	DRAWING APPROVAL DATE 14-02-06			
AMSC N/A	REVISION LEVEL A	SIZE A	CAGE CODE <b>67268</b>	<b>5962-12232</b>
SHEET 1 OF 16				

1. SCOPE

1.1 Scope. This drawing documents five product assurance classes as defined in paragraph 1.2.3 and MIL-PRF-38534. A choice of case outlines and lead finishes which are available and are reflected in the Part or Identifying Number (PIN). When available, a choice of radiation hardness assurance levels is reflected in the PIN.

1.2 PIN. The PIN shall be as shown in the following example:



1.2.1 Radiation hardness assurance (RHA) designator. RHA marked devices shall meet the MIL-PRF-38534 specified RHA levels and shall be marked with the appropriate RHA designator. A dash (-) indicates a non-RHA device.

1.2.2 Device type(s). The device type(s) identify the circuit function as follows:

<u>Device type</u>	<u>Generic number</u>	<u>Circuit function</u>
01	PCS5038	Octal Precision Current Source

1.2.3 Device class designator. This device class designator shall be a single letter identifying the product assurance level. All levels are defined by the requirements of MIL-PRF-38534 and require QML Certification as well as qualification (Class H, K, and E) or QML Listing (Class G and D). The product assurance levels are as follows:

<u>Device class</u>	<u>Device performance documentation</u>
K	Highest reliability class available. This level is intended for use in space applications.
H	Standard military quality class level. This level is intended for use in applications where non-space high reliability devices are required.
G	Reduced testing version of the standard military quality class. This level uses the Class H screening and In-Process Inspections with a possible limited temperature range, manufacturer specified incoming flow, and the manufacturer guarantees (but may not test) periodic and conformance inspections (Group A, B, C and D).
E	Designates devices which are based upon one of the other classes (K, H, or G) with exception(s) taken to the requirements of that class. These exception(s) must be specified in the device acquisition document; therefore the acquisition document should be reviewed to ensure that the exception(s) taken will not adversely affect system performance.
D	Manufacturer specified quality class. Quality level is defined by the manufacturers internal, QML certified flow. This product may have a limited temperature range.

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1.2.4 Case outline(s). The case outline(s) are as designated in MIL-STD-1835 and as follows:

<u>Outline letter</u>	<u>Descriptive designator</u>	<u>Terminals</u>	<u>Package style</u>
X	See figure 1	40	Ceramic quad flat pack

1.2.5 Lead finish. The lead finish shall be as specified in MIL-PRF-38534.

1.3 Absolute maximum ratings. 1/

Supply voltage (V <sub>CC</sub> ).....	+7.0 V dc
Thermal resistance, junction-to-case (Θ <sub>JC</sub> ).....	5°C/W
Power dissipation.....	420 mW
Junction temperature (T <sub>J</sub> ).....	+150°C
Lead temperature (soldering, 10 seconds).....	300°C
Storage temperature range.....	-65°C to +150°C

1.4 Recommended operating conditions.

Supply voltage (V <sub>CC</sub> ).....	+5.0 V dc
Case operating temperature range (T <sub>C</sub> ).....	-55°C to +125°C

1.5 Radiation features. 2/ 3/

Maximum Total Ionizing Dose (TID) ..(dose rate = 50 - 300 rad(Si)/s):  
 In accordance with MIL-STD-883, method 1019, condition A. 100 krad(Si) 4/

## 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 SPECIFICATIONS

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.

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

- 1/ Stresses above the absolute maximum ratings may cause permanent damage to the device. Extended operation at the maximum levels may degrade performance and affect reliability.
- 2/ See section 4.3.5 for the manufacturer's radiation hardness assurance analysis and testing.
- 3/ Bipolar device types may degrade from displacement damage from radiation which could affect RHA levels. This device has not been characterized for displacement damage.
- 4/ The device will be tested every wafer diffusion lot.

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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 classes D, E, G, H, and K shall be in accordance with MIL-PRF-38534. Compliance with MIL-PRF-38534 shall 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 outline(s). The case outline(s) shall be in accordance with 1.2.4 herein and figure 1.

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

3.2.3 Block diagram. The block diagram shall be as specified on figure 3.

3.2.4 Timing diagram(s). The timing diagram(s) shall be as specified on figure 4.

3.2.5 Radiation exposure circuits. The radiation exposure circuits shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing and acquiring activity upon request.

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.

3.5 Marking of device(s). Marking of device(s) 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.

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TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions -55°C ≤ T <sub>C</sub> ≤ +125°C V <sub>CC</sub> +5.0 V dc ± 5% unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Supply current <u>1/</u>	I <sub>CC</sub>	PCS and comparator groups enabled, ENA_PCS_H ≥ V <sub>IH</sub> , ENA_GRP1_H ≥ V <sub>IH</sub> , IPCS = 2 mA, ENA_GRP2_H ≥ V <sub>IH</sub> , R_ISET = 1 kΩ, CMP <sub>(OUT1:8)</sub> = V <sub>IH</sub>	1,2,3	01		30	mA
Quiescent current <u>1/</u>	I <sub>CCQ</sub>	PCS and comparator groups disabled, ENA_PCS_H ≤ V <sub>IL</sub> , ENA_GRP1_H ≤ V <sub>IL</sub> , ENA_GRP2_H ≤ V <sub>IL</sub>	1,2,3	01		10	mA
Short circuit current <u>2/</u>	I <sub>SC</sub>	PCS and comparator groups enabled, R_ISET = 0Ω, T <sub>C</sub> = +25°C	1	01		60	mA
Precision current source out <u>1/</u>	IPCS <sub>ON</sub>	ENA_PCS_H ≥ V <sub>IH</sub> , ENA_GRP1_H ≥ V <sub>IH</sub> , ENA_GRP2_H ≥ V <sub>IH</sub> , 100 μA ≤ IPCS ≤ 2 mA, External set resistor tolerance = ±0.1%	1,2,3	01	IPCS - 0.75%	IPCS +0.75%	mA
	IPCS <sub>OFF</sub>	ENA_PCS_H ≤ V <sub>IL</sub> , ENA_GRP1_H ≥ V <sub>IH</sub> , ENA_GRP2_H ≥ V <sub>IH</sub> , 100 μA ≤ IPCS ≤ 2 mA, External set resistor tolerance = ±0.1%	1,2,3	01		1000	nA
Current source matching accuracy <u>1/</u>	I <sub>MATCH</sub>	Relative to mean of IPCS <sub>ON</sub> (1:8) at T <sub>C</sub> = +25°C	1	01	-0.75	+0.75	%
Comparator in voltage <u>2/</u>	V <sub>IN</sub>	Input or reference	1,2,3	01	0	3.0	V
Comparator reference in current	I <sub>REF</sub>	VREF_GRP1 = VREF_GRP2 = 0 V	1,2,3	01		2.0	μA
Enable input voltage low ENA_PCS_H (pin 33), ENA_GRP1_H (pin 32), ENA_GRP2_H (pin 31)	V <sub>IL</sub>		1,2,3	01		0.8	V
Enable input voltage high ENA_PCS_H (pin 33), ENA_GRP1_H (pin 32), ENA_GRP2_H (pin 31)	V <sub>IH</sub>		1,2,3	01	2.0		V
Output voltage low <u>1/</u> CMP <sub>OUT</sub> (1:8), (pins 1-4 and 12-15)	V <sub>OL</sub>	I <sub>SINK</sub> ≤ 2.0 mA	1,2,3	01		0.5	V
Output voltage high <u>1/</u> CMP <sub>OUT</sub> (1:8), (pins 1-4 and 12-15)	V <sub>OH</sub>	No load	1,2,3	01	4.4		V
Internal output pull-up <u>2/</u> resistor	R <sub>INT</sub>		1,2,3	01	8	12	kΩ
Input open circuit voltage	V <sub>INOC</sub>		1,2,3	01		V <sub>CC</sub>	V
R_ISET pin voltage <u>1/</u>	V <sub>SET</sub>	T <sub>C</sub> = +25°C	1	01	1.990	2.010	V
R_ISET temperature coefficient	V <sub>SET-TC</sub>		1,2,3	01	-0.75	+0.75	%

See footnotes at end of table.

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TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions -55°C ≤ T <sub>C</sub> ≤ +125°C V <sub>CC</sub> +5.0 V dc ± 5% unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Band gap output voltage <u>1/</u> BGR_VREF (pin 26)	V <sub>BG</sub>		1	01	1.990	2.010	V
			2,3		1.980	2.020	
Band gap load regulation BGR_VREF (pin 26) <u>2/</u>	$\frac{\Delta V_{BG}}{\Delta I_{BG}}$	BG I <sub>OUT</sub> ≤ 2 mA	1,2,3	01		5	mV
Comparator pulse delay <u>3/</u>	t <sub>DLH1</sub>	C <sub>L</sub> = 30 pF, V <sub>REF</sub> = 1.0 V dc, V <sub>IN</sub> overdrive ≥ 50 mV, See figure 4	9,10,11	01		300	ns
	t <sub>DHL1</sub>					1000	
Comparator enable delay <u>3/</u>	t <sub>DLH2</sub>	C <sub>L</sub> = 30 pF, V <sub>REF</sub> = 1.0 V dc, V <sub>IN</sub> = 1.05 V dc, See figure 4	9,10,11	01		1500	ns
	t <sub>DHL2</sub>					1000	
IPCS enable delay <u>3/</u>	t <sub>DLH3</sub>	C <sub>L</sub> = 30 pF, V <sub>REF</sub> = 1.0 V dc, R <sub>IN</sub> = 1 KΩ, R <sub>ISET</sub> = 1 KΩ, IPCS = 2 mA, See figure 4	9,10,11	01		10	μs
	t <sub>DHL3</sub>					750	ns

- 1/ The active element that makes up this device has been tested to 150 krad(Si) to assure RHA designator level "R" (100 krad(Si)) of Method 1019, condition A of MIL-STD-883 at +25°C for these parameters.
- 2/ Not tested. Shall be guaranteed by design, characterization, or correlation to other test parameters.
- 3/ Includes text fixture node capacitance plus 10 pF scope capacitance.

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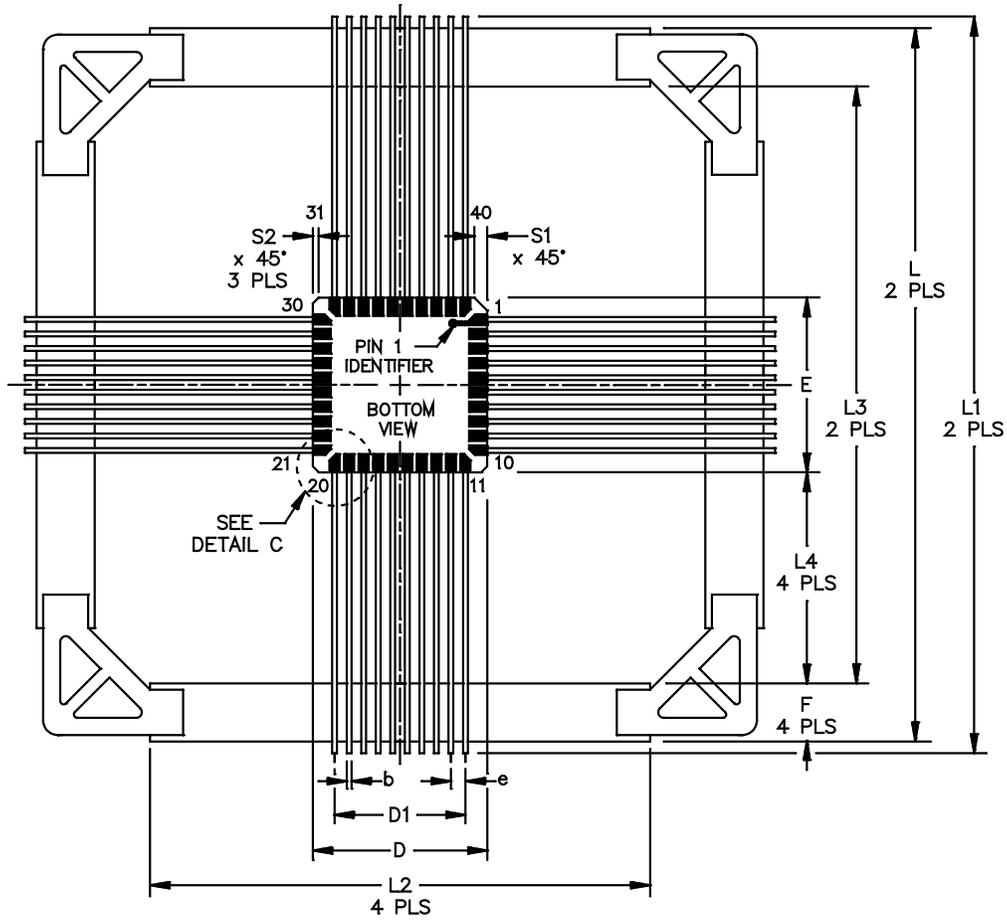


FIGURE 1. Case outline.

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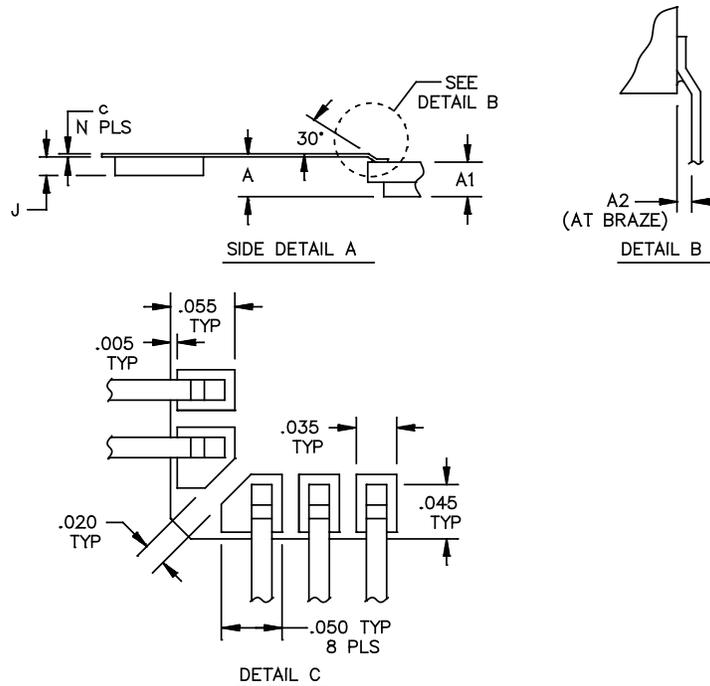
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Case outline X - Continued.



Symbol	Inches		Millimeters	
	Min	Max	Min	Max
A		.120		3.05
A1		.111		2.82
A2	.005	.011	.13	.28
b	.0135	.0195	.343	.495
c	.004	.008	.10	.20
D/E	.590	.610	14.99	15.49
D1	.444	.456	11.28	11.58
e	.050 BSC		1.27 BSC	
F	.200 TYP		5.08 TYP	
J	.035 TYP		.89 TYP	
L	2.490	2.510	63.25	63.75
L1		2.580		65.53
L2	1.700	1.740	43.18	44.20
L3	2.090	2.110	53.09	53.60
L4	.750 TYP		19.05 TYP	
N	40		40	
S1	.030 TYP		.76 TYP	
S2	.015 TYP		.38 TYP	

NOTES:

1. Pin 1 is indicated by the ESD marking on top of the package and the extended lead on the bottom of the package.
2. The U.S. 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.
3. N equals 40, the total number of leads on the package.
4. Pin numbers are for reference only.

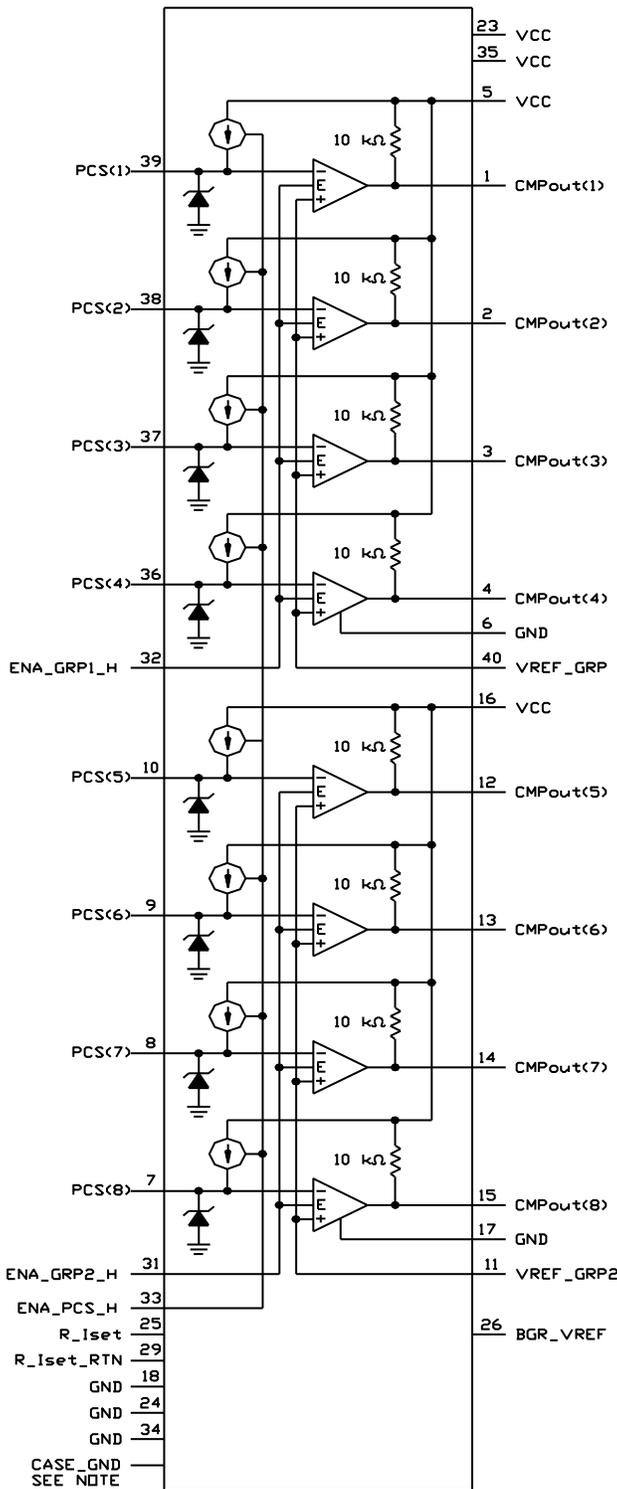
FIGURE 1. Case outline - Continued.

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Device type	01		
Case outline	X		
Terminal number	Terminal symbol	Terminal number	Terminal symbol
1	CMP <sub>OUT(1)</sub>	21	CASE_GND
2	CMP <sub>OUT(2)</sub>	22	CASE_GND
3	CMP <sub>OUT(3)</sub>	23	V <sub>CC</sub>
4	CMP <sub>OUT(4)</sub>	24	GND
5	V <sub>CC</sub>	25	R <sub>ISET</sub>
6	GND	26	BGR_VREF
7	PCS(8)	27	CASE_GND
8	PCS(7)	28	CASE_GND
9	PCS(6)	29	R <sub>ISET</sub> _RTN
10	PCS(5)	30	CASE_GND
11	VREF_GRP2	31	ENA_GRP2_H
12	CMP <sub>OUT(5)</sub>	32	ENA_GRP1_H
13	CMP <sub>OUT(6)</sub>	33	ENA_PCS_H
14	CMP <sub>OUT(7)</sub>	34	GND
15	CMP <sub>OUT(8)</sub>	35	V <sub>CC</sub>
16	V <sub>CC</sub>	36	PCS(4)
17	GND	37	PCS(3)
18	GND	38	PCS(2)
19	CASE_GND	39	PCS(1)
20	CASE_GND	40	VREF_GRP1

FIGURE 2. Terminal connections.

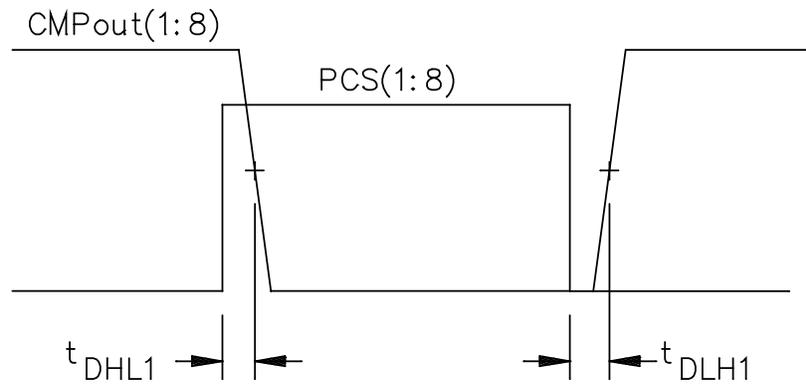
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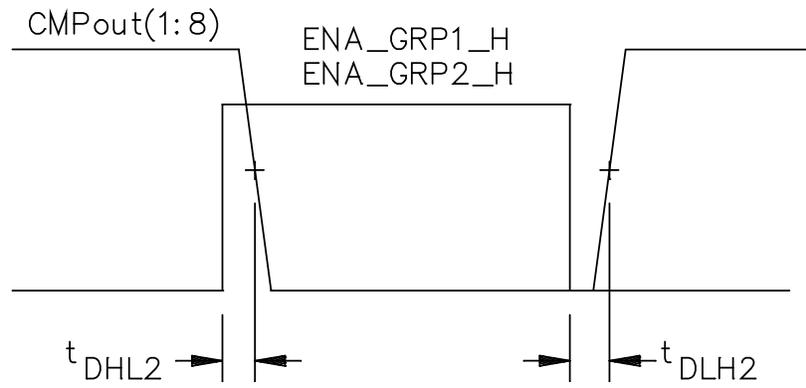
NOTE: Ground pins 19, 20, 21, 22, 27, 28, and 30 are connected to CASE and should be grounded.

FIGURE 3. Block diagram.

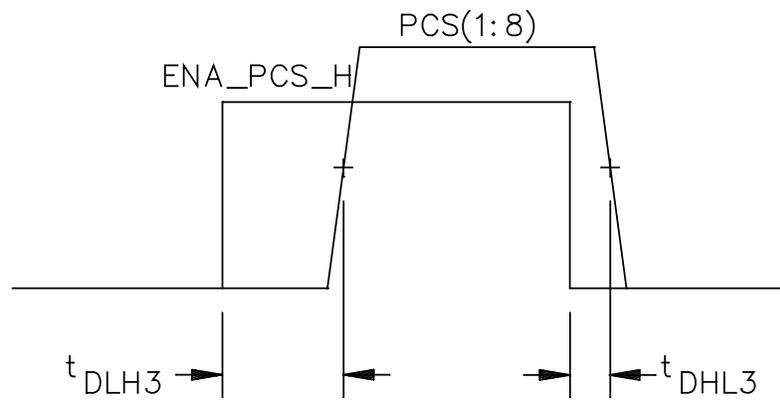
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COMPARATOR PULSE DELAY



COMPARATOR ENABLE DELAY



IPCS ENABLE DELAY

FIGURE 4. Timing diagram(s).

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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	1
Final electrical parameters	1*,2,3,9,10,11
Group A test requirements	1,2,3,9,10,11
Group C end-point electrical parameters	1,2,3,9,10,11
End-point electrical parameters for Radiation Hardness Assurance (RHA) devices	1

\* PDA applies to subgroup 1.

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)  $T_A$  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.

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 4, 5, 6, 7, and 8 shall be omitted.

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

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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<sub>A</sub> 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.

4.3.5. Radiation hardness assurance (RHA). RHA qualification is required only for those devices with the RHA designator as specified herein. See table IIIA and table IIIB.

Table IIIA. Radiation Hardness Assurance Method Table.

RHA method employed	Total Dose Testing RHA level "R" (100 krad)		Worst Case Analysis Performed				End point electricals after total dose	
	Element level	Hybrid device level	Includes temperature effects	Combines temperature and radiation effects	Combines total dose and displacement effects	End-of-life	Element level	Hybrid device level
	Tested at (150 krad) See 4.3.5.1.1	Tested at (150 krad) See 4.3.5.1.1	No	No	No	No	T <sub>C</sub> = +25°C	T <sub>C</sub> = +25°C

Table IIIB. Hybrid level and element level test table.

	Radiation Test								
	Total Dose			Heavy Ion		Proton		Neutron	
	Low Dose Rate (LDR)	High Dose Rate (HDR)	ELDRS	SET (transient)	SEL (latch-up)	Low Energy	High Energy	SEE (upset)	Displacement Damage (DD)
<b>Bipolar DI</b>	Not tested	Tested at (150 krad)	Not tested	Not tested	G	Not tested	Not tested	Not tested	Not tested

NOTE:

G = Guaranteed by design or process.

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4.3.5.1 Radiation Hardness Assurance (RHA) inspection. RHA qualification is required for those devices with the RHA designator as specified herein. End-point electrical parameters for radiation hardness assurance (RHA) devices shall be specified in table II. Radiation testing will be in accordance with the qualifying activity (DLA Land and Maritime -VQ) approved plan and with MIL-PRF-38534, Appendix G.

- a. The hybrid device manufacturer shall establish procedures controlling component radiation testing, and shall establish radiation test plans used to implement component lot qualification during procurement. Test plans and test reports shall be filed and controlled in accordance with the manufacturer's configuration management system.
- b. The hybrid device manufacturer shall designate a RHA program manager to oversee component lot qualification, and to monitor design changes for continued compliance to RHA requirements.

4.3.5.1.1 Hybrid level RHA qualification. Hybrid level and element level testing are the same for this device on this Standard Microcircuit Drawing (SMD) since the active element is accessible to the device leads for test.

4.3.5.1.2. Total ionizing dose irradiation testing. A minimum of 5 biased devices of the active element used will be tested every wafer lot. This active element will be tested at HDR in accordance with condition A of method 1019 of MIL-STD-883 to 150 krad(Si) to assure 100 krad(Si) for the device parameters as specified in table I herein.

4.3.5.1.3 Accelerated annealing test. Accelerated annealing tests shall be performed on all devices requiring a RHA level greater than 5 krad(Si). The post-anneal end-point electrical parameter limits shall be as specified in table I herein and shall be the pre-irradiation end-point electrical parameter limit at 25°C ±5°C.

4.3.5.2 RHA Lot Acceptance. Each lot of this hybrid device shall be evaluated for acceptance in accordance with MIL-PRF-38534 and herein.

4.3.5.2.1 Total Ionizing Dose (TID). See paragraph 4.3.5.1.2 and 4.3.5.1.3 herein.

4.3.5.2.2 Enhanced Element Evaluation. Enhanced Element Evaluation per Table IV herein including 45 devices subjected to Group C2, 1000 hours life testing, is required only for those devices with the RHA designator as specified herein.

4.3.5.2.3 Radiation Lot Acceptance Testing (RLAT). Every wafer diffusion lot of this IC used in this monolithic hybrid microcircuit device will be Radiation Lot Acceptance Testing (RLAT) tested at HDR in accordance with condition A (dose rate of 50 - 300 rad(Si)/s) of method 1019 of MIL-STD-883. A minimum of 5 samples under worst case biased conditions will be tested. 0.9000/90% statistics are applied to the device parameters as specified in table I herein.

4.3.5.2.4 RHA Device Package Type. Enhanced Element Evaluation testing per paragraph 4.3.5.2.2 and RLAT per paragraph 4.3.5.2.3 will be performed on every wafer diffusion lot with the monolithic IC die in the same package, as specified in 1.2.4 herein, used for compliant devices with the RHA designator as specified herein.

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Table IV. Enhanced Element Evaluation For Microcircuit Die.

Subgroup	Class K	Test	MIL-STD-883		Quantity (accept number)	Reference Paragraph <u>1/</u>
			Method	Condition		
2	X	Element visual	2010		100 percent	C.3.3.2
		Assembled into package as specified in 1.2.4 herein.			100 percent	
1	X	Element electrical			100 percent	C.3.3.1
3	X	Internal visual	2017		45(0)	C.5.5
4	X	Temperature cycling	1010	C	45(0) <u>2/</u>	C.3.3.3
	X	Constant acceleration	2001	3000g's, Y1 direction		C.5.6
	X	Burn-in	1015	160 hours minimum at +125°C		
	X	Interim electrical				C.3.3.4.3
	X	Burn-in	1015	160 hours minimum at +125°C		
	X	Post burn-in Final Electrical, Group A				C.5.10
	X	Steady-state life	1005	1000 hours minimum at +125°C		
	X	Final electrical				C.3.3.4.3
5	X	Wire bond evaluation	2011		10(0) wires or 20(1) wires	C.3.3.3 C.3.3.5
6	X	SEM	2018		See method 2018 of MIL-STD-883	C.3.3.6

1/ See MIL-PRF-38534.

2/ Die shall be traceable to the wafer and wafer lot. The sample size shall consist of a minimum of 3 die from each wafer and a minimum of 45 die from each wafer lot.

## 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 to that system. 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) 692-8108.

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MICROCIRCUIT DRAWING**  
DLA LAND AND MARITIME  
COLUMBUS, OHIO 43218-3990

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SHEET  
**15**

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.

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DATE: 15-04-16

Approved sources of supply for SMD 5962-12232 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.landandmaritime.dla.mil/Programs/Smcr/>.

Standard microcircuit drawing PIN <u>1/</u>	Vendor CAGE number	Vendor similar PIN <u>2/</u>
5962-1223201KXC 5962R1223201KXC	88379 88379	PCS5038-201-1S PCS5038-901-1S

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 its 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.

Vendor CAGE  
number

88379

Vendor name  
and address

Aeroflex Plainview Incorporated,  
(Aeroflex Microelectronic Solutions)  
35 South Service Road  
Plainview, NY 11803-4193

The information contained herein is disseminated for convenience only and the Government assumes no liability whatsoever for any inaccuracies in the information bulletin.