								R	EVISI	ONS										
LTR					D	ESCR	IPTIO	١					DA	TE (Y	R-MO-D	A)		APPR	OVE	>
A	Add d	levice t	ype -rr	02. p	Add c	ase o	utline	s Can	nd 2.	Updat	.e	į		97-09	-03		R. M	ONNIN		
SHEET																				
SHEET																				
SHEET REV SHEET	US			REV	<i>y</i>		A	A	A	A	A	A	A	A	A	A	A	A		
SHEET REV SHEET REV STAT					/ =ET		A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 9	A 10	A 11	A 12		
REV SHEET REV SHEET REV STATIOF SHEET PMIC N/A	·S	RD		SHE PREF Rajes	EET PARED	adia	<del>                                     </del>				5	6	7 ISE S	8 UPPL	9 Y CE	10	11 COLU		s	
SHEET REV SHEET REV STATIOF SHEET PMIC N/A STA	NDA	CUIT		SHE PREF Rajes CHEC	EET PARED Sh Pitha CKED I	adia BY Ithadia	<del>                                     </del>			4	5	6 DEFEN	7 ISE S COL	8 SUPPL UMBL	9 .Y CE JS, OH	10 NTER	11 COLU 3216	12 JMBU		
SHEET REV SHEET REV STATIOF SHEET PMIC N/A STA MICRO DR THIS DRAW FOR	ANDA OCIR AWIN WING IS AN	CUIT IG VAILABLE		SHE PREF Rajes CHEC Ra	EET PARED Sh Pitha CKED I ajesh P	adia BY Ithadia	1			4 MICI	5	6 DEFEN	7 ISE S COL	8 SUPPL UMBL	9 Y CE JS, OH	10 NTER	11 COLU 3216	12		
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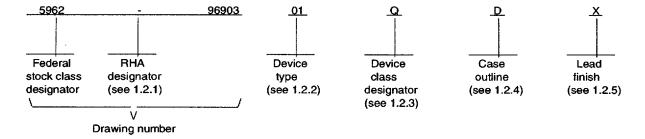
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## 1. SCOPE

- 1.1 Scope. This drawing documents two product assurance class levels consisting of high reliability (device classes Q and M) and space application (device class V). A choice of case outlines and lead finishes are available and are reflected in the Part or Identifying Number (PIN). When available, a choice of Radiation Hardness Assurance (RHA) levels are reflected in the PIN.
  - 1.2 PIN. The PIN is as shown in the following example:



- 1.2.1 RHA designator. Device classes Q and V RHA marked devices meet the MIL-PRF-38535 specified RHA levels and are marked with the appropriate RHA designator. Device class M RHA marked devices meet the MIL-PRF-38535, appendix A specified RHA levels and are marked with the appropriate RHA designator. A dash (-) indicates a non-RHA device.
  - 1.2.2 <u>Device type(s)</u>. The device type(s) identify the circuit function as follows:

Device type	Generic number	Circuit function
01	55107A	Dual line receiver, TTL compatible
02	55108A	Dual line receiver, TTL compatible, open collector outputs

1.2.3 Device class designator. The device class designator is a single letter identifying the product assurance level as follows:

Device class

Device requirements documentation

Vendor self-certification to the requirements for MIL-STD-883 compliant, non-JAN class level B microcircuits in accordance with MIL-PRF-38535,

appendix A

Q or V

Certification and qualification to MIL-PRF-38535

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

Outline letter	Descriptive designator	<u>Terminals</u>	Package style
C	GDIP1-T14 or CDIP2-T14	14	Dual-in-line
· 'D	GDFP1-F14 or CDFP2-F14	14	Flat pack
2	CQCC1-N20	20	Square leadless chip carrier

1.2.5 Lead finish. The lead finish is as specified in MIL-PRF-38535 for device classes Q and V or MIL-PRF-38535, appendix A for device class M.

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1.3 Absolute maximum ratings. 1/ 2/	
Supply voltage (V <sub>CC+</sub> )	+7 V dc
Supply voltage (V <sub>CC+</sub> ) Supply voltage (V <sub>CC-</sub> )	-7 V dc
Differential input voltage (V <sub>ID</sub> ) 3/	+6 V dc
Common-mode input voltage (V <sub>IC</sub> ) <u>4</u> /	15 V do
Strobe input voltage	±5 5 V do
Storage temperature range (T . )	-65°C to +150°C
Storage temperature range (T <sub>stg</sub> )Lead temperature, soldering 1.6 mm (1/16 inch) from	-03 C to +150 C
case for 10 seconds	+260° C
Thermal resistance, junction-to-case ( $\theta_{JC}$ )	See MIL-STD-1835
Case C	120° CAN
Case D	180° CAN
Case 2	
Continuous power dissipation (P <sub>D</sub> ) 5/	1000 mW (Casa D)
osmandodo powor discipation (r g) 💆 · · · · · · · · · · · · · · · · · ·	1375 mW (Cases C and 2)
1.4 Recommended operating conditions. 6/	
Supply voltage range (Va )	. 4 5 V do to . 5 5 V do
Supply voltage range, (V <sub>CC+</sub> ) Supply voltage range, (V <sub>CC-</sub> ) High-level input voltage between differential inputs (V <sub>IDH</sub> )	45 V do to +5.5 V do
High level input veltage between differential inputs (V	-4.5 V dc to -5.5 V dc
Low lovel input voltage between differential inputs (VIDH)	+0.025 V dc to +5 V dc
Low-level input voltage between differential inputs (V <sub>IDL</sub> )	-5 V dc to -0.025 V dc
Common-mode input voltage (V <sub>IC</sub> ) 7/	-3 V dc to +3 V dc
Input voltage, any differential input to GND Z/	-5 V dc to +3 V dc
High-level input voltage at strobe inputs, (VIH(S))	+2 V dc to +5.5 V dc
Low-level input voltage at strobe inputs, (V <sub>IL(S)</sub> )	0 V dc to +0.8 V dc
Low-level output current, (I <sub>OL</sub> )	-16 mA max
Operating free-air temperature (T <sub>A</sub> )	-55°C to +125°C
2. APPLICABLE DOCUMENTS	
2.1 Government specification, standards, and handbooks. The following specification of this drawing to the extent specified herein. Unless otherwise specified, the issues of issue of the Department of Defense Index of Specifications and Standards (DoDISS) a solicitation.	f these documents are those listed in the
SPECIFICATION	
DEPARTMENT OF DEFENSE	
MIL-PRF-38535 - Integrated Circuits, Manufacturing, General Specification for	
The Stranger above the cheekste maximum estimates and the stranger of the stra	
1/ Stresses above the absolute maximum rating may cause permanent damage to the maximum levels may degrade performance and affect reliability.	e device. Extended operation at the
2/ All voltage values, except differential voltages, are with respect to network ground	terminal
3/ Differential voltage values are at the noninverting (A) terminal with respect to the in	
4/ Common-mode input voltage is the average of the voltages at the A and B inputs.	wording (b) temmate
5/ Above T <sub>A</sub> = 25°C, derate at a factor of 8.0 mW/°C for case outline D and 11.0 mW	I/° C for case outlines C and 2
6/ When using only one channel of the line receiver, the strobe G of the unused chan	

- 6/ When using only one channel of the line receiver, the strobe G of the unused channel should be grounded and at least one of the differential inputs of the unused receiver should be terminated at some voltage between -3 V and 3 V.
- The common-mode voltage may be as low as -4 V provided that the more positive of the two inputs is not more negative than -3 V.

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## STANDARDS

# DEPARTMENT OF DEFENSE

MIL-STD-883 - Test Method Standard Microcircuits.

MIL-STD-973 - Configuration Management.

MIL-STD-1835 - Interface Standard For Microcircuit Case Outlines.

# **HANDBOOKS**

## DEPARTMENT OF DEFENSE

MIL-HDBK-103 - List of Standard Microcircuit Drawings (SMD's)

MIL-HDBK-780 - Standard Microcircuit Drawings.

(Unless otherwise indicated, copies of the specification, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2 <u>Order of precedence</u>. 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 requirements for device classes Q and V shall be in accordance with MIL-PRF-38535 and as specified herein 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. The individual item requirements for device class M shall be in accordance with MIL-PRF-38535, appendix A for non-JAN class level B devices and as specified herein.
- 3.2 <u>Design, construction, and physical dimensions</u>. The design, construction, and physical dimensions shall be as specified in MIL-PRF-38535 and herein for device classes Q and V or MIL-PRF-38535, appendix A and herein for device class M.
  - 3.2.1 Case outline(s). The case outline(s) shall be in accordance with 1.2.4 herein.
  - 3.2.2 <u>Terminal connections</u>. The terminal connections shall be as specified on figure 1.
  - 3.2.3 Truth table(s). The truth table(s) shall be as specified on figure 2.
  - 3.2.4 Logic diagram(s). The logic diagram(s) shall be as specified on figure 3.
  - 3.2.5 Radiation exposure circuit. The radiation exposure circuit shall be as specified when available.
- 3.3 <u>Electrical performance characteristics and postirradiation parameter limits</u>. Unless otherwise specified herein, the electrical performance characteristics and postirradiation parameter limits are as specified in table I and shall apply over the full ambient operating temperature range.
- 3.4 <u>Electrical test requirements</u>. 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. The part shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's PIN may also be marked as listed in MIL-HDBK-103. For packages where marking of the entire SMD PIN number is not feasible due to space limitations, the manufacturer has the option of not marking the "5962-" on the device. For RHA product using this option, the RHA designator shall still be marked. Marking for device classes Q and V shall be in accordance with MIL-PRF-38535. Marking for device class M shall be in accordance with MIL-PRF-38535, appendix A.

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Test		Symbol	Conditio		Group A	Device	Lin	mits	Unit
			-55°C ≤ T <sub>A</sub> ≤+125°C unless otherwise specified		subgroups	type	Min	Max	
High-level output voltaç	je	V <sub>OH</sub>	$V_{CC\pm} = \pm 4.5 \text{ V, } V_{II}$ $V_{IDH} = 25 \text{ mV, } I_{OH}$ $V_{IC} = -3 \text{ V to 3 V}$	L(S) = 0.8 V, H = -400 μA,	1,2,3	01	2.4		٧
Low-level output voltag	е	VOL	$V_{CC\pm} = \pm 4.5 \text{ V}, V_{II}$ $V_{IDL} = -25 \text{ mV}, I_{OI}$ $V_{IC} = -3 \text{ V to 3 V}$	L(S) = 2 V, L = 16 mA,	1,2,3	Ail		0.4	٧
High-level input current	А	<sup>1</sup> 1H1	V <sub>CC±</sub> = ±5.5 V	V <sub>ID</sub> = 5 V	1,2,3	All		75	μA
	В			V <sub>ID</sub> = -5 V				75	1
Low-level input current	Α	<sup>l</sup> lL1	$V_{CC\pm} = \pm 5.5 \text{ V}$	V <sub>ID</sub> = -5 V	1,2,3	All		-10	μА
	В			V <sub>ID</sub> = 5 V				-10	
High-level input current into 1G or 2G	t	l <sub>lH2</sub>	<b>∀</b> CC± = ±5.5 V, V <sub>I</sub>	H(G) = 2.4 V	1,2,3	All		40	μA
			$V_{CC\pm} = \pm 5.5 \text{ V, V}_{I}$	H(G) = 5.5 V				1	mA
Low-level input current into 1G or 2G		l <sub>IL2</sub>	$V_{CC\pm} = \pm 5.5 \text{ V, V}_{I}$	L(G) = 0.4 V	1,2,3	All		-1.6	mA
High-level input curren into S	t	l <sub>IH3</sub>	$V_{CC\pm} = \pm 5.5 \text{ V, V}_{I}$	IH(S) = 2.4 V	1,2,3	All		80	μА
			$V_{CC\pm} = \pm 5.5 \text{ V, V}$	IH(S) = 5.5 V				2	mA
Low-level input current into S		I <sub>IL3</sub>	V <sub>CC±</sub> = ±5.5 V, V	IL(S) = 0.4 V	1,2,3	All		-3.2	mA
High-level output current		юн	V <sub>CC±</sub> = ±5.5 V, V <sub>OH</sub> = 5.5 V		1, 2, 3	02		250	μΑ
Short-circuit output current 1/		los	V <sub>CC±</sub> = ±5.5 V		1,2,3	01	-18	-70	m.ª
				<del></del>			-		

See footnote at end of table.

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	TABL	E L <u>Electrical pe</u>	rformance charac	cteristics - Cont	tinued.			
Test	Symbol		ditions	Group A	Device	Limits		Unit <sup>1</sup>
			A ≤+125°C wise specified	subgroups	type	Min	Max	
Supply current from V <sub>CC+</sub> , outputs high	Іссн+	V <sub>CC±</sub> = ±5.5 V	, T <sub>A</sub> = 25°C	1	All		30	mA
Supply current from V <sub>CC</sub> -, outputs high	Іссн-	$V_{CC\pm} = \pm 5.5 \text{ V, T}_{A} = 25^{\circ}\text{C}$		1	All		-15	mA
Propagation delay time, low-to high-level output,	<sup>t</sup> PLH(D)	V <sub>CC±</sub> = ±5 V, T <sub>A</sub> = 25°C,	C <sub>L</sub> = 50 pF	9	01		25	ns
from differential inputs A and B		$R_L = 390 \Omega$ , See figure 4	C <sub>L</sub> = 15 pF		02		25	
Propagation delay time, high-to low-level output,	<sup>†</sup> PHL(D)	V <sub>CC±</sub> = ±5 V, T <sub>A</sub> = 25°C,	C <sub>L</sub> = 50 pF	9	01		25	ns
from differential inputs A and B		$R_L^2 = 390 \Omega$ , See figure 4	C <sub>L</sub> = 15 pF	•	02		25	
Propagation delay time, low-to high-level output,	<sup>t</sup> PLH(S)	V <sub>CC±</sub> = ±5 V, T <sub>A</sub> = 25°C,	C <sub>L</sub> = 50 pF	9	01		15	ns
from strobe input G or S		$R_L = 390 \Omega$ , See figure 4	C <sub>L</sub> = 15 pF		02		20	
Propagation delay time, high-to low-level output,	<sup>†</sup> PHL(S)	V <sub>CC±</sub> = ±5 V, T <sub>A</sub> = 25°C,	C <sub>L</sub> = 50 pF	9	01		15	ns
from strobe input G or S		$R_L = 390 \Omega$ , See figure 4	C <sub>L</sub> = 15 pF		02		20	

<sup>1/</sup> Not more than one output should be shorted at a time.

- 3.5.1 <u>Certification/compliance mark</u>. The certification mark for device classes Q and V shall be a "QML" or "Q" as required in MIL-PRF-38535. The compliance mark for device class M shall be a "C" as required in MIL-PRF-38535, appendix A.
- 3.6 <u>Certificate of compliance</u>. For device classes Q and V, a certificate of compliance shall be required from a QML-38535 listed manufacturer in order to supply to the requirements of this drawing (see 6.6.1 herein). For device class M, a certificate of compliance shall be required from a manufacturer in order to be listed as an approved source of supply in MIL-HDBK-103 (see 6.6.2 herein). The certificate of compliance submitted to DSCC-VA prior to listing as an approved source of supply for this drawing shall affirm that the manufacturer's product meets, for device classes Q and V, the requirements of MIL-PRF-38535 and herein or for device class M, the requirements of MIL-PRF-38535, appendix A and herein.
- 3.7 <u>Certificate of conformance</u>. A certificate of conformance as required for device classes Q and V in MIL-PRF-38535 or for device class M in MIL-PRF-38535, appendix A shall be provided with each lot of microcircuits delivered to this drawing.
- 3.8 Notification of change for device class M. For device class M, notification to DSCC-VA of change of product (see 6.2 herein) involving devices acquired to this drawing is required for any change as defined in MIL-STD-973.

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Dovice type	01.0	-4.00
Device type	UTar	nd 02
Case outline	C and D	2
Terminal number	Termina	ıl symbol
1	1A	NC
2	<b>1</b> B	1A
3	NC	1B
4	1Y	NC
5	1G	NC
6	S	1Y
7	GND	NC
8	2G	1G
9	2Y	S
10	NC	GND
11	2B	NC
12	2A	2G
13	V <sub>CC+</sub>	2Y
14	ACC+	NC
15		NC
16		2B
17		NC
18		2A
19		V <sub>CC-</sub>
20		V <sub>CC+</sub>

Pin description				
Terminal symbol	Description			
mA (m = 1 to 2)	Non-inverting data input A			
mB (m = 1 to 2)	Inverting data input B			
mG (m = 1 to 2)	Strobe input G			
S	Strobe input S			
mY (m = 1 to 2)	Output Y			

FIGURE 1. <u>Terminal connections</u>.

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DIFFERENTIAL INPUTS mA - mB	STROBES		OUTPUT	
	mG	s	Υ	
V <sub>ID</sub> ≥ 25 mV	х	х	Н	
-25 mV < V <sub>ID</sub> < 25 mV	х	L	Н	
	L	х	Н	
	Н	Н	Indeterminate	
	х	L	Н	
V <sub>ID</sub> ≤ -25 mV	L	×	Н	
	Н	Н	L	

H = High voltage levelL = Low voltage levelX = Irrelevant

FIGURE 2. Truth table.

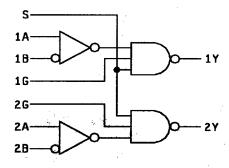
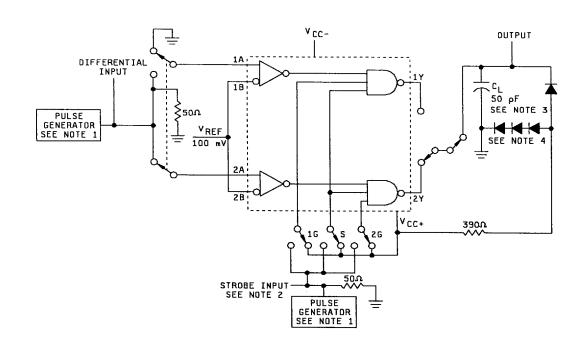


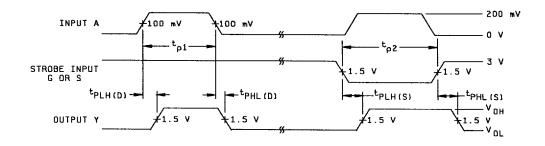
FIGURE 3. Logic diagram.

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Notes: 1. The pulse generators have the following characteristics: Z<sub>O</sub> = 50 Ω, t<sub>f</sub> = 10 ± 5 ns, t<sub>f</sub> = 10 ± 5 ns, t<sub>pd1</sub> = 500 ns with PRR ≤ 1 MHz, t<sub>pd2</sub> = 1µs with PRR ≤ 500 kHz.
 2. Strobe input pulse is applied to Strobe 1G when inputs 1A-1B are being tested, to Strobe S when inputs 1A-1B or

- 2A-2B are being tested, and to Strobe 2G when inputs 2A-2B are being tested.
- 3. C<sub>L</sub> = includes probe and jig capacitance.
  4. All diodes are 1N916.

FIGURE 4. Test circuit and timing waveforms.

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- 3.9 <u>Verification and review for device class M.</u> For device class M, DSCC, DSCC's agent, and the acquiring activity retain the option to review the manufacturer's facility and applicable required documentation. Offshore documentation shall be made available onshore at the option of the reviewer.
- 3.10 <u>Microcircuit group assignment for device class M</u>. Device class M devices covered by this drawing shall be in microcircuit group number 53 (see MIL-PRF-38535, appendix A).

## 4. QUALITY ASSURANCE PROVISIONS

- 4.1 <u>Sampling and inspection</u>. For device classes Q and V, sampling and inspection procedures shall be in accordance with MIL-PRF-38535 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. For device class M, sampling and inspection procedures shall be in accordance with MIL-PRF-38535, appendix A.
- 4.2 <u>Screening</u>. For device classes Q and V, screening shall be in accordance with MIL-PRF-38535, and shall be conducted on all devices prior to qualification and technology conformance inspection. For device class M, screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to quality conformance inspection.

# 4.2.1 Additional criteria for device class M.

- a. Burn-in test, method 1015 of MIL-STD-883.
  - (1) Test condition B or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1015.
  - (2)  $T_A = +125^{\circ}C$ , minimum.
- b. Interim and final electrical test parameters shall be as specified in table II herein.

### 4.2.2 Additional criteria for device classes Q and V.

- a. The burn-in test duration, test condition and test temperature, or approved alternatives shall be as specified in the device manufacturer's QM plan in accordance with MIL-PRF-38535. The burn-in test circuit shall be maintained under document revision level control of the device manufacturer's Technology Review Board (TRB) in accordance with MIL-PRF-38535 and shall be made available to the acquiring or preparing activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1015 of MIL-STD-883.
- b. Interim and final electrical test parameters shall be as specified in table II herein.
- Additional screening for device class V beyond the requirements of device class Q shall be as specified in MIL-PRF-38535, appendix B.
- 4.3 Qualification inspection for device classes Q and V. Qualification inspection for device classes Q and V shall be in accordance with MIL-PRF-38535. Inspections to be performed shall be those specified in MIL-PRF-38535 and herein for groups A, B, C, D, and E inspections (see 4.4.1 through 4.4.4).
- 4.4 <u>Conformance inspection</u>. Technology conformance inspection for classes Q and V shall be in accordance with MIL-PRF-38535 including groups A, B, C, D, and E inspections and as specified herein except where option 2 of MIL-PRF-38535 permits alternate in-line control testing. Quality conformance inspection for device class M shall be in accordance with MIL-PRF-38535, appendix A and as specified herein. Inspections to be performed for device class M shall be those specified in method 5005 of MIL-STD-883 and herein for groups A, B, C, D, and E inspections (see 4.4.1 through 4.4.4).

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TABLE II. Electrical test requirements.

Test requirements	Subgroups (in accordance with MIL-STD-883, method 5005, table I)	Subgroups (in accordance with MIL-PRF-38535, table III)	
	Device class M	Device class Q	Device class V
Interim electrical parameters (see 4.2)			
Final electrical parameters (see 4.2)	1/ 1, 2, 3, 7, 8, 9	1/ 1, 2, 3, 7, 8, 9	2/ 1, 2, 3, 7, 8, 9
Group A test requirements (see 4.4)	1, 2, 3, 7, 8, 9	1, 2, 3, 7, 8,	1, 2, 3, 7, 8, 9
Group C end-point electrical parameters (see 4.4)	1, 2, 3	1, 2, 3	1, 2, 3
Group D end-point electrical parameters (see 4.4)	1, 2, 3	1, 2, 3	1, 2, 3
Group E end-point electrical parameters (see 4.4)			

<sup>1/</sup> PDA applies to subgroup 1.

# 4.4.1 Group Ainspection.

- a. Tests shall be as specified in table II herein.
- b. Subgroups 4, 5, 6, 10, and 11 in table I, method 5005 of MIL-STD-883 shall be omitted.
- c. For device class M, subgroups 7 and 8 tests shall be sufficient to verify the truth table. For device classes Q and V, subgroups 7 and 8 shall include verifying the functionality of the device.
- 4.4.2 Group C inspection. The group C inspection end-point electrical parameters shall be as specified in table II herein.
- 4.4.2.1 Additional criteria for device class M. Steady-state life test conditions, method 1005 of MIL-STD-883:
  - a. Test condition B or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1005 of MIL-STD-883.
  - b.  $T_A = +125^{\circ} C$ , minimum.
  - c. Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.
- 4.4.2.2 Additional criteria for device classes Q and V. The steady-state life test duration, test condition and test temperature, or approved alternatives shall be as specified in the device manufacturer's QM plan in accordance with MIL-PRF-38535. The test circuit shall be maintained under document revision level control by the device manufacturer's TRB in accordance with MIL-PRF-38535 and shall be made available to the acquiring or preparing activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1005 of MIL-STD-883.

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<sup>2/</sup> PDA applies to subgroups 1 and 7.

- 4.4.3 Group D inspection. The group D inspection end-point electrical parameters shall be as specified in table II herein.
- 4.4.4 <u>Group E inspection</u>. Group E inspection is required only for parts intended to be marked as radiation hardness assured (see 3.5 herein).
  - a. End-point electrical parameters shall be as specified in table II herein.
  - b. For device classes Q and V, the devices or test vehicle shall be subjected to radiation hardness assured tests as specified in MIL-PRF-38535 for the RHA level being tested. For device class M, the devices shall be subjected to radiation hardness assured tests as specified in MIL-PRF-38535, appendix A for the RHA level being tested. All device classes must meet the postirradiation end-point electrical parameter limits as defined in table I at T<sub>A</sub> = +25°C ±5°C, after exposure, to the subgroups specified in table II herein.
  - c. When specified in the purchase order or contract, a copy of the RHA delta limits shall be supplied.

#### 5. PACKAGING

5.1 <u>Packaging requirements</u>. The requirements for packaging shall be in accordance with MIL-PRF-38535 for device classes Q and V or MIL-PRF-38535, appendix A for device class M.

#### 6. NOTES

- 6.1 <u>Intended use</u>. Microcircuits conforming to this drawing are intended for use for Government microcircuit applications (original equipment), design applications, and logistics purposes.
- 6.1.1 Replaceability. Microcircuits covered by this drawing will replace the same generic device covered by a contractor-prepared specification or drawing.
  - 6.1.2 Substitutability. Device class Q devices will replace device class M devices.
- 6.2 <u>Configuration control of SMD's</u>. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished in accordance with MIL-STD-973 using DD Form 1692, Engineering Change Proposal.
- 6.3 <u>Record of users</u>. Military and industrial users should inform Defense Supply Center Columbus when a system application requires configuration control and which SMD's are applicable to that system. DSCC 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 DSCC-VA, telephone (614) 692-0525.
- 6.4 Comments. Comments on this drawing should be directed to DSCC-VA, Columbus, Ohio 43216-5000, or telephone (614) 692-0674.
- 6.5 <u>Abbreviations, symbols, and definitions</u>. The abbreviations, symbols, and definitions used herein are defined in MIL-PRF-38535 and MIL-HDBK-1331.
  - 6.6 Sources of supply.
- 6.6.1 Sources of supply for device classes Q and V. Sources of supply for device classes Q and V are listed in QML-38535. The vendors listed in QML-38535 have submitted a certificate of compliance (see 3.6 herein) to DSCC-VA and have agreed to this drawing.
- 6.6.2 <u>Approved sources of supply for device class M</u>. Approved sources of supply for class M are listed in MIL-HDBK-103. The vendors listed in MIL-HDBK-103 have agreed to this drawing and a certificate of compliance (see 3.6 herein) has been submitted to and accepted by DSCC-VA.

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# STANDARD MICROCIRCUIT DRAWING BULLETIN

DATE: 97-09-03

Approved sources of supply for SMD 5962-96903 are listed below for immediate acquisition information only and shall be added to MIL-HDBK-103 and QML-38535 during the next revision. MIL-HDBK-103 and QML-38535 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 DSCC-VA. This bulletin is superseded by the next dated revision of MIL-HDBK-103 and QML-38535.

Standard microcircuit drawing PIN 1/	Vendor CAGE number	Vendor similar PIN 2/
5962-9690301QCA	01295	SNJ55107AJ
5962-9690301QDA	01295	SNJ55107AW
5962-9690301Q2A	01295	SNJ55107AFK
5962-9690302QCA	01295	SNJ55108AJ
5962-9690302QDA	01295	SNJ55108AW
5962-9690302Q2A	01295	SNJ55108AFK

- 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 <u>number</u>

Vendor name and address

01295

Texas Instruments Incorporated 13500 N. Central Expressway P.O. Box 655303 Dallas, TX 75265 Point of contact:

> I-20 at FM 1788 Midland, TX 79711-0448

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

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