

REVISIONS

LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
A	Add device class N and plastic small outlines X and Y. Make changes to 1.2.3, 1.2.4, 1.3, table I, figure 1, figure 2, and table II.	95-07-20	M. A. FRYE
B	Add device types 03 and 04. Technical and editorial changes throughout.	96-02-02	M. A. FRYE
C	Add case outlines X and Y to device types 03 and 04. Make changes to 1.2.6 and editorial changes throughout. - ro	97-10-20	R. MONNIN
D	Make change to device type 03 manufacturers PIN as specified under 1.2.6. - ro	97-11-14	R. MONNIN
E	Make changes to I _O and I _B tests as specified in table I herein. - ro	01-01-31	R. MONNIN
F	Drawing updated to reflect current requirements. - ro	06-02-08	R. MONNIN
G	Update drawing to current MIL-PRF-38535 requirements. Delete references to device class M requirements. - ro	14-04-08	C. SAFFLE

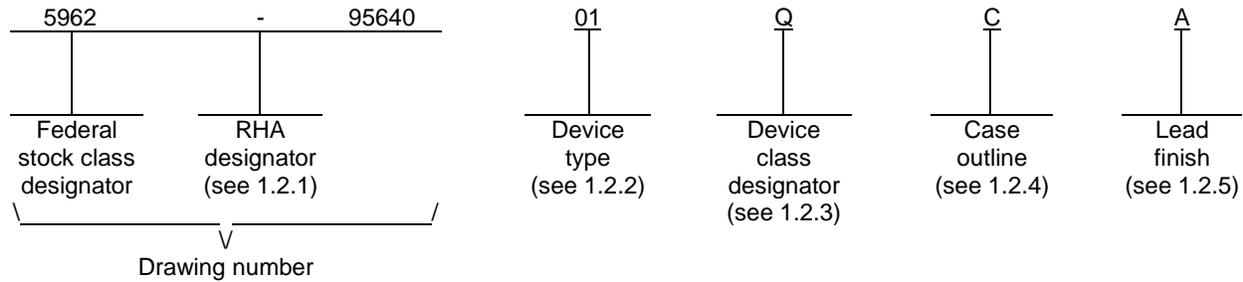
THE ORIGINAL FIRST SHEET OF THIS DRAWING HAS BEEN REPLACED.

REV																				
SHEET																				
REV																				
SHEET																				
REV STATUS	REV	G	G	G	G	G	G	G	G	G	G	G	G	G						
OF SHEETS	SHEET	1	2	3	4	5	6	7	8	9	10	11	12							
PMIC N/A	PREPARED BY RICK OFFICER				DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990 http://www.landandmaritime.dla.mil															
STANDARD MICROCIRCUIT DRAWING	CHECKED BY RAJESH PITHADIA																			
	APPROVED BY MICHAEL FRYE																			
	DRAWING APPROVAL DATE 95-05-15																			
THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE	REVISION LEVEL G				SIZE A	CAGE CODE 67268	5962-95640													
AMSC N/A	SHEET 1 OF 12																			

1. SCOPE

1.1 Scope. This drawing documents three product assurance class levels consisting of space application (device class V), high reliability (device class Q), and nontraditional performance environment (device class N). 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 is reflected in the PIN. For device class N, the user is cautioned to assure that the device is appropriate for the application environment.

1.2 PIN. The PIN is as shown in the following example:



1.2.1 RHA designator. Device classes N, Q, and V RHA marked devices meet the MIL-PRF-38535 specified RHA levels and are 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	TLC2252	Rail-to-rail, very low power, dual, operational amplifier
02	TLC2254	Rail-to-rail, very low power, quad, operational amplifier
03	TLC2252A	Rail-to-rail, very low power, dual, operational amplifier with enhanced V_{IO}
04	TLC2254A	Rail-to-rail, very low power, quad, operational amplifier with enhanced V_{IO}

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

<u>Device class</u>	<u>Device requirements documentation</u>
N	Certification and qualification to MIL-PRF-38535 with a nontraditional performance environment (encapsulated in plastic)
Q or V	Certification and qualification to MIL-PRF-38535

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-95640
		REVISION LEVEL G	SHEET 2

1.2.4 Case outline(s). The case outline(s) are as designated in MIL-STD-1835, JEDEC Publication 95, and as follows:

Outline letter	Descriptive designator	Terminals	Package style	Document
C	GDIP1-T14 or CDIP2-T14	14	Dual-in-line	MIL-STD-1835
D	GDFP1-F14 or CDFP2-F14	14	Flat pack	MIL-STD-1835
H	GDFP1-F10 or CDFP2-F10	10	Flat pack	MIL-STD-1835
P	GDIP1-T8 or CDIP2-T8	8	Dual-in-line	MIL-STD-1835
X	MS-012AA	8	Plastic small outline	JEP 95
Y	MS-012AB	14	Plastic small outline	JEP 95
2	CQCC1-N20	20	Square leadless chip carrier	MIL-STD-1835

1.2.5 Lead finish. The lead finish is as specified in MIL-PRF-38535 for device classes N, Q, and V.

1.2.6 Device class N manufacturer PIN. For device class N, plastic encapsulated microcircuits (PEMs) the following manufacturer PIN (see 3.5.1 herein) shall be marked:

Standard Microcircuit <u>1/</u> Drawing PIN	Manufacturer PIN
5962-9564001NXD	2252M
5962-9564002NYD	TLC2254M
5962-9564003NXD	2252A
5962-9564004NYD	TLC2254AM

1.3 Absolute maximum ratings. 2/

Supply voltage range (V_{DD})	-8.0 V dc to +8.0 V dc <u>3/</u>
Differential input voltage (V_{ID})	-16.0 V dc to +16.0 V dc <u>4/</u>
Input voltage range (V_{IN})	$-V_{DD} - 0.3$ V to $+V_{DD}$ <u>3/</u>
Input current, each input (I_{IN})	+5.0 mA to -5.0 mA
Output current (I_{OUT})	+50.0 mA to -50.0 mA
Total current into $+V_{DD}$	+50.0 mA to -50.0 mA
Total current into $-V_{DD}$	+50.0 mA to -50.0 mA
Duration of short circuit current at or below +25°C	Unlimited <u>5/</u>
Operating free-air temperature range (T_A)	-55°C to +125°C
Storage temperature range (T_{STG})	-65°C to +150°C
Lead temperature (soldering 10 seconds)	+260°C
Maximum junction temperature (T_J)	+150°C

1/ The SMD PIN is provided for cross reference information, see 3.5.2 herein.

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

3/ All voltage values, except differential voltages, are with respect to the midpoint between $+V_{DD}$ and $-V_{DD}$.

4/ Differential voltages are at the noninverting input with respect to the inverting input. Excessive current flows if the input is brought below $-V_{DD} - 0.3$ V.

5/ The output may be shorted to either supply. Temperature and/or supply voltages must be limited to ensure that the maximum dissipation rating is not exceeded.

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

SIZE
A

REVISION LEVEL
G

5962-95640

SHEET
3

1.3 Absolute maximum ratings – Continued. 2/

Maximum power dissipation (P_D): 6/

Cases C and 2	1375 mW
Case D and H	700 mW
Case P	1050 mW
Case X	725 mW
Case Y	950 mW

Thermal resistance, junction-to-case (θ_{JC}):

Cases C, D, H, P, 2	See MIL-STD-1835
---------------------------	------------------

1.4 Recommended operating conditions.

Supply voltage (±V _{DD})	±2.2 V dc to ±8.0 V dc
Input voltage range (V _{IN})	-V _{DD} to +V _{DD} - 1.5 V
Common-mode input voltage (V _{IC})	-V _{DD} to +V _{DD} - 1.5 V
Ambient operating temperature range (T _A)	-55°C to +125°C

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-38535 - Integrated Circuits, Manufacturing, General Specification for.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-883 - Test Method Standard Microcircuits.
 MIL-STD-1835 - Interface Standard 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.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

JEDEC – SOLID STATE TECHNOLOGY ASSOCIATION (JEDEC)

JEP 95 - Registered and Standard Outlines for Semiconductor Devices

(Copies of this document are available online at www.jedec.org/ or from JEDEC – Solid State Technology Association, 3103 North 10th Street, Suite 240-S, Arlington, VA 22201).

6/ Above T_A = +25°C, derate by the following factors; cases C and 2 at 11.0 mW/°C, cases D and H at 5.5 mW/°C, case P at 8.4 mW/°C, case X at 5.8 mW/°C, and case Y at 7.6 mW/°C.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-95640
		REVISION LEVEL G	SHEET 4

2.3 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 requirements for device classes N, 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.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions for device classes N, Q, and V shall be as specified in MIL-PRF-38535 and herein.

3.2.1 Case outlines. The case outlines shall be in accordance with 1.2.4 herein.

3.2.2 Terminal connections. The terminal connections shall be as specified on figure 1.

3.3 Electrical performance characteristics and postirradiation parameter limits. 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 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. The part shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's PIN may also be marked. 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 N, Q, and V shall be in accordance with MIL-PRF-38535.

3.5.1 Certification/compliance mark. The certification mark for device classes N, Q, and V shall be a "QML" or "Q" as required in MIL-PRF-38535.

3.6 Certificate of compliance. 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 herein). The certificate of compliance submitted to DLA Land and Maritime - VA prior to listing as an approved source of supply for this drawing shall affirm that the manufacturer's product meets the requirements of MIL-PRF-38535 and herein.

3.7 Certificate of conformance. A certificate of conformance as required in MIL-PRF-38535 shall be provided with each lot of microcircuits delivered to this drawing.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-95640
		REVISION LEVEL G	SHEET 5

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions -55°C ≤ T _A ≤ +125°C unless otherwise specified	Group A 1/ subgroups	Device type	Limits 2/		Unit
					Min	Max	
Input offset voltage	V _{IO}	V _{DD} = ±2.5 V, V _{IC} = 0 V, R _S = 50 Ω, V _{OUT} = 0 V	1	01,02		1500	μV
				03,04		850	
			2,3	01,02		1750	
				03,04		1000	
		V _{DD} = ±5 V, V _{IC} = 0 V, R _S = 50 Ω, V _{OUT} = 0 V	1	01,02		1500	
				03,04		850	
			2,3	01,02		1750	
				03,04		1000	
Input offset current	I _{IO}	V _{DD} = ±2.5 V, V _{IC} = 0 V, R _S = 50 Ω, V _{OUT} = 0 V, T _A = +125°C	2	All		1000	pA
		V _{DD} = ±5 V, V _{IC} = 0 V, R _S = 50 Ω, V _{OUT} = 0 V, T _A = +125°C				1000	
Input bias current	I _{IB}	V _{DD} = ±2.5 V, V _{IC} = 0 V, R _S = 50 Ω, V _{OUT} = 0 V, T _A = +125°C	2	All		1000	pA
		V _{DD} = ±5 V, V _{IC} = 0 V, R _S = 50 Ω, V _{OUT} = 0 V, T _A = +125°C				1000	
Common-mode input voltage range	V _{ICR}	V _{DD} = 5 V, V _{IO} ≤ 5 mV, R _S = 50 Ω	1	All	0 to 4		V
			2,3		0 to 3.5		
		V _{DD} = ±5 V, V _{IO} ≤ 5 mV, R _S = 50 Ω	1		-5 to 4		
			2,3		-5 to 3.5		

See footnotes at end of table.

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

SIZE
A

REVISION LEVEL
G

5962-95640

SHEET
6

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions -55°C ≤ T _A ≤ +125°C unless otherwise specified	Group A ^{1/} subgroups	Device type	Limits ^{2/}		Unit
					Min	Max	
High level output voltage	V _{OH}	V _{DD} = 5 V, V _{IC} = 2.5 V, I _{OH} = -75 μA	1	All	4.9		V
			2,3		4.8		
		V _{DD} = 5 V, V _{IC} = 2.5 V, I _{OH} = -150 μA	1		4.8		
Low level output voltage	V _{OL}	V _{DD} = 5 V, V _{IC} = 2.5 V, I _{OL} = 500 μA	1,2,3	All		0.15	V
			1			1.0	
		V _{DD} = 5 V, V _{IC} = 2.5 V, I _{OL} = 4 mA	2,3			1.2	
Maximum positive peak output voltage swing	+V _{OM}	V _{DD} = ±5 V, V _{IC} = 0 V, I _{OUT} = -100 μA	1	All	4.9		V
			2,3		4.7		
		V _{DD} = ±5 V, V _{IC} = 0 V, I _{OUT} = -200 μA	1		4.8		
Maximum negative peak output voltage swing	-V _{OM}	V _{DD} = ±5 V, V _{IC} = 0 V, I _{OUT} = 500 μA	1,2,3	All	-4.85		V
			1		-4.0		
		V _{DD} = ±5 V, V _{IC} = 0 V, I _{OUT} = 4 mA	2,3		-3.8		
Large signal differential voltage amplification	AVD	V _{DD} = 5 V, V _{IC} = 2.5 V, V _{OUT} = 1 V to 4 V, R _L = 100 kΩ ^{3/}	1	All	100		V/mV
			2,3		10		
		V _{DD} = ±5 V, V _{IC} = 0 V, V _{OUT} = ±4 V, R _L = 100 kΩ	1		40		
			2,3		10		

See footnotes at end of table.

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

SIZE
A

REVISION LEVEL
G

5962-95640

SHEET
7

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions -55°C ≤ T _A ≤ +125°C unless otherwise specified	Group A <u>1/</u> subgroups	Device type	Limits <u>2/</u>		Unit
					Min	Max	
Common mode rejection ratio	CMRR	V _{DD} = 5 V, V _{OUT} = 2.5 V, V _{IC} = 0 V to 2.7 V, R _S = 50 Ω	1,2,3	All	70		dB
		V _{DD} = ±5 V, V _{OUT} = 0 V, V _{IC} = -5 V to 2.7 V, R _S = 50 Ω			75		
Supply voltage rejection ratio (ΔV _{DD} / ΔV _{IO})	k _{SVR}	±V _{DD} = ±2.2 V to ±8 V, no load	1,2,3	All	80		dB
Supply current (both channels)	I _{DD}	V _{DD} = 5 V, V _{OUT} = 2.5 V, no load	1,2,3	01,03		125	μA
				02,04		250	
		V _{DD} = ±5 V, V _{OUT} = 0 V, no load		01,03		125	
				02,04		250	
Slew rate at unity gain	SR	V _{DD} = 5 V, <u>3/</u> V _{OUT} = 1.25 V to 2.75 V, R _L = 100 kΩ, C _L = 100 pF	4	All	0.07		V/μs
			5,6		0.05		
		V _{DD} = ±5 V, V _{OUT} = ±1.0 V, R _L = 100 kΩ, C _L = 100 pF	4		0.07		
			5,6		0.05		

1/ For device class N, subgroup 3 (T_A = -55°C) test limits are guaranteed but not tested.

2/ The algebraic convention, whereby the most negative value is a minimum and the most positive is a maximum, is used in this table. Negative current shall be defined as conventional current flow out of a device terminal.

3/ Referenced to 2.5 V.

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

SIZE
A

5962-95640

REVISION LEVEL
G

SHEET
8

Device types	01, 03			02, 04	
Case outlines	H	P and X	2	C, D, and Y	2
Terminal number	Terminal symbol				
1	NC	OUTPUT 1	NC	OUTPUT 1	NC
2	OUTPUT 1	-INPUT 1	OUTPUT 1	-INPUT 1	OUTPUT 1
3	-INPUT 1	+INPUT 1	NC	+INPUT 1	-INPUT 1
4	+INPUT 1	-V _{DD} / GND	NC	+V _{DD}	+INPUT 1
5	-V _{DD} / GND	+INPUT 2	-INPUT 1	+INPUT 2	NC
6	+INPUT 2	-INPUT 2	NC	-INPUT 2	+V _{DD}
7	-INPUT 2	OUTPUT 2	+INPUT 1	OUTPUT 2	NC
8	OUTPUT 2	+V _{DD}	NC	OUTPUT 3	+INPUT 2
9	+V _{DD}	---	NC	-INPUT 3	-INPUT 2
10	NC	---	-V _{DD} / GND	+INPUT 3	OUTPUT 2
11	---	---	NC	-V _{DD} / GND	NC
12	---	---	+INPUT 2	+INPUT 4	OUTPUT 3
13	---	---	NC	-INPUT 4	-INPUT 3
14	---	---	NC	OUTPUT 4	+INPUT 3
15	---	---	-INPUT 2	---	NC
16	---	---	NC	---	-V _{DD} / GND
17	---	---	OUTPUT 2	---	NC
18	---	---	NC	---	+INPUT 4
19	---	---	NC	---	-INPUT 4
20	---	---	+V _{DD}	---	OUTPUT 4

NC = No connection

FIGURE 1. Terminal connections.

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

SIZE
A

REVISION LEVEL
G

5962-95640

SHEET
9

4. VERIFICATION

4.1 Sampling and inspection. For device classes N, 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.

4.2 Screening. For device classes N, 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.

4.2.1 Additional criteria.

- 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 method 1015 of MIL-STD-883.
- b. Interim and final electrical test parameters shall be as specified in table II herein.
- c. 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. Qualification inspection for device classes N, 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 Conformance inspection. Technology conformance inspection for classes N, Q, and V shall be in accordance with MIL-PRF-38535 including groups A, B, C, D, and E inspections and as specified.

4.4.1 Group A inspection.

- a. Tests shall be as specified in table II herein.
- b. Subgroups 7, 8, 9, 10, and 11 in table I, method 5005 of MIL-STD-883 shall be omitted.

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. 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 method 1005 of MIL-STD-883.

4.4.3 Group D inspection. The group D inspection end-point electrical parameters shall be as specified in table II herein.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-95640
		REVISION LEVEL G	SHEET 10

TABLE II. Electrical test requirements.

Test requirements	Subgroups (in accordance with MIL-PRF-38535, table III)		
	Device class N	Device class Q	Device class V
Interim electrical parameters (see 4.2)	---	---	---
Final electrical parameters (see 4.2)	1,2,3, <u>1</u> / 4,5,6	1,2,3, <u>1</u> / 4,5,6	1,2,3, <u>1</u> / 4,5,6
Group A test requirements (see 4.4)	1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5,6
Group C end-point electrical parameters (see 4.4)	1	1	1
Group D end-point electrical parameters (see 4.4)	1	1	1
Group E end-point electrical parameters (see 4.4)	---	---	---

1/ PDA applies to subgroup 1 with exception of V_{IO} .

4.4.4 Group E inspection. 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. 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. All device classes must meet the postirradiation end-point electrical parameter limits as defined in table I at $T_A = +25^\circ\text{C} \pm 5^\circ\text{C}$, after exposure, to the subgroups specified in table II herein.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging for device classes N, Q, and V shall be in accordance with MIL-PRF-38535.

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.

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

6.2 Configuration control of SMD's. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished using DD Form 1692, Engineering Change Proposal.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-95640
		REVISION LEVEL G	SHEET 11

6.3 Record of users. Military and industrial users shall inform DLA Land and Maritime when a system application requires configuration control and which SMD's are applicable 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.

6.4 Comments. Comments on this drawing should be directed to DLA Land and Maritime-VA, Columbus, Ohio 43218-3990, or telephone (614) 692-0540.

6.5 Abbreviations, symbols, and definitions. The abbreviations, symbols, and definitions used herein are defined in MIL-PRF-38535 and MIL-HDBK-1331.

6.6 Sources of supply. Sources of supply for device classes N, Q, and V are listed in MIL-HDBK-103 and QML-38535. The vendors listed in QML-38535 have submitted a certificate of compliance (see 3.6 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		5962-95640
		REVISION LEVEL G	SHEET 12

STANDARD MICROCIRCUIT DRAWING BULLETIN

DATE: 14-04-08

Approved sources of supply for SMD 5962-95640 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 DLA Land and Maritime-VA. This information bulletin is superseded by the next dated revision of MIL-HDBK-103 and QML-38535. 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> /
5962-9564001NXD	01295	TLC2252MDQ
5962-9564001QHA	01295	TLC2252MUB
5962-9564001QPA	01295	TLC2252MJGB
5962-9564001Q2A	01295	TLC2252MFKB
5962-9564002NYD	01295	TLC2254MDQ
5962-9564002QCA	01295	TLC2254MJB
5962-9564002QDA	01295	TLC2254MWB
5962-9564002Q2A	01295	TLC2254MFKB
5962-9564003NXD	01295	TLC2252AMDQ
5962-9564003QHA	01295	TLC2252AMUB
5962-9564003QPA	01295	TLC2252AMJGB
5962-9564003Q2A	01295	TLC2252AMFKB

STANDARD MICROCIRCUIT DRAWING BULLETIN - CONTINUED

DATE: 14-04-08

Standard microcircuit drawing PIN <u>1/</u>	Vendor CAGE number	Vendor similar PIN <u>2/</u>
5962-9564004NYD	01295	TLC2254AMDQ
5962-9564004QCA	01295	TLC2254AMJB
5962-9564004QDA	01295	TLC2254AMWB
5962-9564004Q2A	01295	TLC2254AMFKB

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

01295

Vendor name
and address

Texas Instruments, Inc.
Semiconductor Group
8505 Forest Ln.
P.O. Box 660199
Dallas, TX 75243

Point of contact: U.S. Highway 75 South
P.O. Box 84, M/S 853
Sherman, TX 75090-9493

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