INCH-POUND
MIL-M-38510/1F
16 March 2005
SUPERSEDING
MIL-M-38510/1E
1 June 1982

#### MILITARY SPECIFICATION

## MICROCIRCUITS, DIGITAL, TTL, NAND GATES, MONOLITHIC SILICON

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product herein shall consist of this specification sheet and MIL-PRF 38535

- 1. SCOPE
- 1.1 <u>Scope.</u> This specification covers the detail requirements for monolithic silicon, TTL, positive NAND logic gating microcircuits. Two product assurance classes and a choice of case outlines and lead finishes are provided for each type and are reflected in the complete part number. For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.3).
  - 1.2 Part or Identifying Number (PIN). The PIN is in accordance with MIL-PRF-38535, and as specified herein.
  - 1.2.1 <u>Device types</u>. The device types are as follows:

Device type	<u>Circuit</u>
01	Single, 8-input positive NAND gate
02	Dual, 4-input positive NAND gate
03	Triple, 3-input positive NAND gate
04	Quadruple, 2-input positive NAND gate
05	Hex, 1-input inverter gate
06	Triple, 3-input positive NAND gate (open collector output)
07	Quadruple, 2-input positive NAND gate (open collector output)
08	Hex, 1-input inverter gate (open collector output)
09	Same as device type 07, except different pin connections

- 1.2.2 Device class. The device class is the product assurance level as defined in MIL-PRF-38535.
- 1.2.3 Case outlines. The case outlines are as designated in MIL-STD-1835 and as follows:

Outline letter	Descriptive designator	<u>Terminals</u>	Package style
Α	GDFP5-F14 or CDFP6-F14	14	Flat
В	GDFP4-F14	14	Flat
С	GDIP1-T14 or CDIP2-T14	14	Dual-in-line
D	GDFP1-F14 or CDFP2-F14	14	Flat

Comments, suggestions, or questions on this document should be addressed to: Commander, Defense Supply Center Columbus, ATTN: DSCC-VAS, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to <a href="mailto:bipolar@dla.mil">bipolar@dla.mil</a>. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <a href="http://assist.daps.dla.mil">http://assist.daps.dla.mil</a>.

AMSC N/A FSC 5962

## MIL-M-38510/1F

## 1.3 Absolute maximum ratings.

1.4

	Supply voltage range	-0.5 V to +7.0 V
	Input voltage range	-1.5 V at -12 mA to +5.5 V
	Storage temperature range	-65° to +150°C
	Maximum power dissipation per gate (P <sub>D</sub> ) 1/	
	Lead temperature (soldering, 10 seconds)	300°C
	Thermal resistance, junction to case $(\theta_{JC})$	
	Junction temperature (T <sub>J</sub> ) 2/	175°C
4	Recommended operating conditions.	
	Supply voltage	+4.5 V minimum to +5.5 V maximum
	Minimum high level input voltage	
	Maximum low level input voltage (V <sub>IL</sub> )	+0.8 V
	Normalized fanout (each output) 3/	10 maximum

<sup>1/</sup> Must withstand the added P<sub>D</sub> due to short-circuit test (e.g., I<sub>OS</sub>).

Case operating temperature range ......-55° to +125°C

<sup>2/</sup> Maximum junction temperature shall not be exceeded except for allowable short duration burn-in screening conditions in accordance with MIL-PRF-38535.

<sup>3/</sup> Device will fanout in both high and low levels to the specified number of inputs of the same device type as that being tested.

#### 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

## 2.2 Government documents.

2.2.1 <u>Specifications and Standards</u>. The following specifications and standards form a part of this specification 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-38535 - Integrated Circuits (Microcircuits) Manufacturing, General Specification for.

#### **DEPARTMENT OF DEFENSE STANDARDS**

MIL-STD-883 - Test Method Standard for Microelectronics.

MIL-STD-1835 - Interface Standard Electronic Component Case Outlines

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

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

### 3. REQUIREMENTS

- 3.1 Qualification. Microcircuits furnished under this specification shall be products that are manufactured by a manufacturer authorized by the qualifying activity for listing on the applicable qualified manufacturers list before contract award (see 4.3 and 6.4).
- 3.2 <u>Item requirements</u>. The individual item requirements 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.
- 3.3 <u>Design, construction, and physical dimensions.</u> The design, construction, and physical dimensions shall be as specified in MIL-PRF-38535 and herein.
- 3.3.1 <u>Terminal connections and logic diagrams.</u> The terminal connections and logic diagrams shall be as specified on figure 1.
  - 3.3.2 Truth tables and logic equations. The truth tables and logic equations shall be as specified on figure 2.
- 3.3.3 <u>Schematic circuits</u>. The schematic circuits shall be maintained by the manufacturer and made available to the qualifying activity and the preparing activity upon request.
  - 3.3.4 Case outlines. The case outlines shall be as specified in 1.2.3.
  - 3.4 Lead material and finish. The lead material and finish shall be in accordance with MIL-PRF-38535 (see 6.6).
- 3.5 <u>Electrical performance characteristics</u>. The electrical performance characteristics are as specified in table I, and apply over the full recommended case operating temperature range, unless otherwise specified.

TABLE I. <u>Electrical performance characteristics.</u>

Test	Symbol	Conditions	Device	Lir	nits	Unit
		-55°C ≤ T <sub>C</sub> ≤ +125°C	types	Min	Max	
High level output	V <sub>OH</sub>	$V_{CC} = 4.5 \text{ V}, \ \ V_{IN} = 0.8 \text{ V},$	01, 02,	2.4		V
voltage		I <sub>OH</sub> = -400 μA <u>1</u> /	03, 04,			
			05			
Low level output	$V_{OL}$	$V_{CC} = 4.5 \text{ V}, I_{OL} = 16 \text{ mA},$	All		0.4	V
voltage		V <sub>IN</sub> = 2.0 V for all inputs of gate under				
		test <u>1</u> /				
Input clamp voltage	$V_{IC}$	$V_{CC} = 4.5 \text{ V}, I_{IN} = -12 \text{ mA}$	All		-1.5	V
		$T_C = 25^{\circ}C$				
Maximum collector	I <sub>CEX</sub>	$V_{CC} = 4.5 \text{ V}, \ \ V_{IN} = 0.8 \text{ V},$	06, 07		250	μА
cut-off current		V <sub>OH</sub> = 5.5 V	08, 09			
High level input	I <sub>IH1</sub>	V <sub>CC</sub> = 5.5 V, V <sub>IN</sub> = 2.4 V <u>2</u> /	All		40	μА
current						
High level input	I <sub>IH2</sub>	$V_{CC} = 5.5 \text{ V}, V_{IN} = 5.5 \text{ V}$	All		100	μА
current						
Low level input	I <sub>IL</sub>	$V_{CC} = 5.5 \text{ V}, V_{IN} = 0.4 \text{ V} $ 1/	All	-0.7	-1.6	mA
current						
Short circuit output	I <sub>os</sub>	$V_{CC} = 5.5 \text{ V}  \underline{2} / \ \underline{3} /$	01, 02,	-20	-55	mA
current			03, 04,			
			05			
High level supply	I <sub>CCH</sub>	$V_{CC} = 5.5 \text{ V}, V_{IN} = 0 \text{ V} $ 2/	All		1.65	mA
current per gate						
Low level supply	I <sub>CCL</sub>	V <sub>CC</sub> = 5.5 V, V <sub>IN</sub> = 5.5 V <u>1</u> /	All		5.0	mA
current per gate						
Propagation delay time,	t <sub>PHL</sub>	$C_L = 50 \text{ pF},$	01, 02,	3	24	ns
high-to-low level		$R_L = 390\Omega$	03, 04,			
			05			
			06, 07,	3	29	ns
			08, 09			
Propagation delay time,	t <sub>PLH</sub>	C <sub>L</sub> = 50 pF,	01, 02,	3	27	ns
low-to-high level		$R_L = 390\Omega$	03, 04,			
			05			
			06, 07,	3	35	ns
			08, 09	-		

 <sup>1/</sup> All unspecified inputs at 5.5 volts.
 2/ All unspecified inputs grounded.
 3/ Not more than one output should be shorted at a time.

3.6 <u>Electrical test requirements.</u> The electrical test requirements for each device class shall be the subgroups specified in table II. The electrical tests for each subgroup are described in table III.

TABLE II. Electrical test requirements.

MIL-PRF-38535	Subgroups (	(see table III)
test requirements	Class S devices	Class B devices
Interim electrical parameters	1	1
Final electrical test parameters	1*, 2, 3, 9 10, 11	1*, 2, 3, 9
Group A test requirements	1, 2, 3, 9, 10, 11	1, 2, 3, 9
Group B electrical test parameters when using the method 5005 QCI option	1, 2, 3, 9, 10, 11	N/A
Group C end-point electrical parameters	1, 2, 3, 9, 10, 11	1, 2, 3
Additional electrical parameters for group C periodic inspections	N/A	10, 11
Group D end-point electrical parameters	1, 2, 3	1, 2, 3

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

- 3.7 Marking. Marking shall be in accordance with MIL-PRF-38535.
- 3.8 <u>Microcircuit group assignment.</u> The devices covered by this specification shall be in microcircuit group number 1 (see MIL-PRF-38535, appendix A).

#### 4. VERIFICATION

- 4.1 <u>Sampling and inspection.</u> 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 <u>Screening.</u> Screening shall be in accordance with MIL-PRF-38535 and shall be conducted on all devices prior to qualification and conformance inspection. The following additional criteria shall apply:
  - 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 control by 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, except interim electrical parameters test prior to burn-in is optional at the discretion of the manufacturer.
  - c. Additional screening for space level product shall be as specified in MIL-PRF-38535, Appendix B.

- 4.3 Qualification inspection. Qualification inspection shall be in accordance with MIL-PRF-38535.
- 4.4 <u>Technology Conformance inspection (TCI)</u>. Technology conformance inspection shall be in accordance with MIL-PRF-38535 and herein for groups A, B, C, and D inspections (see 4.4.1 through 4.4.4).
- 4.4.1 <u>Group A inspection.</u> Group A inspection shall be in accordance with table III of MIL-PRF-3853<u>5</u> and as follows:
  - a. Tests shall be as specified in table II herein.
  - b. Subgroups 4, 5, 6, 7, and 8 shall be omitted.
  - 4.4.2 Group B inspection. Group B inspection shall be in accordance with table II MIL-PRF-38535.
- 4.4.3 Group C inspection. Group C inspection shall be in accordance with table IV of MIL-PRF-38535 and as follows:
  - a. End-point electrical parameters shall be as specified in table II herein.
  - b. 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 burn-in test circuit shall be maintained under document control by 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 1005 of MIL-STD-883.
- 4.4.4 <u>Group D inspection.</u> Group D inspection shall be in accordance with table V of MIL-PRF-38535. End-point electrical parameters shall be as specified in table II herein.
  - 4.5 Methods of inspection. Methods of inspection shall be as specified and as follows:
- 4.5.1 <u>Voltage and current</u>. All voltages given are referenced to the microcircuit ground terminal. Currents given are conventional and positive when flowing into the referenced terminal.

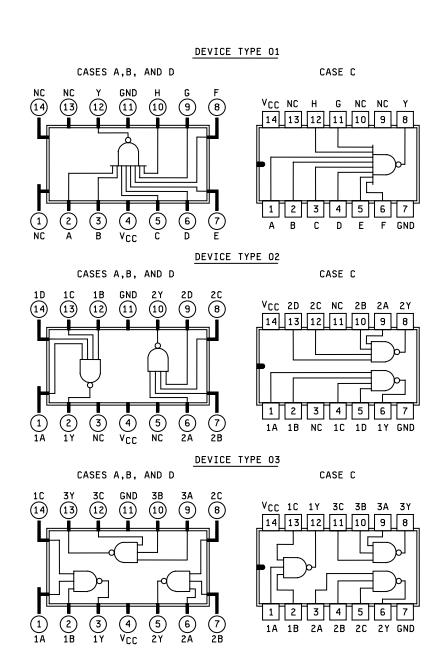
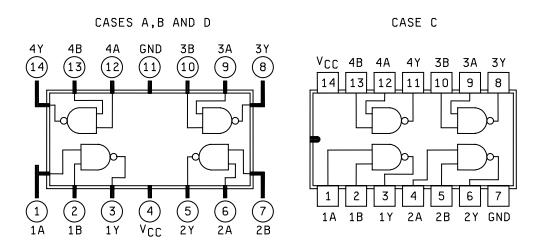


FIGURE 1. Terminal connections and logic diagrams.

## DEVICE TYPE 04



## DEVICE TYPES 05 AND 08

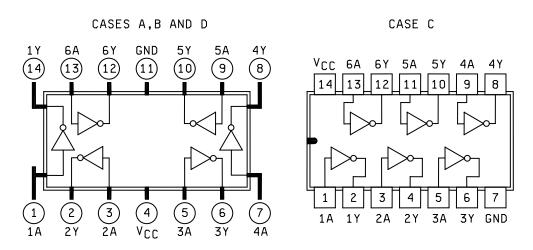
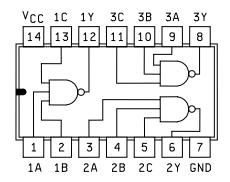


FIGURE 1. Terminal connections and logic diagrams - Continued.

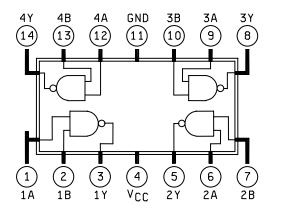
## DEVICE TYPE 06 CASES A,B,C AND D

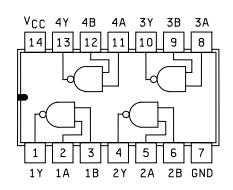


## DEVICE TYPE 07

CASES A,B AND D

CASE C





# DEVICE TYPE 09 CASE C

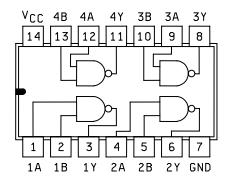


FIGURE 1. Terminal connections and logic diagrams - Continued.

Device type 01

				Truth	table			
			Inp	out				Output
Α	В	С	D	Е	F	G	Н	Υ
Н	Н	Η	Н	Н	Н	Н	Н	L
		A			ations o		L	

Positive logic Y = ABCDEFGH

Device types 03 and 06

	Т	ruth ta	ıble
	Input		Output
Α	В	С	Υ
L	L	L	Н
Н	L	L	Н
L	Н	L	Н
Н	Н	L	Н
L	L	Н	Н
Н	L	Н	Н
L	Η	Н	Н
Н	Н	Η	L

Positive logic Y = ABC

Device type 02

		Device	type 02	
		Truth	table	
	Inp	out		Output
Α	В	С	D	Υ
L	L	L	L	Н
Н	L	L	L	Н
L	Н	L	L	Н
Н	Н	L	L	Н
L	L	Н	L	Н
Н	L	Н	L	Н
L	Н	Н	L	Н
Н	Н	Н	L	Н
L	L	L	Н	Н
Н	L	L	Н	Н
L	Н	L	Н	Н
Н	Н	L	Н	Н
L	L	Н	Н	Н
Н	L	Н	Н	Н
L	Н	Н	Н	Н
Н	Н	Н	Н	L

Positive logic Y = ABCD

Device types 04, 07, and 09

Tru	th table	e each gate
In	out	Output
Α	В	Y
L	L	Н
Н	L	Н
L	Н	Н
Н	Н	L

Positive logic Y = AB

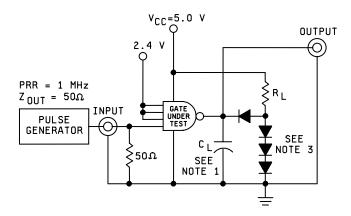
Device types 05 and 08

Truth table	e each gate
Input	Input
Α	Υ
L	Н
Н	L

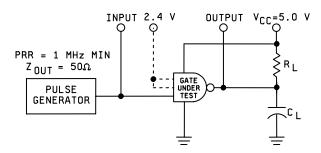
Positive logic Y = A

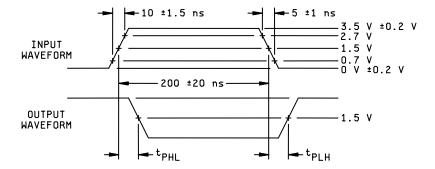
FIGURE 2. Truth tables and logic equations.

## TEST CIRCUITS EXCEPT FOR OPEN COLLECTOR CIRCUITS



## FOR OPEN COLLECTOR CIRCUITS





## NOTES:

- 1.  $C_L = 50$  pF minimum, including scope probe, wiring and stray capacitance, without package in test fixture.
- 2. Voltage measurements are to be made with respect to network ground terminal.
- 3. All diode are 1N3064 or equivalent.
- 4.  $R_L = 390 \text{ ohm } \pm 5\%$ .

FIGURE 3. Test circuit and switching waveforms.

	Unit		>	> =						=	mA	٩į.		-				=	¥.=						m.						. 4	MA	>=							ns	ns	S
		Max	0.4									40	_	_	_	_		_ ;	100	_	_	_			9.		_	_	_			1.65		_				1		0.	25	7
	Limits	Min	0	2.4		_	_	_	_		-20	4							_						11		_	_	_	_		, -	\ <u>`</u>							-	3 2	l
	р			2.	_	_	_	_	-	=	-2														o- '		-	_	_		1										(.)	
	Measured	terminal	<b>\</b>	<b>≻</b> >	<b>&gt;</b> >	- >-	<b>&gt;</b>	· >-	>	<b>&gt;</b>	>	< □	۵ د	0	ш	ш	ග	Ι.	∢ ۵	o 0	ο α	ш	L (	IJ I	۷ i	<u>а</u> (	ם כ	ш	ı LL	ტ:	Ξ,	2 2	∀ ¤	) ()	۵ ۱	шш	. ტ 🗆	_		A to Y	A to Y	
14	10	SC																																								
13	6	NC																																								
12	8	Υ	16mA	4mA "	. =	=					GND																													TUO	=	į
3 4 5 6 7 8 9 10 11 12 11 12 12 12 13 15 15 15 15 15 15 15 15 15 15 15 15 15	7	GND	GND	QN5		=		=	=		GND	GND B	=	-	=	=	-	= (	GND "	-	=	=			GND		=	=	-		יייי	GND	GND "	=						GND		
10	12	I	2.0 V	5.5 V		-		-	-	0.8 V	GND	GNB B	-					2.4 \	GND =	-				. 5.5	5.5 V		-			= ;	0.4 \	GND					, ,	- 12 IIIA		2.4 V	=	
9.5	11	9	2.0 V	2.5 V		-			0.8 V	5.5 V	GND	GNB B	-				2.4 V	GND	GND E	-		-	= 1	5.5 V GND	5.5 V		-	-	-	0.4 V	5.5 \	GND					-12 mA			2.4 V	=	
8	9	L	2.0 V	7 S.5		-		0.8 V	5.5 V	-	GND	GND BND	-			2.4 V	GND	= !:	GND B	-		-	5.5 V	GND END	√5.5 V		-	-	0.4 V	5.5 V		GND				-12 mA	1			2.4 V	=	
7	5	Е	2.0 V	5.5 V		-	0.8 V	5.5 V	=		GND	GND B	=	=	2.4 V	GND	-	= (	GND END	-	=	5.5 V	GND	: :	5.5 V		=	0.4 V	5.5 V			GND				-12 mA				2.4 V	=	
9	4	D	2.0 V	5.5 V		0.8 V	5.5 V		=		GND	GND B	=	2.4 V	GND GND	=	-	= !	GND E	-	5.5 V	GND		: :	5.5 V		0.4.V	5.5 \	) = )			GND			-12 mA			os ositto	are ornified	2.4 V	=	
5	3	ပ	2.0 V	5.5 V	> 8	5.5 <	=	=	=		GND	QN=	247	GN S	) =	=	-	= !	GND B	5,5 V	GND	=		: :	5.5 V	= ?	5. r.	· •	-		. 4	GND		-12 mA				1 toot	Id VIC tests	2.4 V	=	
4	14	Vcc	4.5 V	4.5 V	: =	-		=	=		5.5 V	5.5 V	=						5.5 \			-			5.5 V		-	-	-		7 2 7	5.5 \	4.5 V	-				1250	= 123 Cal	5.0 V	=	
3	2	В	2.0 V	2.5 V	5.8	· :		=	=	-	GND	GND	7.4.0 CND	<u></u>		-	-	= !:	GND	0.5 GND	=	-			5.5 V	0.4 \	o: o:=	-	-			GND	12 m	7				T tage	except 10	2.4 V	=	
2	-	A	2.0 V	V 8.0	ک دن ک	-		-	-		GND	2.4 \	<u> </u>				-	= 1	5.5 V	- 5		-			0.4 V	2.5 <	-	-	-			GND	-12 mA					4.0	Subgroup 1	N	=	
1	13	NC																																				Limite of for	limite as for	as  0		ĺ
MIL-STD- Cases A, B, D	Case C	Test no.	1	2	m 4	0 ا	9	7	80	6	10	<del></del> ;	4 E	4	15	16	17	18	19	2 2	52	23	24	52 28	27	28	30	3 5	32	33	34	36	37	3 68	40	47	14.	444	Same tests, terminal conditions and limits as for subgroup 1, except 10 = 125°C and V <sub>10</sub> tests are offinited Same tests for subgroup 1, except 70 = 155°C and V <sub>10</sub> tests are omitted	45 and	46	ļ
MIL-STD- C	883	method	3007	3006							3011	3010							3010						3009						3005	3005						- Conjunct	terminal C	3003	(Fig. 3)	0000
	Symbol		Vol	V <sub>ОН</sub>							los	<u>=</u>							E E													3 2	Vic					1000	ame tests	t <sub>PHI</sub>	t <sub>PLH</sub>	
	Subgroup		-	Tc = 25°C						ļ	ļ														1							1	1						7 8		Tc = 25°C	

TABLE III. Group A inspection for device type 02. Terminal conditions (pins not designated may be high  $\geq 2.0$  V, low  $\leq 0.8$  V or open)

	Unit		>=	>=	-		-		Am.	μĄ		=			=	۲ŋ ۳			-		mA						mA	mA	>: : :						us =	us "	Su =	us "	
ŀ	S	Max	4.0						-55	40		=			=	100			=		-1.6					-	10	3.3	5.1.	-					20	25	24	27	
	Limits	Min		2.4	-		-		-20												-0.7			=											က =	n =	က =	က =	•
	Measured	terminal	17 27	<u></u>	<u></u>	<b>≿</b> ≿	24	2 2	17 27	14 :	<del>5</del> 5	5 0	2.4 2.5	5C 8	2D	41 A 1	5	<u></u> 2	7 ZB	2C	4	<b>9</b>	5 5	2A	5B	22	Vcc	Vcc	18 T	2 ₹	2B	22			1A to 1Y 2A to 2Y	1A to 1Y 2A to 2Y	1A to 1Y 2A to 2Y	1A to 1Y 2A to 2Y	•
7.7	5	10	2.0 V 5.5 V	5.5 V	=	0.8 \	) = )		GND	GND		2.4 V	GND		=	GND "		5.5 V	<u> </u>		5.5 V		0.4 V	5.5 V			5.5 V	GND	12 m	XII 71 -					2.4 V	2.4 V	2.4 V	2.4 V	
40	5 4	10	2.0 V 5.5 V	5.5 V	0.8 V	5.5 \	-		GND	GND	2.4 V	GND			=	GND "	5.5 V	GND B	=		5.5 V	= (	0.4 V 5.5 V	-			5.5 V	GND	-12 mA						2.4 V	2.4 V	2.4 V	2.4 V	,
open)	2	18	2.0 V 5.5 V	5.5 V	5.5 V		-		GND	GND	2.4 V GND	=			=	GND	GND		=		5.5 V	0.4 \	> 5.5	-			5.5 V	GND	-12 mA						2.4 V	2.4 V	2.4 V	2.4 V	1
J.8 V or 0	7	GND	GND "	GND "	=		=		GND	GND		=			=	GND "			=		GND			=		=	GND	GND	GND E E E			: =			GND "	GND "	GND "	GND "	•
/, IOW ≤ (	2 ∞	27	16 mA			- 4 mA	=		GND																										OUT	OUT	TUO	TUO	
n ≥ 2.0 \	13	2D	5.5 V 2.0 V	5.5 V	=			. > 8.0	GND	GND		-			2.4 V	GND "			=	= v	5.5 V			=		0.4 V	5.5 V	GND				-12 mA			2.4 V	2.4 V	2.4 V	2.4 V	•
ay be nig	12	2C	5.5 V 2.0 V	5.5 V	=		=	0.8 V 5.5 V	GND	GND		=		2.4 \	GND	GND "			=	5.5 V	5.5 V			=	= 5	5.5 V	5.5 V	GND			(	-12 mA			2.4 V	2.4 V	2.4 V	2.4 V	
nated ma	10	2B	5.5 V 2.0 V	5.5 V			0.8 V	5.5 <	GND	GND		-	= 7	2.4 C	=	GND "			5.5 V	GND =	5.5 V			_	0.4 \	> O =	5.5 V	GND			-12 mA				2.4 V	2.4 V	2.4 V	2.4 V	
ot desigr	0 6	2A	5.5 V 2.0 V	5.5 \	-	- 8	5.5 \		GND	GND		=	2.4 \	<u> </u>	=	GND "		= 4	GND GND		5.5 V			0.4 V	5.5 \		5.5 V	GND		-12 mA			ire omitted.	re omitted.	Z	Z	Z	Z	
s (pins n	٦ ر	S S																															and V <sub>IC</sub> tests are omitted	V <sub>IC</sub> tests a	5.0 V IN				
erminal conditions (pins not designated may be nign ≥ 2.0 V, low ≤ 0.8 V or open)	4 4	Vcc	4.5 \	4.5 V	=		=		5.5 \	5.5 V		-			=	5.5 V			=		5.5 V			=			5.5 V	5.5 V	4.5 V			: =	ပ္	55°C and	2.0 \	5.0 V	5.0 V	5.0 V	= -55°C.
erminal	n 6	NC O																															except Tc=	except Tc=					, except Tc
_	7 9	1	16 mA	4 mA "	-				GND																								ubgroup 1,	ubgroup 1,	LUO	OUT	OUT	TUO	subgroup 10
•	-	14 ·	2.0 V 5.5 V	0.8 V	) = )		-		GND	2.4 V	O =	=			=	5.5 V GND	] =		=		0.4 V	5.5 \		-			5.5 V	GND	-12 mA				nits as for s	nits as for s	Z	Z	Z	Z	limits as for subgroup 10, except Tc = -55°C
0 0	Case C	Test no.	2 1	£ 4	2	9 2	- &	6 0	11	13	15	16	17	χ <u>0</u>	20	21	23	24	72 70	27	29	30	32	33	34	36				4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	44	45 46	Same tests, terminal conditions and limits as for subgroup 1, except Tc =	itions and lin	47	t <sub>PLH</sub> 3003 49 IN OUT 5.0 v t <sub>PLH</sub> (Fig. 3) 50 IN OUT 5.0 v	51 52	53 54	itions and li
OTO IN	883	70	3007	9008					3011	3010						3010					3009						3005	3005					minal cond	minal cond	)03 1. 3)	1. 3)	)03 1. 3)	. 3)	Same tests, terminal conditions and
IV				√он 30					os 30	Ін1 30						I <sub>IH2</sub> 30					I <sub>IL</sub> 30							H	/Ic				ne tests, ter	ne tests, ter	Pil. St.	PLH 3(	. 30 개 (Fig	PLH 30	ne tests, ter
	Subgroup Symbol		1 V Tc = 25°C							<u> </u>																		الا						3 Sam	L)		10 t <sub>F</sub> Tc = 125°C t <sub>F</sub>	<u> </u>	11 Sam

TABLE III. Group A inspection for device type 03. Terminal conditions (pins not designated may be high  $\geq 2.0$  V, low  $\leq 0.8$  V or open)

	ini.	<u> </u>	>===	: >	> =			=	-		μ		γη "	-	-			-	-	Μ		=	-			-	mA "	-	-			=	=	mA	mA	>=					=	T	
	imite	Max	4." =								-55		40					-	=	100		=	-			=	-1.6	-	-		: =	=		4.95	15	-1.5		: =			-		
	ni I	Mis			Z.4 4. =			=	=		-20																-0.7	=	-		: =	=	=										
	Meaning	terminal	17 27 3	34	<u></u>	<b>≻</b> ?	5 ×	2 \	3¥	3,4	1 7	34	1. 4.	<u>a</u> 5	8	3B	5 SC	¥ #	ဗ္ဗ ၁၉	1A	5 5	2 ₹	3B	5 5 5 7 7	∯ 8	ဗ္ဗ ဗ္ဗ	41 4	<u>5</u>	2A	2B	S SC	3B 8B	3C	Vcc	V <sub>CC</sub>	4 ±	5.5	8 8	SC 21	aB SB	30		
4.4	13	10	2.0 V 5.5 V	: .	5.5 <	0.8 V	5.5 \	=	-		GND		GND	2.4 V	GND			-	=	GND	. 4	GND	=			=	5.5 V	0.4 V	5.5 V		: =	=		GND	5.5 V		-12 mA						
42	2 a	37	7 B	16 mA					4 mA			GND																															
pen)	11	30	5.5 <	2.0 V	5.5 > =			=	-	. 0.8		GND	GND "	-				-	2.4 V	GND		=	-			5.5 V	5.5 V	=	-		: =	=	0.4 V	GND	5.5 V						-12 mA		
.8 v or c		GND	QN= =		O =			-	-		GND		GND					-	-	GND		-	-			-	GND =	-				-		GND	GND	GNP B							
, low ≥ C	10	38	> 5.5	2.0 \	> 2.5			=	=	0.8 V 5.5 V		GND	GND	-	-			7 7 7	GND	GND		=	=		: 4	GND	5.5 V	=			: =	0.4 V	5.5 V	GND	5.5 V					-12 mA			
n ≥ 2.0 v	n o	3A	> 5.5	2.0 V	> 2.5			=	0.8 V	5.5 \		GND	GND =				= ?	> 4.0	<u> </u>	GND			-	= 1	> 5.5	<u> </u>	5.5 V		-			5.5 \	=	GND	5.5 V					-12 mA			
iy be nig	0 4	2C	5.5 V 2.0 V	5.5 V	رن د: ک			0.8 V	5.5 V			GND	GND			= (	2.4 <	ב פוא פוא	-	GND		-	-	5.5 V	GND END		5.5 V		-	= ;	V 4.0	) = ) =		GND	5.5 V				-12 mA				
ated ma	, 4	2B	5.5 \	5.5 V	> 5.5		· 8	5.5 \	-			GND	GND "			2.4 V	GND B	-	=	GND		=	5.5 V	GND "		=	5.5 V	-	-	V 4.0	> 2:2	=	=	GND	5.5 V			-12 mA					
l erminal conditions (pins not designated may be nign ≥ 2.0 V, 10w ≤ 0.8 V or open)	o e	2A	5.5 V	5.5 V	> 0.0	= (	0.8 7	> =	=				GND =		2.4 V	GND		-	-	GND		5.5 V	GND			-	5.5 V	-	0.4 \	5.5 \	: =	-		GND	5.5 V			-12 mA				re omitted.	e omittea.
s (pins n	ი	27	16 mA			•	4 mA "	-				GND																													-	125°C and V <sub>IC</sub> tests are omitted	V <sub>IC</sub> tests an
onditions	4 4	٧.	4.5 V	: [	4.5 > =			=	-		5.5 V		5.5 V "					-	=	5.5 V	: :	=	-					-	-			=		5.5 V	5.5 V	4.5 \					=	125°C and	-55°C and
erminai c	2 21		16 mA	+	4 mA "						GND																															except Tc =	except I c =
Ī	2 0	1B	2.0 V 5.5 V	+	5.5 V 0.8 V			-	-		GND		GND	CAP C	=			-	-	GND	> 5.5	<u> </u>	-			-	5.5 V	5.5 \	-		: =	-		GND	5.5 V	-12mA					-	bgroup 1, e	ıbgroup ı, e
		. 4	2.0 V 5.5 V	+	0.8 V 5.5 V			-	-		GND		2.4 \	<u> </u>	-			-	-	5.5 V	ا و ا	-	-			-	0.4 V		-		: =	-		GND	5.5 V	_					-	its as for su	its as tor su
- C	Cases A, B, D	Test no.					~ œ	ာ တ	10	11	13	41 51			19	20	21	7 66	24 2			28	29	30	33	33			37	38	339	5 <del>1</del> 4					47	84 4	50	51 52	53	Same tests, terminal conditions and limits as for subgroup 1, except Tc = .	conditions and lift
CHO III	883	method	3007	0000	3006						3011		3010							3010							3009							3005	3005							s, terminal	s, terminai
	Sympo	5	NoL	1	Ь М						sol		-H							I <sub>H2</sub>							=							l <sub>oc</sub> H	lccr	V <sub>IC</sub>						Same test	Same test
	Subgroup	5	1 Tc = 25°C																												-											2	

			×	_						L			L			
		Limits	Max	20	-	-	25	-	-	24	-	-	27	-	-	
		٦	Min	3	=	=	3	=	-	3	=	-	3	=	=	
		Measured	terminal	1A to 1Y	2A to 2Y	3A to 3Y	1A to 1Y	2A to 2Y	3A to 3Y	1A to 1Y	2A to 2Y	3A to 3Y	1A to 1Y	2A to 2Y	3A to 3Y	
	14	13	10	2.4 V			2.4 V			2.4 V			2.4 V			
	13	8	37			D0			DO			DO			D0	
open)	12	11	3C			2.4 V			2.4 V			2.4 V			2.4 V	
ued. 0.8 V or	11	7	GND	GND	-		GND	-		GND	-		GND	-		
TABLE III. Group A inspection for device type $03$ - Continued. conditions (pins not designated may be high $\geq 2.0$ V, low $\leq 0.8$ \	10	10	3B			2.4 V			2.4 V			2.4 V			2.4 V	
type 03 gh ≥ 2.0 '	6	6	3A			Z			z			z			Z	
r device ay be hig	8	2	2C		2.4 V			2.4 V			2.4 V			2.4 V		
ection for	7	4	2B		2.4 V			2.4 V			2.4 V			2.4 V		
p A insplot desig	9	3	2A		Z			Z			z			Z		
III. Grou is (pins n	2	9	2Y		TUO			TUO			TUO			TUO		
TABLE III. Group A inspection for device type $03$ - Continued. rminal conditions (pins not designated may be high $\geq 2.0~\text{V}$ , low $\leq 0.8~\text{V}$ or open)	4	14	Vcc	5.0 V	-		5.0 V	-		5.0 V	-		5.0 V	-		except Tc = -55°C.
Terminal	3	12	17	OUT			OUT			OUT			OUT			0, except To
	2	2	1B	2.4 V			2.4 V			2.4 V			2.4 V			subgroup 1
	1	1	1A	Z			Z			Z			Z			nits as for
	MIL-STD- Cases A, B, D	Case C	Test no.	54	22	26	22	28	29	09	61	62	63	64	92	Same tests, terminal conditions and limits as for subgroup 10,
	MIL-STD-	883	method	3003	(Fig. 3)		3003	(Fig. 3)		3003	(Fig. 3)		3003	(Fig. 3)		s, terminal o
		Symbol		THA			t <sub>PLH</sub>			t <sub>PHL</sub>			t <sub>PLH</sub>			Same test
		Subgroup Symbol		6	Tc = 25°C					10	Tc = 125°C					11

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	imite	Wax	0.4		=							-55		=	40		-	-		: :	100	=		=			: -	9.	=	= :		-		9.9	20	-1.5	=	-				
		i M				2.4	-				=	-20															1	)- -														
	Moseured	terminal	17	2Y 3Y	4Y	<b>∠</b>	2Y	2Y	34	3.Y	<sup>4</sup> 4 <sup>4</sup> √	17	27	4	1A	1B 2A	2B 2B	3A	3B	4 4 4 B	1A	18	2A	3 P	3B	4 t	4B	¥ £	2A	2B	3A	4 A	4B	$V_{CC}$	Vcc	1A	2A	2B	3A	8 4 ¢	46	
77	1 1	4	=		16 mA					,	4 mA "			GND																												
40	5 2	4B	5.5 V		2.0 V	5.5 \	=	=			0.8 V			GND	GND		=	-		2.4 \	GND	=		=	=	= 1	5.5 V	o.c. -	=			=	0.4 V	GND	5.5 V					0	-12 MA	
open)	12	44 4	5.5 V		2.0 V	5.5 \	=	-			0.8 V 5.5 V			GND	GND		-	=	= 3	2.4 V GND	GND	=		-	=	5.5 V	GNS	o.	=			0.4 V	5.5 V	GND	5.5 V					-12 mA		
0.8 V or		dND	GND		=	GND B	=	-				GND		=	GND		-	=		: =	GND	=		-	=			ב פואם פואם	=			=	=	GND	GND	QND	=	=				
V, IOW ≤	01	38	5.5 V	2.0 V	5.5 V	5.5 \		-	= 0	> 20.0	> 2.0			פֿוּ	GND				2.4 \	ON =	GND	-			5.5 V	GND	: [	> 0.0	=			5.5 V		GND	5.5 V				72.2	VIII 71-		
gn ≥ 2.0	n 0	3A	5.5 V	2.0 V	5.5 V	5.5 \	=	=	0.8 > 2	o.				פֿוּאַ	GND		=	2.4 V	GND		GNS	-		75.5	GND		: [	o. o.=	=	= -	0.4 \	> : :		GND	2.5 V				-12 mA			
iay be nig	οα	37	5	16 mA					4 mA "					פואס																												
gnated m	7	2B	5.5 V	2.0 V 5.5 V	н	5.5 V		0.8 V	5.5 V				GND		GND		2.4 V	GND			GND	=	- 1	S.S. V	<u> </u>		: .	> c.c	=	0.4 V	5.5 V	=	н	GND	5.5 V			-12 mA				ri -
not desig	0	7.	5.5 V	2.0 V 5.5 V	н	5.5 V	0.8 V	5.5 V					GND		GND	247	GND				GNS	=	5.5 \	פואס	=		: .	> 0.0	0.4 V	5.5 V		=	н	GND	5.5 V		-12 mA	! !			- 111	are omitted
suid) sui	o (4	2 \	i	16 mA			4 mA	-				!	GND																												1 1 1	nd Victoria
lerminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V or open)	+ 5	<u>-</u> \	4.5 V		=	4.5 V	=	-			=	5.5 V		-	5.5 V	: :	-	-		: =	5.5 V	-		-	-		: [	o.	-			=		5.5 V	5.5 V	4.5 V	-	-			00107	C= 123 Ca
i ermina	o «	, <del>/</del>	16 mA			4 mA "						GND																													T , 7	1, except 1
c	7 0	7 1B	2.0 V	5.5 \	=	5.5 <	5.5 \	-				GND			GND	2.4 C	=	-			GND	5.5 V	GND B	-	=		: [	0.0 V 4.0	5.5 \			=	=	GND	5.5 V	4	-12mA				4	r Subgroup
		- ¥	2.0 V	5.5 \	=	0.8 \	) = )	-			=	GND			2.4 V	ON5	-	=		: =	5.5 V	GND		=	=			0.4 V 5.5 V	=		: :	=	=	GND	5.5 V	-12 mA					of an extend	limits as ro
C a V 2000 CTO IIM	Cases A, B, D	Test no.	-	3 2	4	ഗ	^	8	o (	2 7	12	13	4 4	5 9	17	8 6	50 50	21	22	23	25	26	27	50 60	308	31	32	S & &	35	36	37	9 68 8	40	41	42	43	45	46	47	4 4 6 6 6 6	00	Same tests, terminal conditions and limits as for subgroup 1, except 10= 125°C and V <sub>10</sub> tests are omitted Same tests terminal conditions and limits as for subording 1 except Tn = -55°C and V <sub>10</sub> tests are omitted
OTO IIM	883	method	3007			3006						3011			3010						3010						0000	3008						3005	3005						1000000	S, terminal
	Symbol	501160	Vol	_	Ī	V <sub>он</sub>	_			_		los		_	l <sub>IH1</sub>					_	I <sub>IH2</sub>							<u>=</u>				_		Іссн	lccL	Vıc				_		ame test
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	Unit		ns			-	ns				ns		=	-	ns				
	ts	Max	20	-		-	25		=	-	24		=	-	27			-	
	Limits	Min	3	=	-	=	3	=	=	=	3	=	=	-	3	=	-	=	
	Measured	terminal	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	
14	13	47				TUO				TUO				TUO				TUO	
13	8	4B				2.4 V				2.4 V				2.4 V				2.4 V	
12	11	4A				Z				Z				Z				Z	
11	7	GND	GND				GND				GND				GND				
10	10	3B			2.4 V				2.4 V				2.4 V				2.4 V		
6	6	3A			Z				Z				Z				Z		
ω	2	37			OUT				TUO				TUO				OUT		
7	4	2B		2.4 V				2.4 V				2.4 V				2.4 V			
9	3	2A		Z				Z				Z				Z			
2	9	2Y		TUO				TUO				TUO				TUO			
4	14	Vcc	5.0 V	-			5.0 V		-		5.0 V	-	-		5.0 V			-	001
က	12	17	OUT				OUT				OUT				OUT				
2	2	1B	2.4 V				2.4 V				2.4 V				2.4 V				
_	-	1A	Z				Z				Z				Z				
MIL-STD- Cases A, B, D	Case C	Test no.	51	52	53	54	22	26	22	28	29	09	61	62	63	64	65	99	C011 - F7
MIL-STD-	883	method	3003	(Fig. 3)			3003	(Fig. 3)	)		3003	(Fig. 3)			3003	(Fig. 3)	,		- territories -
	Symbol		tpHL				t <sub>PLH</sub>				t <sub>PHL</sub>				t <sub>PLH</sub>				1 - 1
	Subgroup Symbol		6	Tc = 25°C							10	rc = 125°C							, ,,

TABLE III. Group A inspection for device type 05.	conditions (pins not designated may be high $\geq 2.0$ V, low $\leq 0.8$ V or open)
TAE	Terminal conditions (p

Г							T					T					Т					1																			Г
	Unit		>=	-	=		>	> =	-	=		ΨW	=	-	-		-	<u>₹</u> =	-	-			Ą.	-	-	=	-	m,		-	-	=	MA	шA	>	-					
	Limits	Max	0.4	-	=							-55	3 =	-	= :		= 5	04 =	-	-		,	100	=	-	=		-1.6		=	=	=	30	6.6	-1.5	=					
	Lin	Min					V C	t =	-	-		06-	7 =	-	-		=											2.0-				-									
	Measured	terminal	<b>1</b>	3 <	. <del>7</del> 4	57	10	- 5	37	47	57	4Y	2	37	44	57	, 6	A C	4 K	4 4 4	5A	¥0	14 5	7 Y Y	4 A	2.4 2.4	6A	1,A	X 8	44	( d	V 6	Vcc	Vcc	1A	2A	34	44 4.5	8 9 8		
14	2	6A	16mA				/w/	<u>.</u>				CIND	Š																												
13	13	К9	5.5 V	=	=	= 0	2.0 \	) = ) =	-		= 0	0.8 \				!	GND	O =	=		= 3	V 4.2	GND B	=	=		5.5 V	5.5 V				0.4 V	5.5 V	GND					-12 mA		
12	12	<b>Д</b>				4	IOMA				4	4 mA					GND																								
11 12	7	GND	GND	-	=		CINC	<u> </u>	=	=		CINE	<u> </u>	=	= :		= 2	۵ ق		-			GND -	=	-	=		GND		=	=	=	GND	GND	GND	=			: =		
10	10	5Y				16mA					4 mA					GND																									
	11	5A	5.5 V		-	2.0 <	2.5 \	> ? =	-	-	> 8.0	2.5 \			!	GND	2	פֿאַ	-	-	2.4 \	GIND	GNB B		-	5.5 V	GND	5.5 V		-	V 7 V	5.5 \	5.5 V	GND					-12 mA		
8	8	47			16mA					4 mA					GND																										
7	6	4A	5.5 V		2.0 V	5.5 \	7 2 7	) = ) =	=	0.8 V	5.5 \	:			GND		2	O =	-	2.4	GND		GND B		> 5.5	OND COND		5.5 V		7 7 0	> >	) = )	5.5 V	GND				-12 mA			
4 5 6 7 8	9	37		16m4	5				4 mA					GND																										are omitted.	are omitted
5	5	3A	5.5 V	> 0 0	5.5		7 2 7	> =	0.8 \	5.5 V		:		GND			2	פֿאַ	2.4 \	GND GND		!	GNB B	· · ·		=		2.5 \		. v	) = )	-	5.5 \	GND			-12 mA			d V <sub>IC</sub> tests	d V. c tests
4	14	Vcc	4.5 V	=	=		457	> †		=		55.7	> ) = )	=			= [	o.c. - =		-			5.5 \			=		5.5 V	: =			=	5.5 V	5.5 V	4.5 V					= 125°C ar	= -55°C an
3	3	2A	5.5 V	2.0 <	· • =		657	) ) ) ) )	5.5 V	=			GND				2	GND	5.4 GND	=		1	GND	5.5 V C.C	5 =	=	"	5.5 V	0.4 V 7		=	=	5.5 V	GND		-12 mA				, except Tc	avcent To
2	4	2Y	4.0	YII Q				4 mA					GND																											subgroup 1	suboroun 1
-	11	1A	2.0 \	o. =	=		\ a c	5.5	=	=		CINE	5					> 4.2	<u>=</u>	-			5.5 \	۵ ا ا	=	=		0.4 V	> 2.5			=	5.5 V	GND	-12 mA					imits as for	imits as for
MIL-STD- Cases A, B, D	Case C	Test no.	← (	7 6	9 4	22	9 1	- 00	၈	10	<del>-</del> ;	12	5 4	15	16	17	18	D (c	2 2	52	23	74	25	20	28	52	30	31	32	S 8	t %	36	37	38	39	40	41	42	£ 4 2	Same tests, terminal conditions and limits as for subgroup 1, except Tc = 125°C and V $_{ m ic}$ tests are omitted	onditions and l
MIL-STD-	883	method	3007				3006	2000				3011	3				0700	3010					3010					6008					3005	3005						s, terminal o	s terminal
	Symbol		Vol				^	HO >				-	so					Ξ					IHZ					11					lcci	- LOCH	Vıc					Same test	Same tect
	Subgroup		1	) cz = 51																		1											•	•	•						e

			Max	0						25						4				_								
		Limits		20	_	_	_	_	_	2	_	_	_	_	,	24	_	_	_	_	-	27	_	_	_	_	,	
			Min	3	=	=	-	-	=	3	=	-	=	=	=	3	-	-	=	-	=	3	=	=	-	=	=	
		Measured	terminal	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	5A to 5Y	6A to 6Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	5A to 5Y	6A to 6Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	5A to 5Y	6A to 6Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	5A to 5Y	6A to 6Y	
	14	13	44	OUT						TUO						DOUT						TUO						
	13	8	4B						Z						Z						Z						Z	
oben)	12	11	4A						OUT						OUT						OUT						OUT	
TABLE III. Group A inspection for device type $05$ - Continued. Terminal conditions (pins not designated may be high $\geq 2.0$ V, low $\leq 0.8$ V or open)	11	7	GND	GND	-	=	-		=	GND						GND		-	-		"	GND	=		-		,,	
- Continu V, low ≤ (	10	10	3B					DOUT						DOUT						DOT						DOUT		
TABLE III. Group A inspection for device type $\overline{05}$ - Continued. onditions (pins not designated may be high $\geq 2.0$ V, low $\leq 0.8$ )	6	6	3A					Z						Z						Z						Z		
or device ay be hig	8	2	3Y				DOUT						OUT						DOL						DUT			
ection for	7	4	2B				Z						Z						Z						Z			
up A insp not desig	9	3	2A			TUO						TUO						TUO						TUO				
III. Grouns r	2	9	2Y			Z						Z						Z						Z				
TABLE	4	14	V <sub>CC</sub>	5.0 V	-		=			5.0 V	-		-	-		5.0 V	=	-	=	-		5.0 V	=	=	-	-		except Tc = -55°C.
Ferminal	3	12	17		Z						Z						Z						Z					
•	2	2	1B		DUT						TUO						TUO						TUO					subgroup 1
	1	1	1A	Z						Z						Z						Z						imits as for
	MIL-STD- Cases A, B, D	Case C	Test no.	45	46	47	48	49	20	51	52	53	54	22	26	29	28	26	09	61	62	63	64	92	99	29	89	Same tests, terminal conditions and limits as for subgroup 10
	MIL-STD-	883	method	3003	(Fig. 3)					3003	(Fig. 3)					3003	(Fig. 3)					3003	(Fig. 3)					ts, terminal
		Symbol		t <sub>PHL</sub>						t <sub>PLH</sub>						t <sub>PHL</sub>						tргн						Same tes
		Subgroup Symbol		6	$Tc = 25^{\circ}C$											10	Tc = 125°C											1

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roup A inspection for device type 06.	/ // O C / dwid or
TABLE III. G	

	Unit	<u>.</u>	>=	=	Ψ'n.			= :		-	=	>			=		-			Ψį.			-			-	γn				-			mA					-	= :	= 4	¥ E		
	Limits	Max	0.4	-	250	-	-	=		-	=	-1.5			-	-	=	-		40		=	-	= :		-	100	=		-	=		: =	-1.6			-	-	=		- 17	4 95		
	Lim	Min																																-0.7			-	-	=		=			
	Measured	terminal	۲۲	3Y 3Y	17	- ≻	27	27	27	3.Y	34	1A	<b>9</b> (	၁ န	2B 2B	2C	3A	3B	3C	4 t	3 C	2 S	2B	2C	3A	30.0	1A	18	2 %	4 K	2C	3A	308	1A	1B	၁ ၃	2A 2B	22	3A	3B	3C	Vcc Vcc	3	
	13	10	2.0 V	> 0: =	5.5 V "	780	5.5 \	-			=			-12 mA						GND B	247	GND	=			=	GND	-	5.5 \	<u></u>	=		: =	5.5 V	= -	0.4 v	o o =	-			: [	OND CND	!	
	œ	34		16 mA					i	o o:0 =	=																																	
oben)	7	30	5.5 V	2.0 V	5.5 V	-	-	=		-	0.8 \								-12 mA	GND -		=	-	= :		2.4 \	GND	=		-	=		. 5.5	5.5 V			-	-	=	= :	0.4 V	S.S. V	!	
).8 V or	7	GND	GND	-	GND	-		-		-	-	GND			-	-	-	-		GND -		=					GND	-		-	=			GND			-	-	-		= 2	GND	!	
, low ≤ (	10	3B	5.5 V	2.0 V	5.5 V	-	-	-		2	5.5 <							-12 mA		GND B		=	-	= :	- 7	5.4.5 GND	GND	=		-	=	=	5.5 V	5.5 V			-	-	=	0.4 \	5.5 \	S.S. V		
۷ اک≤ د	σ	3A	5.5 V	2.0 V	5.5 V	=	-	-	= 2	> . > .	> =						-12 mA			GND B			-	=	2.4 \	<u> </u>	GND	=				5.5 V	O. E	5.5 V	= :		-	-	0.4 V	5.5 V	= 1	S.S.	!	
y be higl	rC	2C	5.5 V	2.0 V 5.5 V	5.5 V	-		=	0.8 V 2.	۰ ۲۰:۵ ۲۰:۵	-					-12 mA				GND -		-		2.4 V	GND B		GND	-			5.5 V	GND		5.5 V			-	0.4 V	5.5 \		: .	OND GND	!	
ated ma	4	2B	5.5 V	2.0 V 5.5 V	5.5 V	-		0.8 V	5.5 \		=				-12 mA					GND -			2.4 V	GND			GND	=		7.5.7	GND			5.5 V			7 7 0	2.5	=		= 1.	OND GND	!	
Terminal conditions (pins not designated may be high $\geq 2.0 \text{ V}$ , low $\leq 0.8 \text{ V}$ or open)	m	2A	5.5 V	2.0 V 5.5 V	5.5 V		0.8 \	5.5 V		-	-			70						GND -		2.4 V	GND	= :			GND		= 1	S CN C	=			5.5 V			V 4 V	> =	-		+	OND GND	1_:	e omitted.
(pins no	9	ŽY	4	E O																																							V <sub>IC</sub> tests an	/ <sub>IC</sub> tests ar
onditions	4	V <sub>CC</sub>	4.5 V	-	4.5 V	-		-			-	4.5 V					-	-		5.5 \				= :			5.5 V	=						5.5 V			-	-			: 1	2.5.	125°C and	-55°C and \
rminal co	12	; <del>\</del>	16 mA		5.5 V	-																																					cept Tc =	cept Tc =
Te	2	1B	2.0 V	ن <u>-</u> >	5.5 V		; =	_		-			-12 mA							GND	> 4.	) =		= :			QNS	5.5 V	QN:	-	=			5.5 V	> 7	زن. ا	-		-	_	= 1	S.S. V	group 1, e	group 1, ex
-		1A	2.0 \		0.8 V		, 	_			_	-12 mA	-							2.4 \		_					5.5 \ (							0.4 V					_		+	GND	s as for suk	s as for suk
-			2, 1	o 	Öι	o O														2, (	פ						5.	<u>ග</u>						0.	.5						L		s and limits	s and limits
L		Test no.		9 10	4 r	റ ഗ	^	ω	o (	2 5	12	13	4 t	ر د م	17	: 4	19	20	21	22	23	2 2	26	27	5 28	30 8	31	32	33	4 5	36	37	8 8	40	4 :	42	24 4	45	46	47	48	50.05	l conditions	Same tests, terminal conditions and limits as for subgroup 1, except $Tc = -55^{\circ}C$ and $V_{IC}$ tests are omitted
	MIL-STD- 883	method	3007																	3010							3010							3009							1000	3005	ts, termina	ts, termina
	Svmbol	6	Vol		lcex							Vıc								<u>=</u>							I <sub>H2</sub>							4							-	J 등	Same test	Same tes
	Subarono	<u>5</u>	- g	1c = 25°C																																							2	3

			×													
		Limits	Max	23	-	-	28	-	-	29	-	-	32	-	-	
		ΙΠ	Min	3	=	=	3	-	=	3	-	=	3	-	=	
		Measured	terminal	1A to 1Y	2A to 2Y	3A to 3Y	1A to 1Y	2A to 2Y	3A to 3Y	1A to 1Y	2A to 2Y	3A to 3Y	1A to 1Y	2A to 2Y	3A to 3Y	
		13	10	2.4 V			2.4 V			2.4 V			2.4 V			
		80	37			DOL			DOT			OUT			DOL	
oben)		1	3C			2.4 V			2.4 V			2.4 V			2.4 V	
TABLE III. Group A inspection for device type $06$ - Continued. Terminal conditions (pins not designated may be high $\geq 2.0$ V, low $\leq 0.8$ V or open)		7	GND	GND			GND			GND	-		GND	-		
- Continu /, low ≤ (		10	3B			2.4 V			2.4 V			2.4 V			2.4 V	
TABLE III. Group A inspection for device type 06 - Continued. conditions (pins not designated may be high $\geq 2.0$ V, low $\leq 0.8$ V		<b>о</b>	3A			Z			Z			Z			Z	
or device ay be hig		2	2C		2.4 V			2.4 V			2.4 V			2.4 V		
ection for		4	2B		2.4 V			2.4 V			2.4 V			2.4 V		
up A insp not desig		က	2A		z			Z			z			Z		
III. Grouns I		9	2Y		TUO			DO			TUO			100		
TABLE		14	Vcc	5.0 V			5.0 V	-		5.0 V	=		5.0 V	-		except Tc = -55°C.
Ferminal		12	17	OUT			OUT			OUT			OUT			0, except T
'		2	1B	2.4 V			2.4 V			2.4 V			2.4 V			subgroup 1
		-	1A	Z			Z			Z			Z			limits as for
	MIL-STD- Cases A, B,	C, and D	Test no.	51	52	53	54	55	26	22	58	59	09	61	62	Same tests, terminal conditions and limits as for subgroup 10,
	-GLS-TIW	883	method	8008	(Fig. 3)	1	3003	(Fig. 3)		8008	(Fig. 3)		8008	(Fig. 3)		ts, terminal
		Symbol		tpHL			t <sub>PLH</sub>			t <sub>PHL</sub>			t <sub>PLH</sub>			Same test
		Subgroup Symbol		6	Tc = 25°C					10	Tc = 125°C					1

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	Unit		> =		۲ŋ ۳	=	=				¥.=		=			=	μA		=	=	=		mA			-	-	= :		A A	<u>{</u> >					-
	Limits	Min Max	0.4		250	=				. V	04	-	=				100						-0.7 -1.6		: :				= 0	70	-1.5			=		-
	Measured	lal	1Y 2Y	3Y 4Y	<u></u>	2	27	3,3	2 4 3	44	ξ π	2.5 2.5	2B	3A	3B	4 <del>4</del> 8	14	1B	2 A A	3A	3B	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			7 Z	3 8	3B	44	4B	N <sub>CC</sub>	1Ac	18	2A	34 B	3B	4 t
14	13	47		16 mA					5.5 V	-																										
13	12	4B	5.5 V	2.0 %	5.5 V	=	=		7.5 \	0.8 \	والات و الات	=				2.4 V	GND				-	= v	5.5 \					=	V 4.0	2.0	9					4
12	11	4A	5.5 V	2.0 \	5.5 V	=	=		0.8 V	4.5 V	ם <del>-</del>	-	=		- 7	CND GND	GND		=	=	=	5.5 V	5.5 V					0.4 V	5.5 V	> c.c.	GIND				9	-12mA
4 5 6 7 8 9 10 11 12	7	GND	GND "		GND	=	=			- 2	ב פואם פואם	-	=		: :	=	GND		=	-	=		GND			-		=	= 2	ONE S	GND			=		
10	6	3B	5.5 V	2.0 \	5.5 V	=	=	4.5 \	5.5 <	= 2	<u>S</u> =	=		= 3	2.4 C	<u> </u>	GND		=	-	5.5 \	GND B	5.5 V				0.4 V	5.5 \	= [	2.5 0	O O				-12mA	
6	8	3A	5.5 V	2.0 \ 5.5 \	5.5 \	=	=	0.8 \	5.5 <	- 2	<u>-</u>	=	=	2.4 \	GND GND	-	GND		=	5.5 V	GND		5.5 V			V 4 V	5.5 \	= :	= [	2.0.0	O O O			-12mA		
8	10	3У		16 mA				5.5 \																												
7	9	2B	5.5 V 2.0 V	5.5 V	5.5 V					+			2.4 V	GND	: :	-	GND		7 7 7	GND	=		5.5 V			, r.	=	=	= 1	7.0.0	OND OND		, T	- 1211		
9	2	2A	5.5 V 2.0 V	5.5 \	5.5 V	0.8 V	4.5 V	5.5 \		= 2	۵ ا ا	2.4 V	GND			-	GND	= 1	2.5 V C.C	=	-		5.5 V	= (	0.4 > 4 >	? =	=	-	= [	2.5 \	פאַס	,	-12mA			
2	4	2Υ	16 mA			5.5 V	=																													
	14	Vcc	4.5 V		4.5 V	=	-			: [	o.o. - =		-			-	5.5 V		=	-	-		5.5 V			=	-	-	= [	2.5 \	4.5 \			=		
3	-	17	16 mA		5.5 V																															
2	3	1B	2.0 V 5.5 V		4.5 V	5.5 V	=				0 4 V	GND	=			=	GND	5.5 V	באַם פּ	-	=		5.5 V	0.4 \	> 5.5	=	=	= :	= 1	V C.C	פואם	-12mA				
-	2	1A	2.0 V 5.5 V	= =	0.8 \	5.5 V	=			= 2	7.4.C	<u></u> =	=			=	5.5 V	GNB B	=	-	-		0.4 V	5.5 \		-	=	-	= 1	5.5 V	-12mA					
MIL-STD- Cases A, B, D	Case C	Test no.	1	ω 4	5	۸ ۵	80	o ⊊	5 = 5	12	E 4	15	16	17	<del>2</del> 2	20	21	22	2.5	25	26	27 28	29	30	37	3.8	34	35	36	37	39	40	41	4 4 4 8	4 ,	45
MIL-STD-	883	method	3007							0,000	3010						3010						3009							3005	cooc					
	Symbol		NoL		CEX					-	Ξ						I <sub>IH2</sub>						11						-	CCL	± 5	-				
	Subgroup		1 Tc = 25°C	)   																																

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TABLE III. Gr	
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		Unit		su	=	=		su	-	-		su	=	=		su	-	-		
		Limits	Max	23	=	-		28	-	=		53	=	-		32	-	=		
		Lin	Min	3	=	=		3	-	=		3	=	=		3	-	=		
		Measured	terminal	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	
	4	13	47				TUO				TUO				TUO				TUO	
	13	12	4B				2.4 V				2.4 V				2.4 V				2.4 V	
לווסל	12	11	4A				Z				Z				Z				Z	
0 , 0.	=	7	GND	GND				GND				GND				GND				
, low ⊳ o	10	6	3B			2.4 \				2.4 \				2.4 \				2.4 \		
1 ≥ 2.0 v	6	8	3A			z				z				z				z		
) DC   IIG	œ	10	37			OUT				OUT				OUT				OUT		
ated IIIa)	7	9	2B		2.4 V				2.4 V				2.4 V				2.4 V			
ı desiği i	9	2	2A		z				z				z				z			
Finally conditions (pins not designated may be night $\geq$ 2.0 V, low $\geq$ 0.3 V of open	2	4	2Y		TUO				DUT				TUO				TUO			
Ollandio	4	14	Vcc					5.0 V				5.0 V				5.0 V				= -55°C.
dillia o	က	1	17	DUT				DUT				DUT				TUO				, except Tc
	2	3	1B	2.4 V				2.4 V				2.4 V				2.4 V				ubgroup 10
	_	2	1A	Z				Z				Z				Z				nits as for s
	MIL-STD- Cases A, B, D	Case C	Test no.	47	48	49	20	51	52	53	54	22	26	22	28	26	09	61	62	Same tests, terminal conditions and limits as for subgroup 10, except Tc = -55°C.
	VIL-STD-C	883	method	3003	(Fig. 3)	ı		3003	(Fig. 3)			3003	(Fig. 3)	ı		3003	(Fig. 3)			, terminal co
	_	Symbol		t <sub>PHL</sub>				t <sub>PLH</sub>				t <sub>PHL</sub>				t <sub>PLH</sub>				same tests
		Subgroup Symbol		6	$Tc = 25^{\circ}C$							10	Tc = 125°C							11

							_						Т					_						_						_		_	_		_	$\tau$	$\overline{}$	$\overline{}$	_
	Unit		>=	=	=	=	=	Ψ					>	» =	=	=	=	=	Αų	=	=	=	=		Αų					V	¥.				. =	Δω	4	<u> </u>	
	Limits	Max	0.4	=	=	=	=	250					-15	=	=	=	=	=	40	=	=	-	-		100						<u>o:</u>					30	σσ	ö.ö	
	Lin	Min																												1	`. -								
	Measured	terminal	1Y 2Y	37	47	57	6Y	<b>\</b>	27	34	Υ4 }	کر د ک	14 14	2A	3A	4 <b>A</b>	5A	6A	1A	2A	3A	4A	5A	6A	1A	2A	3A	44	5A	0A	₹ ;	ZA S	34	44 4.1	A S	٧٥٦	) ) ) ) )	, CC	
14	2	17	16 mA					5.5 V																															
13	13	6A	7.5.V	=		=	2.0 V	5.5 V	= :			. 0	^ 0.0					-12mA	GND	=	=	=	=	2.4 V	GND				: 1	2.5 V	> c.c				: ?	5.5 \	CINE	ğ	
12	12	6Y					16 mA					7	>																										
11	7	GND	GND "	=		=		GND					GND	=	=	=			GND	=			=	,,	GND											GND	GNE	وَيْوَ	
10	10	5Y				16 mA					i	2.5 \																											
6	11	5A	5.5 V	=		2.0 V	5.5 V	5.5 V			= (	0.8 7 4	2.0				-12mA		GND		=	=	2.4 V	GND	GND			: 1	5.5 V	GND	2.5				V 4.0	5.5 V	, CINU	פֿוּ	
8	8	47			16 mA						5.5 \																												
7	6	4A	5.5 V	=	2.0 V	5.5 V		5.5 V	= :	= (	0.8 /	5.5 > =				-12mA			GND			2.4 V	GND		GND			5.5 V	GN5 "		> 0.0			V 4.0	5.5 V	557	OND OND		_
9	9	3Y		16 mA						5.5 \																												- mimo	are ornitted
2	2	3A	7.5.V	2.0 V	5.5 V	=		5.5 V	= !	0.8 \	5.5 \				-12mA				GND	-	2.4 V	GND			<b>GN</b> 9	= 1	5.5 V	GND			> 0.0		V 4.0	5.5 V		557	CINE	315	125 C and V <sub>IC</sub> tests are omitted
3 4 5 6 7 8 9 10 11 12	14	V <sub>cc</sub>	4.5 V	-		-		4.5 V	= :				457	· :	-	=			5.5 V						2.5 V						2.5					557	5.5 \		
3	3	2A	5.5 V 2.0 V	5.5 V	-	=		5.5 V	0.8 \	5.5 V				-12mA					GND	2.4 V	GND	=	=	=	GNĐ	5.5 V	GND				2.00	0.4 V	5.5 <			557	ONE	J. 50.00	i, except ic=
2	4	2Y	16 mA						5.5 \																													di osoqi	dnoi6ans
1	1	1A	2.0 V 5.5 V	-	-	-		0.8 \	5.5 \				-12mA						2.4 V	GND	-	=	-	=	2.5 V	GN9					4.0 > 1.0 > 1	2.5 \				7 2 7	OND OND	טוים מייייי	IIIIIIIS as 10
MIL-STD- Cases A, B, D	Case C	Test no.	1 2	၉	4	2	9	7	ω .	<b>ດ</b> ີ.	9;	11	13	4	15	16	17	18	19	50	21	22	23	24	25	26	27	28	53	30	15.0	32	33	34	32	30	38	OC Cacitite	Same tests, terminal conditions and ilmits as for subgroup 1, except 1 c =
MIL-STD-	883	method	3007																3010						3010					0000	3003		_			3005	3005	COUC -	S, terminal
	Symbol		Nor					CEX					Λ	2					I <sub>IH1</sub>						IHZ					ŀ	⊒						CCL	HOCH G	Same test
	Subgroup Symbol		1 Tc = 25°C	ì																																		c	7 0

		Unit		su	=		-	-	-	su			-		-	ns	=	-	-		-	ns		-		-	-	
		ts	Max	23	=	=	=	=	=	28	=		=	=	=	59	=	=	=	=	=	32	=	=	=	=		
		Limits	Min	3	=	=	=	=	=	3	=		=	=	=	3	=	=	=	=	=	3	=	=	=	=		
		Measured	terminal	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	5A to 5Y	6A to 6Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	5A to 5Y	6A to 6Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	5A to 5Y	6A to 6Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	5A to 5Y	6A to 6Y	
	14	2	17	OUT						OUT						OUT						OUT						
	13	13	6A						z						Z						z						Z	
pen)	12	12	К9						DUT						OUT						DUT						OUT	
ed. ).8 V or c	11	7	GND	GND						GND						GND	=					GND						
. Continu /, low ≤ 0	10	10	5Y					TUO						TUO						TUO						TUO		
type 08 - h ≥ 2.0 \	6	11	5A					Z						Z						Z						z		
device ty be hig	8	8	47				DUT						DO						DUT						DUT			
ction for ated ma	7	6	4A				z						z						z						Z			
A inspert design	9	9	37			DUT						OUT						OUT						OUT				
. Group (pins no	2	2	3A			z						z						z						z				
TABLE III. Group A inspection for device type $08$ - Continued. Terminal conditions (pins not designated may be high $\geq 2.0$ V, low $\leq 0.8$ V or open)	4	14	Vcc	5.0 V						5.0 V						5.0 V						5.0 V						: -55°C.
T rminal co	3	3	2A		z						Z						Z					4	Z					except Tc=
Te	2	4	2Y		OUT						DUT						OUT						DUT					odroup 10.
	1	1	1A	Z						Z						Z						Z						s as for sul
	MIL-STD- Cases A, B, D	Case C	Test no.	39	40	41	42	43	44		46	47	48	49	20		52	53	54	22	26		28	29	09	61	62	Same tests, terminal conditions and limits as for subgroup 10, except $Tc = -55^{\circ}C$
	MIL-STD-	883	method	3003	(Fig. 3)					3003	(Fig. 3)					3003	(Fig. 3)					3003	(Fig. 3)					s terminal c
		Symbol		1Hd₁						t <sub>PLH</sub>						tPHL						t <sub>PLH</sub>						Same test:
		Subgroup Symbol		6	$Tc = 25^{\circ}C$											10	Tc = 125°C											11

		ii O		>=		μΑ		=	= :			>=		= :				h,						γ'n.		-				mA "	-	-	-	_		mA	mA W
			Max	4.0		250		-	= :			-1.5	-	= :		-		40	-	-			-	100		-				-1.6	-	-	-	_		20	
	:		MIN																											-0.7	-		-	. ,			
		Measured	terminal	7,	34	7	- × - ×	2	34	3	<del>1</del> 4	14 d	2A B	2B	38 A	2 4 2 4	4B	14 14	2 P	2B	3A	3B 4 A	4B	14 1	1B 2A	2B	3A	8 4 8 A	4B	₹ ₩	2 - S	2B.	3A	3B	4 4 4 B	Vcc	Vcc
	14	;	Vcc	4.5 V		4.5 V	. =	-	= :	: :		4.5 V	=	= :		-	"	5.5 V		-				5.5 V		-		-	"	5.5 V	-		=	_		5.5 V	5.5 V
	13	į	<del>8</del>	2.5 \	2.0 \	5.5 V		=	=,	- V	0.8 \						-12mA	GND "	-	-			2.4 V	GND		=		-	5.5 V	5.5 \	-	=	=	= :	. 0.4 V	5.5 V	GND
(uedi	12	,	4 <del>V</del>	> = 2.5	2.0 V	5.5 V		-	= :	= 0	4.5 V					-12mA		GND "	-	-		> 4 0	GND	GND		=		5.5 \	GND	5.5 V "	-	-	=	= :	0.4 V 5.5 V	5.5 V	GND
.8 V or c	11	,	44		16 mA					> 4	> O =																										
oe 09. /, low ≤ (	10	ú	38	2.5 <	2.0 \	5.5 V		=	4.5 V	0.8 \	> 0. =				-12mA	2		GND "		-	= 3	2.4.C	<u></u> =	GND		=	= [	0.5 QND		5.5 V	-	-	=	0.4 \	5.5 \	5.5 V	GND
device typ Jh ≥ 2.0 \	6		34	2.5 <	2.0 V	5.5 V		=	0.8 V	4.5 V	> 0 =				-12mA			GND "	-	-	2.4 \	O =	-	GND -		-	5.5 \	۵ ا ا		5.5 V	-	-	0.4 V	5.5 V		5.5 V	GND
tion for cay be high	8		37		16 mA				5.5 V	-																											
A inspec	7		GND	QN=		GND		-	= :		=	GND	-	=		=		GND "	-	-			-	GND		=		-		GND "	-	-	=			GND	
. Group not desig	9	, ,	λ7.	16 mA			7 2 7	) = )																													are omitted
TABLE III. Group A inspection for device type 09. Terminal conditions (pins not designated may be high $\geq 2.0~\text{V}$ , low $\leq 0.8~\text{V}$ or open)	2	ú	78	5.5 V 2.0 V	5.5 \	5.5 V	. 4 5 7	0.8 \	5.5 V	= =	=			-12mA				GND	-	2.4 V	GND B	: =	=	GND	: =	5.5 V	GND E	-	"	5.5 V	-	0.4 V	5.5 V			5.5 V	GND GND
T   conditio	4		ZA	5.5 V 2.0 V	5.5 V	2.5 V	· ~	4.5 \	5.5 V		=		-12mA					GND	2.4 V	GND		: =	=	GND	. 5.5.	GND		-		∧ 5'5	0.4 V	5.5 \	=			5.5 V	GND 125°C 27
Terminal	3	,	1 \	16 mA		5.5 V																															ovent To
	2	Ç	18	2.0 V 5.5 V		4.5 V	0.8 7 7 7	? =	= :		-	12m	VIII71-					GND	GND	-			-	GND	5.5 V	=		-	н	5.5 V	> 2.5	) =	=			5.5 V	GND
	1	,	1A	2.0 V 5.5 V		V 8.0	4.5 V	? =	= :		=	-12mA						2.4 V	<u> </u>	-		: =		5.5 V	ON =	=		-	н	0.4 V 5 5 V	> ) =	=	=			5.5 V	GND limits as for
	Case C		l est no.	- 2	ε 4	5	9 1	~ 00	6	19	12	13	5 7	16	17	0 6	20	21	23	24	25	26	28	29	3.0	32	33	35	36	37	36	40	41	42	44 44	45	I <sub>CCH</sub>   3005   46   GND   GND   GND   GND   GND   Same tasts terminal conditions and limits as for submining 1 event To = 125°C and V, tasts are amilited
	MIL-STD-	. 883	method	3007														3010						3010						3009						3005	3005 s
		Symbol		V <sub>OL</sub>		lcex						V <sub>IC</sub>						IH1						IH2						111						lccr	Same tests
		Subgroup		1 Tc = 25°C																																	0

																			٦	_
		Unit		su	-	-		su	-	=		su	-	-		su	-	=		
		Limits	Max	23	-	=		28	-	=		59	-	=		32	-	-		
		Lin	Min	3	=			3	=	=		က	=			3	=	=		
		Measured	terminal	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	1A to 1Y	2A to 2Y	3A to 3Y	4A to 4Y	
	14		Vcc	2.0 V	=			2.0 V	=			5.0 V	=			2.0 V	=	=	=	
	13		4B				2.4 V				2.4 V				2.4 V				2.4 V	
oben)	12		4A				Z				Z				Z				Z	
TABLE III. Group A inspection for device type $09$ - Continued. Terminal conditions (pins not designated may be high $\geq 2.0$ V, low $\leq 0.8$ V or open)	11		47				TUO				TUO				DOT				OUT	
TABLE III. Group A inspection for device type $\overline{09}$ - Continued. conditions (pins not designated may be high $\geq 2.0$ V, low $\leq 0.8$ V	10		3B			2.4 V				2.4 \				2.4 V				2.4 V		
type 09 gh ≥ 2.0	6		3A			Z				Z				Z				Z		
or device lay be hi	8		37			OUT				DOUT				OUT				DOUT		
pection for	7		GND	GND	=			GND		=		GND	=			GND		=	"	
up A insg not desig	9		2Y		OUT				OUT				OUT				OUT			
III. Gro	2		2B		2.4 V				2.4 V				2.4 V				2.4 V			
TABLE	4		2A		Z				Z				z				Z			Constitution
Terminal	3		17	TUO				TUO				OUT				TUO				T doored Of
	2		1B	2.4 V				2.4 V				2.4 V				2.4 V				di los di los
	1		1A	Z				Z				Z				Z				limite on to
	Case C		Test no.	47	48	49	50	51	52	53	54	55	26	57	58	29	09	61	62	T to accept the second second by the second second second second of the T
	MIL-STD-	883	method	3003	(Fig. 3)			3003	(Fig. 3)			3003	(Fig. 3)			3003	(Fig. 3)			, loning of of
		Symbol	_	⊤ны <sub>↓</sub>	_	_	_	н⊓а	_	_	_	t <sub>PHL</sub>	_	_	_	н⊓ч	_	_		,000
		Subgroup Symbol		6	$Tc = 25^{\circ}C$							10	Tc = 125°C							77

#### 5. PACKAGING

5.1 Packaging requirements. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Service or Defense Agency, or within the military service's system command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

#### 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

- 6.1 <u>Intended use.</u> Microcircuits conforming to this specification are intended for original equipment design applications and logistic support of existing equipment.
  - 6.2 Acquisition requirements. Acquisition documents should specify the following:
    - a. Title, number, and date of the specification.
    - b. PIN and compliance identifier, if applicable (see 1.2).
    - c. Requirements for delivery of one copy of the conformance inspection data pertinent to the device inspection lot to be supplied with each shipment by the device manufacturer, if applicable.
    - d. Requirements for certificate of compliance, if applicable.
    - e. Requirements for notification of change of product or process to contracting activity in addition to notification to the qualifying activity, if applicable.
    - Requirements for failure analysis (including required test condition of method 5003 of MIL-STD-883), corrective action, and reporting of results, if applicable.
    - g. Requirements for product assurance options.
    - h. Requirements for special carriers, lead lengths, or lead forming, if applicable. These requirements should not affect the part number. Unless otherwise specified, these requirements will not apply to direct purchase by or direct shipment to the Government.
    - i. Requirements for "JAN" marking.
    - J. Packaging requirements (see 5.1).
- 6.3 Superseding information. The requirements of MIL-M-38510 have been superseded to take advantage of the available Qualified Manufacturer Listing (QML) system provided by MIL-PRF-38535. Previous references to MIL-M-38510 in this document have been replaced by appropriate references to MIL-PRF-38535. All technical requirements now consist of this specification and MIL-PRF-38535. The MIL-M-38510 specification sheet number and PIN have been retained to avoid adversely impacting existing government logistics systems and contractor's parts lists.
- 6.4 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Manufacturers List QML-38535 whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from DSCC-VQ. P.O. Box 3990. Columbus. Ohio 43218-3990.

6.5 <u>Abbreviations, symbols, and definitions.</u> The abbreviations, symbols, and definitions used herein are defined in MIL-PRF-38535, MIL-HDBK-1331, and as follows:

GND	Ground zero voltage potential
V <sub>IN</sub>	
$V_{\text{IC}}$	Input clamp voltage
I <sub>IN</sub>	Current flowing into an input terminal

- 6.6 <u>Logistic support.</u> Lead materials and finishes (see 3.3) are interchangeable. Unless otherwise specified, microcircuits acquired for Government logistic support will be acquired to device class B (see 1.2.2), lead material and finish A (see 3.3). Longer length leads and lead forming should not affect the part number.
- 6.7 <u>Substitutability.</u> The cross-reference information below is presented for the convenience of users. Microcircuits covered by this specification will functionally replace the listed generic-industry type. Generic-industry microcircuit types may not have equivalent operational performance characteristics across military temperature ranges or reliability factors equivalent to MIL-M-35810 device types and may have slight physical variations in relation to case size. The presence of this information should not be deemed as permitting substitution of generic-industry types for MIL-M-38510 types or as a waiver of any of the provisions of MIL-PRF-38535.

Military device type	Generic-industry type
01	5430
02	5420
03	5410
04	5400
05	5404
06	5412
07	5401
08	5405
09	5403

6.8 <u>Changes from previous issue.</u> Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:

Army - CR

Navy - EC

Air Force - 11

DLA - CC

Preparing activity:

DLA - CC

(Project 5962-2072)

Review activities:

Army - MI, SM

Navy - AS, CG, MC, SH, TD

Air Force - 03, 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <a href="http://assist.daps.dla.mil">http://assist.daps.dla.mil</a>.