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 For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.3).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 <u>Case outlines.</u> 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 bipolar@dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at http://assist.daps.dla.mil.

AMSC N/A FSC 5962

1.3 Absolute maximum ratings.

aximum
3

Minimum high level input voltage +2.0 V Maximum low level input voltage (V_{IL})+0.8 V Case operating temperature range -55° to +125°C

^{1/} Must withstand the added P_D due to short-circuit test (e.g., I_{OS}).

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

^{3/} 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 http://assist.daps.dla.mil/quicksearch/ or http://assist.daps.dla.mil 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	mits	Unit
		-55°C ≤ T _C ≤ +125°C	types	Min	Max	
High level output	V_{OH}	$V_{CC} = 4.5 \text{ V}, \ \ V_{IN} = 0.8 \text{ V},$	01, 02,	2.4		V
voltage		I _{OH} = -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 _{IN} = 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°C				
Maximum collector	I _{CEX}	$V_{CC} = 4.5 \text{ V}, \ V_{IN} = 0.8 \text{ V},$	06, 07		250	μА
cut-off current		V _{OH} = 5.5 V	08, 09			
High level input	I _{IH1}	$V_{CC} = 5.5 \text{ V}, V_{IN} = 2.4 \text{ V} $ 2/	All		40	μА
current						
High level input	I _{IH2}	$V_{CC} = 5.5 \text{ V}, V_{IN} = 5.5 \text{ V}$ 2/	All		100	μА
current		_				'
Low level input	I _{IL}	$V_{CC} = 5.5 \text{ V}, V_{IN} = 0.4 \text{ V} $ 1/	All	-0.7	-1.6	mA
current		_				
Short circuit output	Ios	$V_{CC} = 5.5 \text{ V} \underline{2} / \underline{3} /$	01, 02,	-20	-55	mA
current			03, 04,			
			05			
High level supply	I _{CCH}	$V_{CC} = 5.5 \text{ V}, V_{IN} = 0 \text{ V} $ 2/	All		1.65	mA
current per gate		_				
Low level supply	I _{CCL}	$V_{CC} = 5.5 \text{ V}, V_{IN} = 5.5 \text{ V}$ 1/	All		5.0	mA
current per gate		_				
Propagation delay time,	t _{PHL}	$C_L = 50 \text{ pF},$	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 _{PLH}	C _L = 50 pF,	01, 02,	3	27	ns
low-to-high level	1 511	$R_L = 390\Omega$	03, 04,	-		
J			05			
			06, 07,	3	35	ns
				•		
			08, 09			

 ^{1/} 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					

^{*}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.

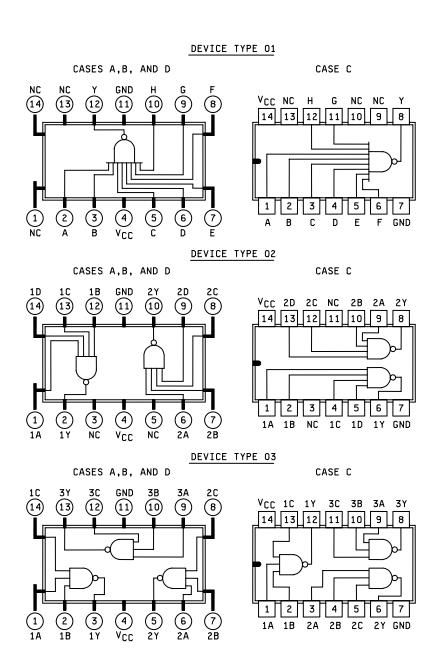
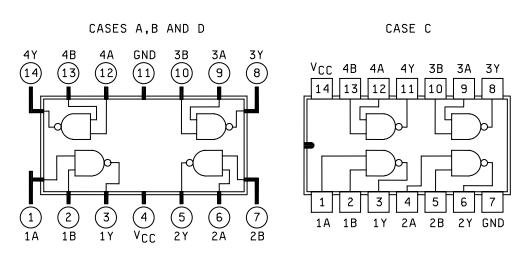


FIGURE 1. Terminal connections and logic diagrams.

DEVICE TYPE 04



DEVICE TYPES 05 AND 08

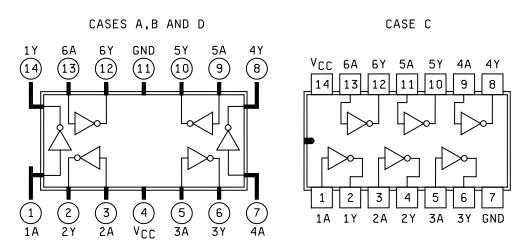
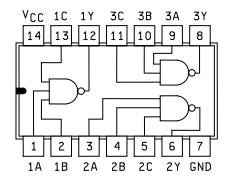


FIGURE 1. Terminal connections and logic diagrams - Continued.

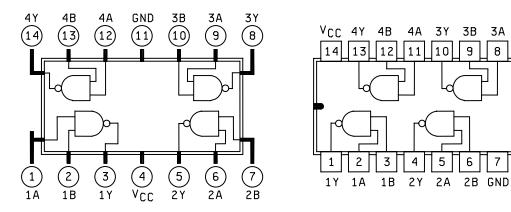
DEVICE TYPE 06 CASES A,B,C AND D



DEVICE TYPE 07

CASES A,B AND D

CASE C



DEVICE TYPE 09

CASE C

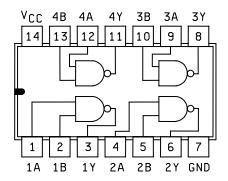


FIGURE 1. Terminal connections and logic diagrams - Continued.

Device type 01

	Truth table											
	Input Output											
Α	A B C D E F G H											
Н	Н	Η	Н	Н	Н	Н	Н	L				
	All other combinations of H and L											
			at the	inputs	give H o	output.						

Positive logic Y = ABCDEFGH

Device types 03 and 06

	T	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

	Truth table											
	Inp	out		Output								
Α	В	C	D	Υ								
L	L	L	L	Н								
Н	L	L	L	Н								
L	Η	L	L	Н								
Н	Η	L	L	Н								
L	L	Η	L	Н								
Н	L	Ι	L	Н								
L	Ι	Ι	L	Н								
Н	Н	Н	L	Н								
L	L	L	Н	Н								
Н	L	L	Η	Н								
L	Н	L	Н	Н								
Н	Η	L	Η	Н								
Ĺ	L	Η	Η	Н								
Н	L	Η	Η	Н								
L	Н	Н	Н	Н								
Н	Н	Н	Н	L								

Positive logic $Y = \overline{ABCD}$

Device types 04, 07, and 09

Truth table each gate								
Inp	out	Output						
Α	В	Υ						
L	L	Н						
Н	L	Н						
L	Н	Н						
Н	Ι	L						

Positive logic Y = AB

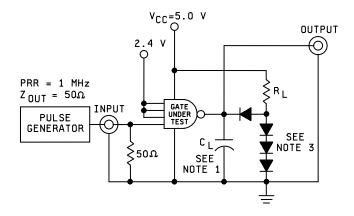
Device types 05 and 08

Truth table each gate									
Input	Input								
Α	Ý								
L	Н								
Н	L								

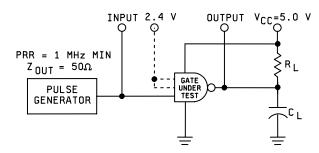
Positive logic Y = A

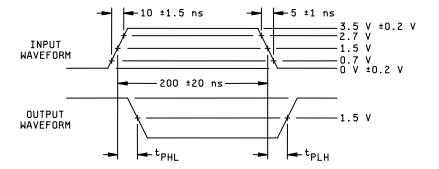
FIGURE 2. <u>Truth tables and logic equations</u>.

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.

						Tarmina					ction for			0.0.1/ 0.0	onon)		
r	ı	I. W. OTD	A D D	4							nay be hi					40	1 11
			Cases A, B, D	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Subgroup	Symbol	883	Case C	13	1	2	14	3	4	5	6	11	12	7	8	9	10
		method	Test no.	NC	Α	В	V _{cc}	С	D	E	F	G	Н	GND	Y	NC	NC
1	V _{OL}	3007	1		2.0 V	2.0 V	4.5 V	2.0 V	2.0 V	2.0 V	2.0 V	2.0 V	2.0 V	GND	16mA		
Tc = 25°C	V _{OH}	3006	2		0.8 V	5.5 V	4.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	GND	4mA		
			3		5.5 V	0.8 V		001/									
			4 5		,	5.5 V		0.8 V 5.5 V	0.8 V	,,	,,			,			
			6					3.5 V	5.5 V	0.8 V	"						
			7		"				0.0 1	5.5 V	0.8 V						
			8		"		"	"	"	"	5.5 V	0.8 V		"	"		
			9		"	"	"	"	"	"	"	5.5 V	0.8 V	"	"		
	Ios	3011	10		GND	GND	5.5 V	GND	GND	GND	GND	GND	GND	GND	GND		
	I _{IH1}	3010	11		2.4 V	GND	5.5 V	GND	GND	GND	GND	GND	GND	GND			
			12		GND	2.4 V				"							
			13			GND		2.4 V									
			14					GND	2.4 V GND	2.4 V							
			15 16						GND	GND	2.4 V						
			17		"				"	UND "	GND	2.4 V		"			
			18		"		"	"	"	"	"	GND	2.4 V	"			
	I _{IH2}	3010	19		5.5 V	GND	5.5 V	GND	GND	GND	GND	GND	GND	GND			
			20		GND	5.5 V	"	"	"	"	"	"	"	"			
			21		"	GND	"	5.5 V	"	"	"	"	"	"			
			22					GND	5.5 V								
			23						GND "	5.5 V	·						
			24 25							GND "	5.5 V GND	5.5 V					
			26		"				"	"	GIVD	GND	5.5 V	"			
	I _{IL}	3009	27		0.4 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	GND			
			28		5.5 V	0.4 V	"			"	"	"		"			
			29		"	5.5 V	"	0.4 V	"	"	"	"	"	"			
			30					5.5 V	0.4 V								
			31						5.5 V	0.4 V	0.41/						
			32 33		,					5.5 V	0.4 V	0.4 V		,			
			33 34						"	"	5.5 V	0.4 V 5.5 V	0.4 V				
	I _{CCL}	3005	35		5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	GND			<u> </u>
	I _{CCH}	3005	36		GND	GND	5.5 V	GND	GND	GND	GND	GND	GND	GND			
	V _{IC}		37		-12 mA		4.5 V							GND			t
			38			-12 mA								"			
			39				"	-12 mA						"			
	1	1	40						-12 mA								
			41							-12 mA	-12 mA						
			42 43								-12 mA	-12 mA					
			43 44									-12 IIIA	-12 mA				
2	Same test	s terminal	conditions and	limits as for	subaroun	1 except To	: = 125°C a	nd V _{Lo} tests	s are omitted	d			12 111/3				-
			conditions and														
9	t _{PHI}	3003	45		IN	2.4 V	5.0 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	GND	OUT		
Tc = 25°C	t _{PLH}	(Fig. 3)	46		"	"	"	"	"	"		"	"	"	"		
10	t _{PHL}	3003	47		IN	2.4 V	5.0 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	GND	OUT		
Tc = 125°C	t _{PLH}	(Fig. 3)	48		"		"	"	"	"		"	"	"			t
11			conditions and	limits as for	r subgroup	10, except	Tc = -55°C.					•					•
		,				,											

												device ty					
							al condition	ns (pins	not design	gnat <u>ed m</u>	ıay <u>be h</u> i	$gh \ge 2.0$					
			- Cases A, B, D		2	3	4	5	6	7	8	9	10	11	12	13	14
Subgroup	Symbol	883	Case C	1	6	3	14	11	9	10	12	13	8	7	2	4	5
ı'	1'	method	Test no.	1A	1Y	NC	V _{cc}	NC	2A	2B	2C	2D	2Y	GND	1B	1C	1D
1	V _{OL}	3007	1	2.0 V	16 mA		4.5 V	1 '	5.5 V	5.5 V	5.5 V	5.5 V		GND	2.0 V	2.0 V	2.0 V
Tc = 25°C	<u> </u>	<u>'</u>	2	5.5 V				 '	2.0 V	2.0 V	2.0 V	2.0 V	16 mA	" "	5.5 V	5.5 V	5.5 V
'	V _{OH}	3006	3	0.8 V	4 mA	1	4.5 V	1 '	5.5 V	5.5 V	5.5 V	5.5 V	1 '	GND "	5.5 V	5.5 V	5.5 V
'	1 '	1	4 5	5.5 V	"	1	"	1			1 . '		1 '	,,	0.8 V 5.5 V	0.8 V	
1	1 '	1	6	1 " 1	" !	1	"	1	[" I	1 " 1	1 "		1 '			5.5 V	0.8 V
'	1 '	1	7	1 " 1	1	1	"	1 '	0.8 V	1 " 1	1 "		4 mA	"	"		5.5 V
1 '	1 '	1	8	"	1	1	:	1 '	5.5 V	0.8 V	" '					:	"
1	1 '	1	9 10		1	1		1 '		5.5 V	0.8 V 5.5 V	0.8 V					
1	I _{os}	3011	10	GND	GND		5.5 V		+	$\overline{}$	5.5 v	U.5 v	+	GND	GND	GND	GND
1	'05	55	12	1 55	55	İ	3.5	1 '	GND	GND	GND	GND	GND	0	0	0	5,
1	I _{IH1}	3010	13	2.4 V			5.5 V	1	GND	GND	GND	GND	<u> </u>	GND	GND	GND	GND
1	1 '	1	14	GND	1	1		1 '	1 " 1	1 " 1	1 '		1 '	"	2.4 V		
1	1 '	1	15	1 " '	1	1	"	1 '	"	"	1 " '	" '	1 '	"	GND	2.4 V	" "
1	1 '	1	16 17	"	1	1	"	1 '	2.4 V	"			1 '	"		GND "	2.4 V GND
1	1 '	1	18	1 " 1	1	1		1 '	GND	2.4 V	- "		1 '	"			
1	1 '	1	19	1 " 1	1	1	"	1 '	"	GND	2.4 V		1 '	"	"		"
1	L'	'	20	<u>"</u>	<u> </u>	<u> </u>	"	'		"	GND	2.4 V	'	"	"	"	"
1	I _{IH2}	3010	21	5.5 V		1	5.5 V	ı '	GND	GND	GND	GND	ſ '	GND	GND	GND	GND
1	1 '	1	22 23	GND "	1	1	"	1 '		1	1 . '	; '	1 '	"	5.5 V GND	5.5 V	
1	1 '	1	23	1 "	1	1	"	1 '	1	1 "	1 . '		1 '	"	GIAD I	5.5 V GND	5.5 V
1	1 '	1	25	1 " 1	1	1	- 1	1 '	5.5 V	1 " 1			'	- "			GND
1	1	1	26	"	1	1	- 1	1 '	GND	5.5 V	"		'	"	"		
	1	1	27	["]	1	1	"	1 '		GND	5.5 V	" "	'			:	:
1	<u>'</u>	2200	28	1 11		4		 '		1 1/	GND	5.5 V	 '	OND.			
1	I _{IL}	3009	29 30	0.4 V 5.5 V	1	1	5.5 V	1 '	5.5 V	5.5 V	5.5 V	5.5 V	'	GND "	5.5 V 0.4 V	5.5 V	5.5 V
1	1 '	1	30	3.5 v	1	1		1 '	["]	f = 1	1 "		'	"	0.4 V 5.5 V	0.4 V	
1	1 '	1	32	1 " 1	1	1	- 1	1 '	"	1 " 1	1 " '		'	"		5.5 V	0.4 V
	1	1	33	1 " 1	1	1	" 1	1 '	0.4 V	1 " 1	1 " '		'	"			5.5 V
	1	1	34	"	1	1		1 '	5.5 V	0.4 V	" '		'				:
	1	1	35 36	"	1	1		1 '	"	5.5 V	0.4 V 5.5 V	0.4 V	'				
1	I _{CCL}	3005	36 37	5.5 V			5.5 V		5.5 V	5.5 V	5.5 V 5.5 V	0.4 V 5.5 V	+	GND	5.5 V	5.5 V	5.5 V
1	I _{CCH}	3005	38	GND	 		5.5 V	$\overline{}$	GND	GND	GND	GND	\vdash	GND	GND	GND	GND
1	V _{IC}		39	-12 mA			4.5 V					†	—	GND		† · · · ·	
1	1 '	1	40	1	1	1		1 '	1	1	1 '	1 '	1 '	"	-12 mA	'	1
1	1 '	1	41	1	1	1	"	1 '	1	1	1 '	1 '	1 '		1	-12 mA	12 77
1	1 '	1	42 43	1	1	1		1 '	-12 mA	1	1 '	1 '	1 '		1	,	-12 mA
1	1 '	1	43 44	1	1	1		1 '	-12 111/5	-12 mA	1 '	1 '	1 '	"	1	,	1
1	1 '	1	45	1	1	1	- 1	1 '	1	1 1	-12 mA	'	'	"	1	'	1
L'	<u></u> '	<u></u> '	46	L'	<u></u> '	L		L'		L'	L'	-12 mA	<u></u> '		L	<u> </u>	L
			al conditions and I														
3 9	Same test		l conditions and I	limits as for		i, except i		id V _{IC} tests	are omitteu	<u>i.</u>				CND	1 241/	7 2 4 \/	241/
9 Tc = 25°C	t _{PHL}	3003 (Fig. 3)	47 48	l IIN I	OUT	1	5.0 V	1 '	IN	2.4 V	2.4 V	2.4 V	OUT	GND "	2.4 V	2.4 V	2.4 V
10=200	t _{PLH}	(Fig. 3) 3003	48	IN	OUT		5.0 V		114	∠.₩ V	Z.+ v	Z.4 v	100,	GND	2.4 V	2.4 V	2.4 V
1	τ _{PLH}	(Fig. 3)	50	", 1	00.	1	5.0 V	1 '	IN	2.4 V	2.4 V	2.4 V	OUT	GND "	۷.٦٠	۷.٦٠	۷٠٠٠ .
10	t _{PHL}	3003	51	IN	OUT		5.0 V							GND	2.4 V	2.4 V	2.4 V
Tc = 125°C	t _{PHL}	(Fig. 3)	52			I	"	I'	IN	2.4 V	2.4 V	2.4 V	OUT	"			
1	t _{PLH}	3003	53	IN	OUT		5.0 V	· ·						GND	2.4 V	2.4 V	2.4 V
	t _{PLH}	(Fig. 3)	54	<u></u>	<u></u>	<u> </u>		'	IN	2.4 V	2.4 V	2.4 V	OUT		<u> </u>		<u> Ш</u>
11	Same tes	ts, termina،	al conditions and	limits as tor	r subgroup	10, except	Tc = -55°C.										

						Termina			III. <u>Group</u> s not desig					· 0.8. \/ or	r open)		
		TAUL OTD	- Cases A, B, D	1 I	2	1 erminal	al conditio	ons (pins	6 Tot design	ignated m	nay be nig	ign ≥ 2.0 \	V, IOW ≤	11 11	r open) 12	13	14
- 1 I																	
Subgroup	Symbol	883	Case C	1	2	12	14	6	3	4	5	9	10	7	11	8	13
'	⊥'	method	Test no.	1A	1B	1Y	V _{CC}	2Y	2A	2B	2C	3A	3B	GND	3C	3Y	1C
1	V_{OL}	3007	1	2.0 V	2.0 V	16 mA	4.5 V	10 4	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	GND	5.5 V	1	2.0 V
$Tc = 25^{\circ}C$	1 '	1 '	2	5.5 V	5.5 V	1		16 mA	2.0 V	2.0 V	2.0 V	201/	1 221/	"	201/	10 mA	5.5 V
i '	V _{OH}	3006	3 4	0.8 V	5.5 V	4 mA	4.5 V	+	5.5 V 5.5 V	5.5 V 5.5 V	5.5 V 5.5 V	2.0 V 5.5 V	2.0 V 5.5 V	GND	2.0 V 5.5 V	16 mA	5.5 V
i '	v _{OH}	3000	5	0.8 V 5.5 V	5.5 V 0.8 V	4 IIIA "	4.5 v	1	5.5 v	5.5 V	5.5 V	5.5 V	5.5 V	GIND "	5.5 v	1	5.5 v
1 '	1 '	1 '	6	3.5 1	5.5 V			1						"		1 '	0.8 V
1 '	1 '	1 '	7	1 " 1	" "	1	"	4 mA	0.8 V	"			1 " '	"	"	1	5.5 V
1 '	1 '	1 '	8	" "	1 " '	1	" "	" "	5.5 V	0.8 V	"		1 " '	" "	"	1 '	" "
1 '	1 '	1 '	9	1	1 " '	1	1 :	"		5.5 V	0.8 V	0.01/		"	"		1 : '
1	1 '	1 '	10 11	1		1	"	1			5.5 V	0.8 V	0.8 V			4 mA	
1	1 '	1 '	11 12	1	1 "	1		1				5.5 V	0.8 V 5.5 V		0.8 V		
1 '	I _{os}	3011	13	GND	GND	GND	5.5 V	+	+	+		$\overline{}$	J.5 +	GND	0.0 *	+	GND
1 '	.03	"	14	1	1	0	"	GND	GND	GND	GND	1	1 '	"	1 '	1 '	"
1	1'	1'	15	ı'	ı'	1′	"	1 <u> </u>				GND	GND	"	GND	GND	· '
1 '	I _{IH1}	3010	16	2.4 V	GND		5.5 V		GND	GND	GND	GND	GND	GND	GND		GND
1 '	1 '	1 '	17	GND	2.4 V	1	" "	1		"	1 " '	:		" "	" "	1	", "
1 '	1 '	1 '	18	1 1	GND "	1		1		" "	1 " '		1 " '	"	1 :	1	2.4 V
1 '	1 '	1 '	19 20	1	1 " '	1		1	2.4 V GND	2.4 V			1 . '			1	GND "
1 '	1 '	1 '	20 21	1		1		1	GIND "	GND	2.4 V					1 '	
1 '	1 '	1 '	22	j	1 " '	1		1	"	"	GND	2.4 V	1 "	"	"	1 '	
1 '	1 '	1 '	23	["]	1 " '	1	"	1	"	"		GND	2.4 V	"	"	1 '	"
1	'	'	24	<u> </u>	"	_L'	"	<u> </u>	"	"	"		GND	"	2.4 V	<u> </u>	
1	I _{IH2}	3010	25	5.5 V	GND		5.5 V		GND	GND	GND	GND	GND	GND	GND		GND
1 '	1 '	1 '	26	GND	5.5 V	1	1 : '	1	" '		1 " '		1 " '		"	1 '	//
1 '	1 '	1	27 28	[] [GND "	1		•	5.5 V	"	1 . '	:	1 . '			1	5.5 V GND
1 '	1 '	1	28 29	[[" '	1		•	5.5 V GND	5.5 V	1 "				"	1	GIAD.
1 '	1 '	1 '	30	[1 " '	1		1	"	GND	5.5 V		1 " '	"	"	1 '	
1 '	1 '	1 '	31	1 " 1	1 " '	1	"	1	"	"	GND	5.5 V	"	"	"	1	
1 '	1 '	1 '	32	"	"	1	" "	1	"	"		GND	5.5 V	"	" "	1 '	"
1 '	<u> </u>	<u>'</u>	33	<u> " </u>	<u> </u>	<u> </u>		<u> </u>	<u>"</u>	" 5.5.7	"	 '	GND		5.5 V		" - 1/
1 '	I _{IL}	3009	34	0.4 V	5.5 V	1		1	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	GND "	5.5 V	1	5.5 V
1 '	1 '	1 '	35 36	5.5 V	0.4 V 5.5 V	1	1 .	1						1 .		1 '	0.4 V
1 '	1 '	1 '	36 37	j	5.5 v	1		1	0.4 V							1 '	0.4 V 5.5 V
1 '	1 '	1 '	38	1 " 1	1 "	1		1	5.5 V	0.4 V	1 "	1	1 " '	"	"	1	3.5 .
1 '	1 '	1 '	39	1 " 1	1 " '	1	"	1	"	5.5 V	0.4 V		"	"	"	1 '	"
1 '	1 '	1 '	40	1 " 1	1 " '	1	1 "	1	" "	"	5.5 V	0.4 V	1 ""	"	"	1 '	"
1 '	1 '	1 '	41	1	"	1		1			1 " '	5.5 V	0.4 V		" "	1	1 "
1 '	<u> </u>	1 200E	42	- CND	CND	 '	- " - T - T - T - T - T - T - T - T - T		- CND		- CND	CND	5.5 V		0.4 V	+	CND
1	I _{CCH}	3005 3005	43 44	GND 5.5 V	GND 5.5 V	+	5.5 V 5.5 V	+	GND 5.5 V	GND 5.5 V	GND 5.5 V	GND 5.5 V	GND 5.5 V	GND GND	GND 5.5 V	+	GND 5.5 V
1 '	V _{I C}	3000	44	-12 mA	5.5 v	+	5.5 V 4.5 V	+	5.5 v	5.5 v	5.5 v	5.5 v	5.5 v	GND	5.5 v	+	0.0 v
1 '	VIC.	1 '	46	1 12.110.	-12mA	1	7.5 *	1	1 '	1	1	1	1 '	"	1 '	1 '	
1	1 '	1 '	47	1	1 '	1		1	1 '	1 '	1 '	1	1 '	"	1	1	-12 mA
1 '	1 '	1 '	48	1	1 '	1	" "	1	-12 mA	1 '	1	1	1 '	"	1 '	1 '	
1 '	1 '	1 '	49	1	1 '	1	1 :	1	1 '	-12 mA	1	1	1	"	1	1	
1 '	1 '	1 '	50 51	1	1 '	1		1	1 '	1	-12 mA	12 70	1 '	"	1 '	1 '	
1	1 '	1 '	51 52	1	1 '	1		1	1 '	1 '	1 '	-12 mA	-12 mA		1	1	
1 '	1 '	1 '	52 53	1	1 '	1		1	1 '	1	1	1	-121115		-12 mA	1 '	
2	Same tes	te termina'	al conditions and I	limits as fo	r subaroup	1 except T	c = 125°C /	and Vicites'	ts are omitte	-d					14 110 .		1
			al conditions and I														
	<u></u>	<u> </u>			<u> </u>	1,		10 110 11									

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

						Terrinia	Conditio	no (pino	HOL GESI	gnateu n	iay be iii	gii ≥ 2.0	v, 10w <u>></u>	0.0 V OI	open)		
		MIL-STD-	Cases A, B, D	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Subgroup	Symbol	883	Case C	1	2	12	14	6	3	4	5	9	10	7	11	8	13
		method	Test no.	1A	1B	1Y	V _{cc}	2Y	2A	2B	2C	3A	3B	GND	3C	3Y	1C
9	t _{PHL}	3003	54	IN	2.4 V	OUT	5.0 V							GND			2.4 V
Tc = 25°C		(Fig. 3)	55					OUT	IN	2.4 V	2.4 V			"			
		, ,	56				-					IN	2.4 V	"	2.4 V	OUT	
	t _{PI H}	3003	57	IN	2.4 V	OUT	5.0 V							GND			2.4 V
		(Fig. 3)	58					OUT	IN	2.4 V	2.4 V			"			
		()	59				-					IN	2.4 V	"	2.4 V	OUT	
10	t _{PHI}	3003	60	IN	2.4 V	OUT	5.0 V							GND			2.4 V
Tc = 125°C		(Fig. 3)	61					OUT	IN	2.4 V	2.4 V			"			
		() ,	62									IN	2.4 V	"	2.4 V	OUT	
	t _{PI H}	3003	63	IN	2.4 V	OUT	5.0 V							GND			2.4 V
		(Fig. 3)	64					OUT	IN	2.4 V	2.4 V			"			
		(3 - /	65									IN	2.4 V	"	2.4 V	OUT	
11	Same test	ts, terminal	conditions and	limits as fo	r subgroup	10, except	Гс = -55°С.										

						T						device ty		0.01/			
		I OTD				Termina										1 40	
<u> </u>			Cases A, B, D	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Subgroup	Symbol	883	Case C	1	2	3	14	6	4	5	8	9	10	7	12	13	11
		method	Test no.	1A	1B	1Y	V _{cc}	2Y	2A	2B	3Y	3A	3B	GND	4A	4B	4Y
1	V _{OL}	3007	1	2.0 V	2.0 V	16 mA	4.5 V		5.5 V	5.5 V		5.5 V	5.5 V	GND	5.5 V	5.5 V	
$Tc = 25^{\circ}C$			2	5.5 V	5.5 V			16 mA	2.0 V	2.0 V	40 4	001/	0.01/	"	"		
			3 4						5.5 V	5.5 V	16 mA	2.0 V 5.5 V	2.0 V 5.5 V		2.0 V	2.0 V	16 mA
	V _{OH}	3006		0.8 V	5.5 V	4 mA	4.5 V		5.5 V	5.5 V		5.5 V	5.5 V	GND	5.5 V	5.5 V	TOTILA
	• 011	0000	5 6	5.5 V	0.8 V	"			"	"				"	"		
			7	"	5.5 V			4 mA	0.8 V	"		:		"	"	"	
			8						5.5 V	0.8 V	١.,				"		
			9 10	,	,,					5.5 V	4 mA	0.8 V 5.5 V	0.8 V	,,	,,		
			11	"	"				"	"		3.5 V	5.5 V	"	0.8 V		4 mA
			12	"	"				"	"			0.0 *	"	5.5 V	0.8 V	1117 (
	Ios	3011	13	GND	GND	GND	5.5 V							GND	0.0		
			14					GND	GND	GND				"			
			15								GND	GND	GND		OND	OND	OND
	-	3010	16 17	2.4 V	GND		5.5 V		GND	GND		GND	GND	GND	GND GND	GND GND	GND
	I _{IH1}	3010	17	GND	2.4 V		5.5 V		GND "	GND "		GND	GND "	GND "	GND "	GND "	
			19	OND "	GND				2.4 V	"				"	"		
			20	"	"				GND	2.4 V				"	"		
			21	"	"				"	GND		2.4 V		"	"	"	
			22						"	"		GND	2.4 V		0.41/		
			23 24	"	"				"	"			GND "	"	2.4 V GND	2.4 V	
	I _{IH2}	3010	25	5.5 V	GND		5.5 V		GND	GND		GND	GND	GND	GND	GND	
			26	GND	5.5 V					"				"	"		
			27	"	GND				5.5 V	"		:		"	"		
			28 29	"	"				GND	5.5 V GND		5.5 V		"	"		
			30		"				"	GND "		GND	5.5 V		"		
			31	"	"				"	"			GND	"	5.5 V		
			32	"	"		"		"	"			"	"	GND	5.5 V	
	I _{IL}	3009	33	0.4 V	5.5 V		5.5 V		5.5 V	5.5 V		5.5 V	5.5 V	GND	5.5 V	5.5 V	
			34 35	5.5 V	0.4 V 5.5 V				0.4 V					,,	,,		
			36	"	3.3 V				5.5 V	0.4 V							
			37	"	"				"	5.5 V		0.4 V		"	"		
			38	"	"				"	"		5.5 V	0.4 V	"	"		
			39		"					"			5.5 V	"	0.4 V		
		3005	40 41	gnd	gnd		5.5 V		" GND	gnd		GND	gnd	GND	5.5 V GND	0.4 V GND	
	I _{CCH}	3005	42	5.5 V	5.5 V	1	5.5 V	1	5.5 V	5.5 V		5.5 V	5.5 V	GND	5.5 V	5.5 V	
	V _{I C}	5505	43	-12 mA	0.0 V		4.5 V		5.5 v	5.5 v		5.5 v	5.5 v	GND	0.0 V	0.0 V	
	•10		44		-12mA									"			
			45						-12 mA					"			
			46							-12 mA		40 1					
			47 48									-12 mA	-12 mA				
			48 49										-12 IIIA	"	-12 mA		
			50											"	12 111/4	-12 mA	
2	Same test	ts, terminal	conditions and	limits as for	subgroup	1, except To	= 125°C a	nd V _{IC} tests	s are omitte	d.	•	•	•	•	•	•	•
			conditions and														

TABLE III. Group A inspection for device type 04 - Continued. Terminal conditions (pins not designated may be high \geq 2.0 V, low \leq 0.8 V or open)

Subgroup Symbol 883																		
Method Test no. 1A 1B 1Y V _{CC} 2Y 2A 2B 3Y 3A 3B GND 4A 4B 4Y			MIL-STD-	Cases A, B, D	1	2	3	4	5	6	7	8	9	10	11	12	13	14
9 Tc = 25°C tpHL 3003 51 IN 2.4 V OUT S.0 V OUT IN 2.4 V OUT OU	Subgroup	Symbol	883	Case C	1	2	12	14	6	3	4	5	9	10	7	11	8	13
Tc = 25°C			method	Test no.	1A	1B	1Y	V _{cc}	2Y	2A	2B	3Y	3A	3B	GND	4A	4B	4Y
S S S S S S S S S S		t _{PHL}	3003		IN	2.4 V	OUT	5.0 V							GND			
To a 10 To a 1	Tc = 25°C		(Fig. 3)	52					OUT	IN	2.4 V				"			
tp_LH 3003 (Fig. 3) 55 (Fig. 3) IN 2.4 V OUT IN 2.4 V OUT IN 2.4 V OUT IN 2.4 V OUT IN 2.4 V GND " IN 2.4 V OUT I				53								OUT	IN	2.4 V	"			
Cont				54											"	IN	2.4 V	OUT
To = 125°C To =		t _{PLH}			IN	2.4 V	OUT	5.0 V							GND			
10 Tc = 125°C			(Fig. 3)						OUT	IN	2.4 V				"			
To = 125°C tpHL 3003 59 IN 2.4 V OUT 5.0 V OUT IN 2.4 V OUT												OUT	IN	2.4 V				
Tc = 125°C (Fig. 3) 60 61 81 82.4 V OUT IN 2.4 V OUT																IN	2.4 V	OUT
Continue		t _{PHL}			IN	2.4 V	OUT	5.0 V							GND			
Control Cont	Tc = 125°C		(Fig. 3)						OUT	IN	2.4 V				"			
t _{PLH} 3003 63 IN 2.4 V OUT 5.0 V OUT IN 2.4 V OUT												OUT	IN	2.4 V				
(Fig. 3) 64 65 " OUT IN 2.4 V OUT IN 2.4 V " IN 2.4 V OUT								-								IN	2.4 V	OUT
65 " OUT IN 2.4V " IN 2.4V OUT		t _{PLH}			IN	2.4 V	OUT	5.0 V							GND			
66 " IN 2.4V OUT			(Fig. 3)						OUT	IN	2.4 V				"			
												OUT	IN	2.4 V				
11 Same tests, terminal conditions and limits as for subgroup 10, except Tc = -55°C.				66											"	IN	2.4 V	OUT
	11	Same tes	ts, terminal	conditions and	limits as fo	r subgroup	10, except	Γc = -55°C.										

						Terminal	, conditic	ns (pins	not desir	gnated m	ay be hi	gh ≥ 2.0 '	V, low ≤	0.8 V or	open)		
		1	Cases A, B, D		2	3	4	5	6	7	8	9	10	11	12	13	14
Subgroup	Symbol	883	Case C	11	4	3	14	5	6	9	8	11	10	7	12	13	2
		method	Test no.	1A	2Y	2A	V _{cc}	3A	3Y	4A	4Y	5A	5Y	GND	6Y	6Y	6A
1 Tc = 25°C	V _{OL}	3007	1 2	2.0 V 5.5 V	16 mA	5.5 V 2.0 V	4.5 V	5.5 V	1	5.5 V	1	5.5 V		GND		5.5 V	16mA
10 = 25°C		1	3	5.5 V	I TO IIIA	5.5 V		2.0 V	16mA	"	1 '		1 '				Ĭ
		1	4		, '		"	5.5 V	1	2.0 V	16mA	"	1 '	"			Ĭ
		1	5	:	, '	"	"	1 " !	1 '	5.5 V	1 '	2.0 V	16mA	"			Ĭ
	.,,	2222	6				"	"	 '	- "	├ ——'	5.5 V	 '		16mA	2.0 V	
	V _{OH}	3006	7 8	0.8 V 5.5 V	4 mA	5.5 V 0.8 V	4.5 V	5.5 V	1 '	5.5 V	1 '	5.5 V	1 '	GND "		5.5 V	4mA
		1	9	5.5 V	4 MA	5.5 V		0.8 V	4 mA		1 '		1 '				Ĭ
		1	10		, '	0.5 1		5.5 V	1	0.8 V	4 mA		1 '	"			Ĭ
		1	11		, '		" "		1 '	5.5 V	1 '''''''	0.8 V	4 mA	"			Ĭ
			12		'	"	"	"	'	1 " '	 '	5.5 V	⊥'	"	4 mA	0.8 V	
	Ios	3011	13	GND		1 '	5.5 V	1	1 '	1 '	1 '	1 '	1 '	GND		'	GND
		1	14 15	1 ,	GND	GND		GND	GND	1 '	1 '	1 '	1 '			1	Ĭ
		, ,	16	1 ,	, '	1 '		GND	I GIND I	GND	GND	1 '	1 '			1	Ĭ
		1	17	1 ,	, '	1 '		1 '	1 '	1	1	GND	GND	"		1	Ĭ
[ı	18	1!	·'	1'	"	1'	1'	1!	1'		1'	"	GND	GND	l
	I _{IH1}	3010	19	2.4 V	,,	GND	5.5 V	GND	,	GND		GND		GND		GND	
		1 1	20	GND	, ,	2.4 V		1!	1		1 '		1 '	"			
		1 1	21 22	"	, ,	GND		2.4 V	1 '		1	"	1 '	"			
		1 1	22		, ,			GND "	1	2.4 GND	1 '	2.4 V	1 '				
		1 1	23 24	1	, ,				1 '	שווט "	1	GND	1 '			2.4 V	
Ī	I _{IH2}	3010	25	5.5 V	,	GND	5.5 V	GND		GND		GND		GND	†	GND	
		1	26	GND	, ,	5.5 V			1	"	1 '		1 '	"			
		1 1	27	1 1	, ,	GND		5.5 V	1	"	1 '		1 '	"			
		1 1	28		, ,	:		GND "	1	5.5 V	1 '		1 '				
		1	29 30	:	, ,				1 '	GND "	1 '	5.5 V GND	1 '	"		5.5 V	Ĭ
H	I _{IL}	3009	31	0.4 V		5.5 V	5.5 V	5.5 V	$\overline{}$	5.5 V	 '	5.5 V	+'	GND	+	5.5 V	├──
	'IL	3003	32	5.5 V	, ,	0.4 V	J.J V	3.5 v	1	3.5 V	1 '	3.5 v	1 '	"		3.5 v	
		1 1	33	1 " 1	, ,	5.5 V	"	0.4 V	1	"	1 '	"	1 '	"			
		1 1	34	"	, ,		"	5.5 V	1 '	0.4 V	1	"	1 '	"			
		1 1	35	".	, ,			:	1	5.5 V	1 '	0.4 V	1 '	"			
ŀ		0005	36	 "	'	"			 '	 " -	└─	5.5 V	 '		↓	0.4 V	↓
ŀ	I _{CCL}	3005 3005	37 38	5.5 V GND		5.5 V GND	5.5 V 5.5 V	5.5 V GND	 '	5.5 V GND	 '	5.5 V GND	 '	GND GND	 	5.5 V GND	├ ──
ŀ	I _{CCH} V _{I C}	3005	38	-12 mA	'	GND	5.5 V 4.5 V	GND	 '	GIND	 '	GND	+'	GND	 	GND	₩
	VIC	1 1	39 40	-12 IIIA	, ,	-12 mA	4.5 V	1	1	1	1 '	1 '	1 '	"		'	1
		1 1	41	1	, ,	1 1		-12 mA	1	1	1 '	1 '	1 '	"		'	1
		1 1	42	1	, ,	1	1 " '	'	1	-12 mA	1 '	1 '	1 '	"		'	1
		1 1	43	1	, ,	1	1 " '	1	1	1	1 '	-12 mA	1 '	"		'	1
2		لــــــا	44	<u> </u>	'	'	<u> </u>	<u> </u>	s are omitted	'	'	'	'	"		-12 mA	

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)

										Υ							
		MIL-STD-	Cases A, B, D	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Subgroup	Symbol	883	Case C	1	2	12	14	6	3	4	5	9	10	7	11	8	13
		method	Test no.	1A	1B	1Y	V _{cc}	2Y	2A	2B	3Y	3A	3B	GND	4A	4B	4Y
9	t _{PHL}	3003	45	IN			5.0 V							GND			OUT
Tc = 25°C		(Fig. 3)	46		OUT	IN								"			
		, ,	47					IN	OUT					"			
			48							IN	OUT			"			
			49									IN	OUT	"			
			50				"							"	OUT	IN	
	t _{PLH}	3003	51	IN			5.0 V							GND			OUT
		(Fig. 3)	52 53		OUT	IN								"			
								IN	OUT					"			
			54							IN	OUT			"			
			55 56				"					IN	OUT				
							"								OUT	IN	
10	t _{PHL}	3003	57	IN			5.0 V							GND			OUT
Tc = 125°C		(Fig. 3)	58		OUT	IN								. "			
			59				"	IN	OUT					"			
			60							IN	OUT			"			
			61									IN	OUT		a		
			62												OUT	IN	
	t _{PLH}	3003	63	IN	a		5.0 V	İ		İ	İ			GND	İ		OUT
		(Fig. 3)	64		OUT	IN		l	O								
			65					IN	OUT	l	O. I.T.						
		1	66							IN	OUT		OUT				
			67 68									IN	OUT	"	OUT		
44		<u> </u>				40 41									OUT	IN	
11	Same tes	its. terminal	conditions and	limits as fo	r subaroup	10. except	IC = -55°C.										

TABLE III. Group A inspection for device type 06.

									III. <u>Group</u>					1	,		,
						Termina'	I conditic	ns (pins)	not desir	gnated m	iay be hi	gh ≥ 2.0	V, low ≤	0.8 V or	open)		'
,		MIL-STD-		<u> </u>	Ţ '	Ţ '	ſ .	ſ .	ſ '	· ['	Ţ '	('	ſ <u></u>		Ţ '		<u> </u>
Subgroup	Symbol	883	C, and D	1	2	12	14	6	3	4	5	9	10	7	11	8	13
· '	1'	method	Test no.	1A	1B	1Y	V _{CC}	2Y	2A	2B	2C	3A	3B	GND	3C	3Y	1C
1	V _{OL}	3007	1	2.0 V	2.0 V	16 mA	4.5 V	<u> </u>	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	GND	5.5 V		2.0 V
Tc = 25°C	1	1	2	5.5 V	5.5 V	1 '		16 mA	2.0 V	2.0 V	2.0 V				"	1	5.5 V
í '	<u> </u>	 '	3	- "		'		 '	5.5 V	5.5 V	5.5 V	2.0 V	2.0 V		2.0 V	16 mA	- "
í '	I _{CEX}	1 '	4 5	0.8 V 5.5 V	5.5 V 0.8 V	5.5 V	4.5 V	1	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	GND "	5.5 V	1	5.5 V
,	1	1 '	6	5.5 v	0.8 V 5.5 V	"		1		"	"	1 "		"		1	0.8 V
i '	1	1	7	"	"	1 '	" "	5.5 V	0.8 V	1 "	"	1 "	- "	"	" "	1	5.5 V
1	,	1	8	"	1 " '	1			5.5 V	0.8 V	" '		1	" "	" '	1	"
1 '	1	1 '	9	"	1 " '	1	1	" '	" '	5.5 V	0.8 V		1 . '	" '	"	1/	"
1 '	1	1	10 11	"	"	1 '		1			5.5 V	0.8 V 5.5 V	0.8 V		"	5.5 V	
1	1 _ '	1 _'	12	I " _ '	"	1 _ '	"_"	_ '	" '	"		J.J.	5.5 V	" _ '	0.8 V	'	"
1	V _{IC}	, T	13	-12 mA		,	4.5 V		, ·					GND			
1	1	1	14	1 '	-12 mA	1	1	1	'	1 '	1 '	1	1	" '	1	1	
1	1	1	15 16	1 '	1	1] [1	12 mA	1 '	1 '	1	1	" '	1	1	-12 mA
1	1	1 '	16 17	1	1	1		1	-12 mA	-12 mA	1	1	1		1	1	1
1	1 '	1 '	18	1 '	1 '	1 '		1	1 '	1	-12 mA	1	1	" "	1	1	
1	1 '	1 '	19	1 '	1	1	1 "	1	1 '	1 '	1 '	-12 mA	1 '	" '	1	1	1
1	1 '	1 '	20	1 '	1 '	1 '	1 : '	1	1 '	1 '	1 '	1	-12 mA	" "	12 mA	1	
1	<u> </u>	3010	21 22	2.4 V	GND	+'	5.5 V		GND	GND	GND	GND	GND	GND	-12 mA GND		GND
1	I _{IH1}	3010	22	GND	2.4 V	1	5.5 v	1	GIND "	GIND "	GIND "	" GIND	" "	" GIND	GIND "	1	" GIND
1	1	'	24	"	GND	1 '		'	. '	1 "	1 "	1 "		"	"	1	2.4 V
1	1	1	20	"	_ " I	1 '	" "	1	2.4 V	1 " '			" "	"	" "	1	GND
1	1	1	26	1 "	1 "	1	" "	1	GND	2.4 V	"			" '	1 "	1	
1	1	1	27 28	1 "	1 . '	1] ['	1	" '	GND "	2.4 V GND	2.4 V		" '	1 . '	1	
1	1	1	28 29	"		1 '		1		"		2.4 V GND	2.4 V			1	
1	1 _ '	1 _'	30	I " '	"	1 _ '	""	1 _ '	" '	1 "'			GND	" '	2.4 V	1 '	"
1	I _{IH2}	3010	31	5.5 V	GND		5.5 V		GND	GND	GND	GND	GND	GND	GND		GND
1	1	1	32	GND	5.5 V	1	1	1	" '	1 "	1 "	1	1	" '	1 "	1	" "
1	1	1	33 34	1 " '	GND "	1] [1	" '	1 " '			1 . '	" '	1 : '	1	5.5 V
1	1	1 '	34 35	"	1	1		1	5.5 V GND	5.5 V						1	GND "
1	1	'	36	1 "	1 "	1 '		'	"	GND	5.5 V			"	- "	1	
1	1	1	37	" "	1 "	1		1	" "	1 "	GND	5.5 V	1 " '	" '	" "	1	"
1	1	1	38	1 " '	"	1	" '	1	" '	1 " '	1 ; '	GND "	5.5 V	" '	" "	1	1 "
1	IIL	3009	39 40	0.4 V	5.5 V	+	5.5 V	+	5.5 V	5.5 V	5.5 V	5.5 V	GND 5.5 V	GND	5.5 V 5.5 V	+	5.5 V
1	"L '	3000	40	0.4 V 5.5 V	5.5 V 0.4 V	1 '	J.J v	1	J.J v	"	"			" "	ا ا	1	5.5 *
1	1	1	42	"	5.5 V	1	" "	1		"		"		" '	" "	1	0.4 V
1	1	1 '	43	"	1 " '	1	1	1	0.4 V	1 ".,			:	" "	1 : '	1	5.5 V
1	1	1	44 45	1 " '	1 " '	1 '	1 : '	1	5.5 V	0.4 V 5.5 V	0.4 V	1 .		" '	1 . '	1	
1	1	1	45 46	"	1	1 '		1		5.5 v	0.4 V 5.5 V	0.4 V				1	
1	1	1 '	47	"	"	1	" "	1	"	1 "		5.5 V	0.4 V	"	" "	1	"
1	L'	1'	48		"	L'	1	<u></u> '	"	"	"		5.5 V	"	0.4 V	<u></u>	1 "
1	I _{CCL}	3005	49	5.5 V	5.5 V		5.5 V		5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	GND	5.5 V		5.5 V
<u> </u>	I _{CCH}	3005	50	GND	GND	<u> </u>	5.5 V	1 '''	GND	GND	GND	GND	GND	GND	GND	Щ.	GND
3			l conditions and														
	Same les	.S, termina	l conditions and	limits as ioi	Subgroup	i, except ic	J = -55° ∪ ai	id v _{IC} lesis	are omineo	24							

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)

		MIL-STD-	Cases A, B,														
Subgroup	Symbol	883	C, and D	1	2	12	14	6	3	4	5	9	10	7	11	8	13
		method	Test no.	1A	1B	1Y	V _{cc}	2Y	2A	2B	2C	3A	3B	GND	3C	3Y	1C
9	t _{PHL}	3003	51	IN	2.4 V	OUT	5.0 V							GND			2.4 V
Tc = 25°C		(Fig. 3)	52					OUT	IN	2.4 V	2.4 V			"			
			53									IN	2.4 V	"	2.4 V	OUT	
	t _{PLH}	3003	54	IN	2.4 V	OUT	5.0 V							GND			2.4 V
		(Fig. 3)	55					OUT	IN	2.4 V	2.4 V			"			
			56									IN	2.4 V	"	2.4 V	OUT	
10	t _{PHL}	3003	57	IN	2.4 V	OUT	5.0 V							GND			2.4 V
Tc = 125°C		(Fig. 3)	58					OUT	IN	2.4 V	2.4 V			"			
			59									IN	2.4 V	"	2.4 V	OUT	
	t _{PLH}	3003	60	IN	2.4 V	OUT	5.0 V							GND			2.4 V
		(Fig. 3)	61					OUT	IN	2.4 V	2.4 V			"			
			62									IN	2.4 V	"	2.4 V	OUT	
11	Same test	s, terminal	conditions and	limits as for	r subgroup	10, except ⁻	Гс = -55°С.										

Subgroup Symbol 1 Tc = 25°C		Cases A, B, D Case C Test no.	1 2	2	Terminal 3		ns (pins	not desi	gnated m	iav be hi	gh ≥ 2.0	V, low ≤	0.8 V or	open)		
1 V _{OL}	883 method	Case C	2	2	1 3		_		· -							
1 V _{OL}	method		2	•		14	5	6	7	8	9	10	11	12	13	14
		rest no.	1A	3 1B	1 1Y		4 2Y	5 2A	6 2B	10 3Y	8	9	7 GND	11	12	13 4Y
	3007					V _{CC}	ZY			3Y	3A	3B	-	4A	4B	4 Y
10 - 23 0		1 2	2.0 V 5.5 V	2.0 V 5.5 V	16 mA	4.5 V	16 mA	5.5 V 2.0 V	5.5 V 2.0 V		5.5 V	5.5 V	GND "	5.5 V	5.5 V	
		3	3.5 V	3.5 V			101117	5.5 V	5.5 V	16 mA	2.0 V	2.0 V	"	"		
		4						"	"	_	5.5 V	5.5 V		2.0 V	2.0 V	16 mA
I _{CEX}		5	0.8 V	4.5 V	5.5 V	4.5 V		5.5 V	5.5 V		5.5 V	5.5 V	GND	5.5 V	5.5 V	
		6 7	4.5 V	0.8 V	"		· ·	0.01/	451/							
		8	5.5 V	5.5 V			5.5 V	0.8 V 4.5 V	4.5 V 0.8 V				,	"		
		9	"	"				5.5 V	5.5 V	5.5 V	0.8 V	4.5 V		"		
		10	"	"		"		"	"		4.5 V	0.8 V	"	"	"	
		11									5.5 V	5.5 V		0.8 V	4.5 V	5.5 V
I _{IH1}	3010	12 13	2.4 V	GND		5.5 V		GND	GND		GND	GND	GND	4.5 V GND	0.8 V GND	-
'IH1	3010	14	GND	2.4 V		J.J V		"	"		GIND "	GIVD "	"	"	"	
		15	"	GND				2.4 V	"				"	"		
		16	"					GND	2.4 V				"	"		
		17							GND "		2.4 V					
		18 19	"	"				"	"		GND "	2.4 V GND	"	2.4 V		
		20	"	"				"	"			"	"	GND	2.4 V	
I _{IH2}	3010	21	5.5 V	GND		5.5 V		GND	GND		GND	GND	GND	GND	GND	
		22	GND	5.5 V												
		23 24		GND "				5.5 V GND	5.5 V							
		25 25	"	"				GND "	GND		5.5 V		"	"		
		26	"	"				"	"		GND	5.5 V	"	"		
		27						"	"			GND		5.5 V	_ "	
<u> </u>	3009	28 29	0.4 V	5.5 V		5.5 V		5.5 V	5.5 V		5.5 V	5.5 V	GND	GND 5.5 V	5.5 V 5.5 V	
IIL	3009	30	5.5 V	0.4 V		5.5 V		5.5 V	5.5 V		5.5 V	5.5 V	GND	5.5 V	5.5 V	
		31	"	5.5 V				0.4 V	"				"	"		
		32	"	"				5.5 V	0.4 V				"	"		
		33 34							5.5 V		0.4 V 5.5 V	0.4 V				
		3 4 35		"				"			5.5 V	5.5 V		0.4 V		
		36	"	"				"	"			"	"	5.5 V	0.4 V	
I _{CCL}	3005	37	5.5 V	5.5 V		5.5 V		5.5 V	5.5 V		5.5 V	5.5 V	GND	5.5 V	5.5 V	
I _{CCH}	3005	38	GND	GND		5.5 V		GND	GND		GND	GND	GND	GND	GND	
V _{IC}		39 40	-12mA	-12mA		4.5 V							GND "			
		40 41		-12IIIA				-12mA					"			
		42				"		1	-12mA				"			
		43									-12mA					
		44 45										-12mA		-12mA		
		45 46												-12IIIA	-12mA	
2 Same te	sts, terminal	conditions and	limits as for	subgroup	1, except To	= 125°C a	nd V _{IC} tests	s are omitte	d.	l .			l .	1		
		conditions and														

TABLE III. Group A inspection for device type 07 - Continued. Terminal conditions (pins not designated may be high \geq 2.0 V, low \leq 0.8 V or open)

						1 OIIIIIII	Corraido	no (pino	not acon	gnatoan	iay bo iii	9.1 = 2.0	v, 10 11 =	0.0 1 0.	000117		
		MIL-STD-	Cases A, B, D	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Subgroup	Symbol	883	Case C	2	3	1	14	4	5	6	10	8	9	7	11	12	13
		method	Test no.	1A	1B	1Y	V _{CC}	2Y	2A	2B	3Y	3A	3B	GND	4A	4B	4Y
9	t _{PHL}	3003	47	IN	2.4 V	OUT	5.0 V							GND			
Tc = 25°C		(Fig. 3)	48					OUT	IN	2.4 V				"			
			49								OUT	IN	2.4 V	"			
			50												IN	2.4 V	OUT
	t _{PLH}	3003	51	IN	2.4 V	OUT	5.0 V							GND			
		(Fig. 3)	52					OUT	IN	2.4 V				"			
			53								OUT	IN	2.4 V	"			
			54												IN	2.4 V	OUT
10	t _{PHL}	3003	55	IN	2.4 V	OUT	5.0 V							GND			
Tc = 125°C		(Fig. 3)	56					OUT	IN	2.4 V				"			
			57								OUT	IN	2.4 V	"			
			58												IN	2.4 V	OUT
	t _{PLH}	3003	59	IN	2.4 V	OUT	5.0 V							GND			
		(Fig. 3)	60					OUT	IN	2.4 V				"			
		. , ,	61								OUT	IN	2.4 V	"			
			62												IN	2.4 V	OUT
11	Same test	ts, terminal	conditions and	limits as fo	r subgroup	10, except	Γc = -55°C.		·	·			·			·	

11__

GND GND

13

0.4 V 5.5 V GND

14

Subgroup	Symbol	883	Case C	1	4	3	14	5	6	9	8	11	10	7	12	13	2
		method	Test no.	1A	2Y	2A	V _{cc}	3A	3Y	4A	4Y	5A	5Y	GND	6Y	6A	1Y
1	V _{OL}	3007	1	2.0 V		5.5 V	4.5 V	5.5 V		5.5 V		5.5 V		GND		5.5 V	16 mA
Tc = 25°C			2	5.5 V	16 mA	2.0 V				"		"		"		"	
			3	"		5.5 V	"	2.0 V	16 mA	"		"		"		"	
			4					5.5 V		2.0 V	16 mA			"			
			5							5.5 V		2.0 V	16 mA				
			6									5.5 V			16 mA	2.0 V	
	I _{CEX}		7	0.8 V		5.5 V	4.5 V	5.5 V		5.5 V		5.5 V		GND		5.5 V	5.5 V
			8	5.5 V	5.5 V	0.8 V				"							
			9			5.5 V		0.8 V	5.5 V								
			10					5.5 V		0.8 V	5.5 V						
			11							5.5 V		0.8 V	5.5 V				
			12									5.5 V			5.5 V	0.8 V	
	V _{IC}		13 14	-12mA		4.0mm A	4.5 V							GND "			
			15			-12mA		-12mA									
			16					-1211IA		-12mA							
			17							-12111A		-12mA					
			18									-121174		"		-12mA	
	I _{IH1}	3010	19	2.4 V		GND	5.5 V	GND		GND		GND		GND		GND	
			20	GND		2.4 V				"				"			
			21	"		GND		2.4 V		"				"			
			22	"				GND		2.4 V				"			
			23	"						GND		2.4 V		"			
			24	"		"				"		GND		"		2.4 V	
	I _{IH2}	3010	25	5.5 V		GND	5.5 V	GND		GND		GND		GND		GND	
			26	GND		5.5 V				"				"			
			27	"		GND		5.5 V		"				"			
			28	"				GND		5.5 V		"		"			
			29	"						GND		5.5 V		"			
			30	"		"	"			"		GND		"		5.5 V	
	I _{IL}	3009	31	0.4 V		5.5 V	5.5 V	5.5 V		5.5 V		5.5 V		"		5.5 V	
			32	5.5 V		0.4 V		. "		"	ĺ		ĺ				
			33	"		5.5 V		0.4 V						"			
			34	"				5.5 V		0.4 V				"			
			35							5.5 V	ĺ	0.4 V	İ				
	1	2005	36	5.5.V		5.5.V	5.5.V	5.5.V		5.5.1/		5.5 V		GND	1	0.4 V	

5.5 V GND

37

Iccl

MIL-STD- Cases A, B, D

TABLE III. Group A inspection for device type 08 - Continued. Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V or open)

							Oomand		not acon			911 = 2.0			opon,		
		MIL-STD-	Cases A, B, D	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Subgroup	Symbol	883	Case C	1	4	3	14	5	6	9	8	11	10	7	12	13	2
		method	Test no.	1A	2Y	2A	V _{cc}	3A	3Y	4A	4Y	5A	5Y	GND	6Y	6A	1Y
9	t _{PHL}	3003	39	IN			5.0 V							GND			OUT
$Tc = 25^{\circ}C$		(Fig. 3)	40		OUT	IN								"			
			41					IN	OUT					"			
			42							IN	OUT			"			
			43									IN	OUT	"			
			44											"	OUT	IN	
	t _{PLH}	3003	45	IN			5.0 V							GND			OUT
		(Fig. 3)	46		OUT	IN								"			
			47					IN	OUT					"			
			48							IN	OUT			"			
			49									IN	OUT				
			50												OUT	IN	
10	t _{PHL}	3003	51	IN			5.0 V							GND			OUT
Tc = 125°C		(Fig. 3)	52		OUT	IN											
			53					IN	OUT								
			54							IN	OUT		~				
			55									IN	OUT		OUT		
			56												OUT	IN	
	t _{PLH}	3003	57	IN	01.17		5.0 V							GND			OUT
		(Fig. 3)	58		OUT	IN			OUT.								
			59 60				ı î	IN	OUT	l INI	OUT						
										IN	OUT	INI	OUT				
			61 62									IN	OUT		OUT	IN	
44	0			11:		10	I		l	l		l			001	IIN	l .
11	Same tes	ts, terminai	conditions and	limits as fo	r subgroup	iu, except	1 C = -55°C.										

TABLE III. Group A inspection for device type 09.

						Termina	l conditio	ns (pins	not design	gnated m	nay be hi	gh ≥ 2.0	V, low ≤	0.8 V or	open)		
		MIL-STD-	Case C	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Subgroup	Symbol	883]
	-,	method	Test no.	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	V _{cc}
1	V _{OL}	3007	1	2.0 V	2.0 V	16 mA	5.5 V	5.5 V		GND	01	5.5 V	5.5 V	71	5.5 V	5.5 V	4.5 V
Tc = 25°C	VOL	3007	2	2.0 V 5.5 V	2.0 V 5.5 V	10 IIIA	5.5 V 2.0 V	5.5 V 2.0 V	16 mA	GND "		5.5 V	5.5 V		5.5 V	0.5 V	4.5 V
16 - 25 6			3	3.5 v	3.3 V		5.5 V	5.5 V	10 1117	"	16 mA	2.0 V	2.0 V				
			4		"		0.0 V	0.0 1		"	101117	5.5 V	5.5 V	16 mA	2.0 V	2.0 V	
	I _{CEX}		5	0.8 V	4.5 V	5.5 V	5.5 V	5.5 V		GND		5.5 V	5.5 V		5.5 V	5.5 V	4.5 V
	OLA.		6	4.5 V	0.8 V	"				"					"		
			7	5.5 V	5.5 V		0.8 V	4.5 V	5.5 V						"		
			8	"	"		4.5 V	0.8 V	"	"		"	"		"	"	"
			9				5.5 V	5.5 V		"	5.5 V	0.8 V	4.5 V				
			10									4.5 V	0.8 V	5 5 V	0.01/	451/	
			11 12									5.5 V	5.5 V	5.5 V	0.8 V	4.5 V	
	V _{IC}		13	-12mA						GND					4.5 V	0.8 V	4.5 V
	VIC		14	-12111/4	-12mA					GIND "							4.5 V
			15		-12111/4		-12mA			"							
			16				.=	-12mA		"							
			17							"		-12mA					
			18							"			-12mA				
			19							"					-12mA	40. 4	
		0040	20	0.41/	GND		OND	OND				GND	OND		GND	-12mA GND	551/
	I _{IH1}	3010	21 22	2.4 V GND	2.4 V		GND "	GND "		GND "		GND	GND		GND "	GND	5.5 V
			23	GND	GND		2.4 V			"					"		
			24		UND "		GND	2.4 V		"					"		
			25		"		"	GND		"		2.4 V			"		
			26		"					"		GND	2.4 V		"		
			27	"	"		"			"		"	GND		2.4 V		
			28	"	"		"	"		"		"	"		GND	2.4 V	"
	I _{IH2}	3010	29	5.5 V	GND		GND	GND		GND		GND	GND		GND	GND	5.5 V
			30	GND	5.5 V												
			31 32		GND "		5.5 V GND	5.5 V									
			33		"		GIND "	GND		"		5.5 V					
			34		"			UIVD		"		GND	5.5 V		"		
			35	"	"		"	"		"			GND		5.5 V		
			36		"					"			"		GND	5.5 V	
	IL	3009	37	0.4 V	5.5 V		5.5 V	5.5 V		GND		5.5 V	5.5 V		5.5 V	5.5 V	5.5 V
			38	5.5 V	0.4 V		"			"		"			"	"	
			39		5.5 V		0.4 V										
			40				5.5 V	0.4 V									
			41 42					5.5 V		"		0.4 V 5.5 V	0.4 V				
			43		"					"		3.5 V	5.5 V		0.4 V		
			44	"	"					"			3.5 v		5.5 V	0.4 V	
	I _{CCL}	3005	45	5.5 V	5.5 V		5.5 V	5.5 V		GND		5.5 V	5.5 V		5.5 V	5.5 V	5.5 V
	Icch	3005	46	GND	GND		GND	GND		GND		GND	GND		GND	GND	5.5 V
2			conditions and			1, except To			are omitte		•				-		
3			conditions and														
		. ,		2.5 10	g sp	,											

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)

GND "

OUT

IN

2.4 V

OUT

IN

2.4 V

OUT

5.0 V

MIL-STD-Case C 13 14 2 3 10 11 Subgroup Symbol 883 method Test no. 1A 1B 1Y 2A 2B GND 3Y ЗА ЗВ 4Y 4B V_{CC} 47 48 GND 3003 IN 2.4 V OUT 5.0 V t_{PHL} Tc = 25°C (Fig. 3) IN 2.4 V OUT OUT 49 IN 2.4 V 50 51 52 53 54 OUT IN 2.4 V GND " 3003 IN 2.4 V OUT 5.0 V t_{PLH} (Fig. 3) IN 2.4 V OUT OUT IN 2.4 V OUT IN 3003 (Fig. 3) 55 56 57 58 10 Tc = 125°C IN 2.4 V OUT GND " 5.0 V t_{PHL} IN 2.4 V OUT OUT IN 2.4 V OUT IN 2.4 V

2.4 V

61 62

11 Same tests, terminal conditions and limits as for subgroup 10, except Tc = -55°C.

IN

2.4 V

OUT

59 60

3003 (Fig. 3)

t_{PLH}

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 _{IN}	Voltage level at an input terminal
V _{IC}	
I _{IN}	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 http://assist.daps.dla.mil.

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NLV17SZ126DFT2G NLV27WZ17DFT2G NLV74HC02ADR2G NLV74HC08ADR2G NLVVHC1GT32DFT1G 74HC32S14-13 74LS133
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