

PART NUMBER

5401BCA-ROC

Rochester Electronics Manufactured Components

Rochester branded components are manufactured using either die/wafers purchased from the original suppliers or Rochester wafers recreated from the original IP. All re-creations are done with the approval of the Original Component Manufacturer. (OCM)

Parts are tested using original factory test programs or Rochester developed test solutions to guarantee product meets or exceeds the OCM data sheet.

Quality Overview

- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-38535
 - Class Q Military
 - Class V Space Level

Qualified Suppliers List of Distributors (QSLD)

• Rochester is a critical supplier to DLA and meets all industry and DLA standards.

Rochester Electronics, LLC is committed to supplying products that satisfy customer expectations for quality and are equal to those originally supplied by industry manufacturers.

The original manufacturer's datasheet accompanying this document reflects the performance and specifications of the Rochester manufactured version of this device. Rochester Electronics guarantees the performance of its semiconductor products to the original OCM specifications. 'Typical' values are for reference purposes only. Certain minimum or maximum ratings may be based on product characterization, design, simulation, or sample testing.

INCH-POUND MIL-M-38510/1F <u>16 March 2005</u> 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 For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.3).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
А	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 <u>bipolar@dla.mil</u>. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <u>http://assist.daps.dla.mil</u>.

1.3 Absolute maximum ratings.

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 _D) <u>1</u> /	
Lead temperature (soldering, 10 seconds)	
Thermal resistance, junction to case (θ_{JC})	
Junction temperature (T _J) <u>2</u> /	175°C

1.4 Recommended operating conditions.

Supply voltage	+4.5 V minimum to +5.5 V maximum
Minimum high level input voltage	
Maximum low level input voltage (VIL)	
Normalized fanout (each output) 3/	
Case operating temperature range	55° to +125°C

 $\overline{\frac{1}{\text{Must}}}$ withstand the added P_D due to short-circuit test (e.g., I_{OS}). $\overline{\frac{2}{\text{Must}}}$ Maximum junction temperature shall not be exceeded except for allowable short duration burn-in screening conditions in accordance with MIL-PRF-38535.

<u>3</u>/ 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 <u>http://assist.daps.dla.mil/quicksearch/</u> or <u>http://assist.daps.dla.mil</u> 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 <u>Truth tables and logic equations</u>. 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.

Test	Symbol	Conditions	Device	Lir	nits	Unit
		$-55^{\circ}C \le T_C \le +125^{\circ}C$	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	VIC	$V_{CC} = 4.5 \text{ V}, \text{ I}_{IN} = -12 \text{ mA}$	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	μA
cut-off current		V _{OH} = 5.5 V	08, 09			
High level input	I _{IH1}	$V_{CC} = 5.5 \text{ V}, V_{IN} = 2.4 \text{ V}$ <u>2</u> /	All		40	μA
current						
High level input	I _{IH2}	$V_{CC} = 5.5 \text{ V}, V_{IN} = 5.5 \text{ V}$ $\underline{2}/$	All		100	μA
current						puri
Low level input	IIL	$V_{CC} = 5.5 \text{ V}, V_{IN} = 0.4 \text{ V}$ <u>1</u> /	All	-0.7	-1.6	mA
current				-	_	
Short circuit output	I _{OS}	$V_{\rm CC} = 5.5 \ V \underline{2} / \ \underline{3} /$	01, 02,	-20	-55	mA
current	00		03, 04,			
			05			
High level supply	Іссн	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN} = 0 \text{ V} $ 2/	All		1.65	mA
current per gate	- Con					
Low level supply	I CCL	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN} = 5.5 \text{ V}$ 1/	All		5.0	mA
current per gate	. 002		<i>,</i>		0.0	
Propagation delay time,	t _{PHL}	C _L = 50 pF,	01, 02,	3	24	ns
high-to-low level	-1112	$R_{\rm L} = 390\Omega$	03, 04,	-		
ingli to lott lot of			05			
			06, 07,	3	29	ns
			08, 09	Ū		
Propagation delay time,	t _{PLH}	C _L = 50 pF,	01, 02,	3	27	ns
low-to-high level	"FLN	$R_{L} = 390\Omega$	03, 04,	Ŭ		
		1.L - 00022	05, 04,			
			06, 07,	3	35	ns
			08, 07, 08, 09	5		115
			00, 09			

TABLE I. Electrical performance characteristics.
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<u>1</u>/ All unspecified inputs at 5.5 volts.
<u>2</u>/ All unspecified inputs grounded.
<u>3</u>/ 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.

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

TABLE II.	Electrical test requirements.

*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 <u>Qualification inspection</u>. 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 <u>Group C inspection</u>. 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 <u>Methods of inspection</u>. 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.

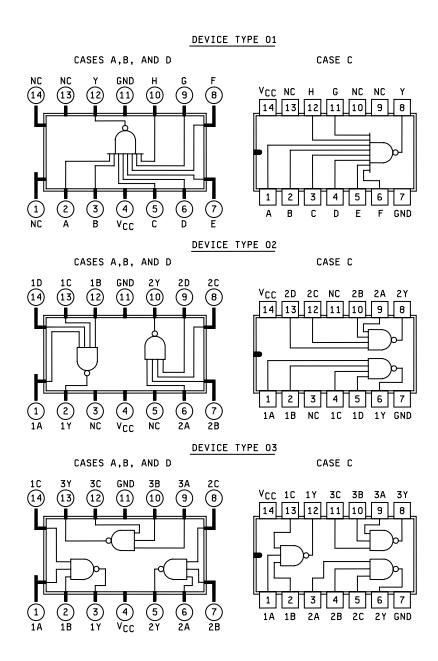
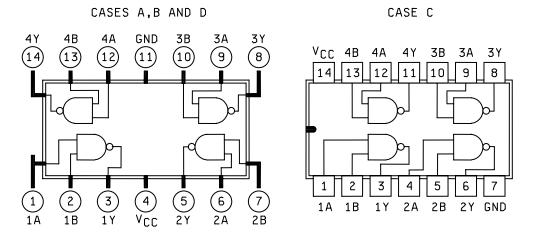


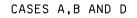
FIGURE 1. Terminal connections and logic diagrams.

MIL-M-38510/1F

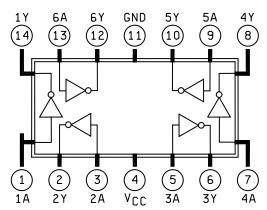




DEVICE TYPES 05 AND 08



CASE C



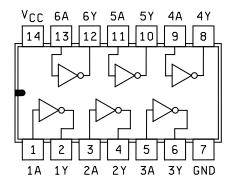


FIGURE 1. Terminal connections and logic diagrams - Continued.

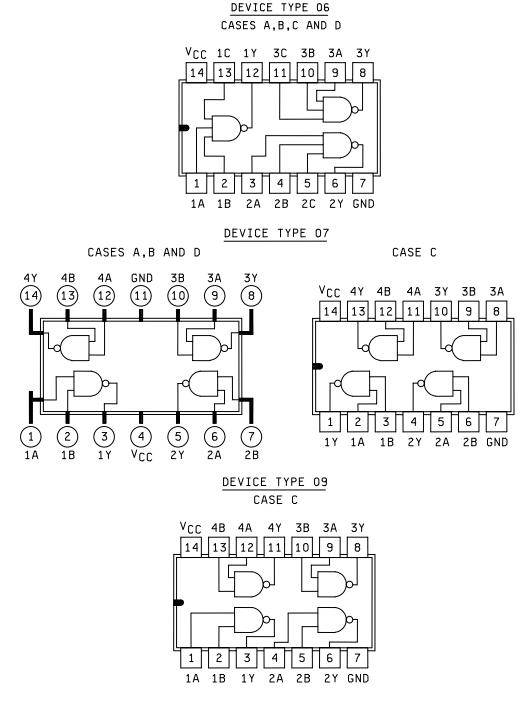


FIGURE 1. Terminal connections and logic diagrams - Continued.

	Device type 01							
	Truth table							
	Input Output						Output	
Α	A B C D E F G H Y							Y
Н	H H H H H H H L							
	All other combinations of H and L at the inputs give H output.							

Positive logic Y = ABCDEFGH

Device types 03 and 06				
	Т	ruth ta	ble	
	Input		Output	
Α	В	С	Y	
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	Н	Н	Н	
Н	Н	Н	L	

Positive logic Y = ABC

Device types 04, 07, and 09

Truth table each gate				
Input		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

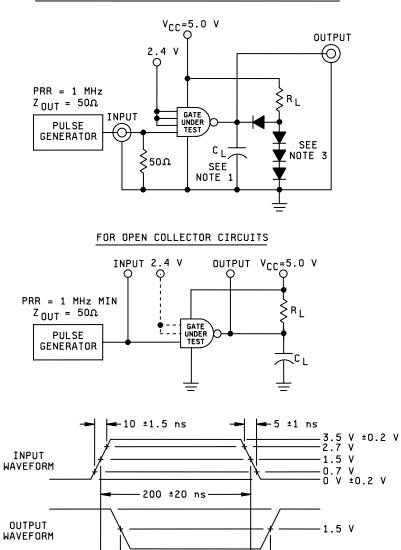
Truth table	e each gate
Input	Input
A	Y
L	Н
Н	L

Positive logic Y = A

_		Device	type 02	
		Truth	table	
	Inp	out		Output
Α	В	С	D	Y
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 $Y = \overline{ABCD}$

FIGURE 2. Truth tables and logic equations.



TEST CIRCUITS EXCEPT FOR OPEN COLLECTOR CIRCUITS

NOTES:

1. C_L = 50 pF minimum, including scope probe, wiring and stray capacitance, without package in test fixture.

^tPLH

.t_{PHL}

- 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.

							conditio	ns (pins	not desig	gnated m	nay be ni	$gn \ge 2.0$		0.8 V OF							
Î		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	13	1	2	14	3	4	5	6	11	12	7	8	9	10	Measured	Lin	nits	Unit
1		method	Test no.	NĊ	А	В	V _{CC}	С	D	Е	F	G	Н	GND	Y	NC	NC	terminal	Min	Max	
1	VoL	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			Y		0.4	V
Tc = 25°C	VOL	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			Ý	2.4	0.4	v
	·OH		3		5.5 V	0.8 V												Y			
l I			4			5.5 V		0.8 V			"							Ý			
l I			5					5.5 V	0.8 V									Y			
l I			6		"				5.5 V	0.8 V	"				"			Y			
ł			7		"				"	5.5 V	0.8 V				"			Y			
l I			8								5.5 V	0.8 V						Y			
ł		0011	9									5.5 V	0.8 V					Y			
ł	OS	3011	10		GND	GND	5.5 V	GND	GND	GND	GND	GND	GND	GND	GND			Y	-20	-55	mA
l I	IH1	3010	11 12		2.4 V GND	GND 2.4 V	5.5 V	GND	GND	GND	GND	GND	GND	GND				A B		40	μA "
l I			12		GND	Z.4 V GND		2.4 V										C			
1 1			13			GND		GND	2.4 V									D			
1 I			15					"	GND	2.4 V								F			
l I			16						"	GND	2.4 V			"				Ē			
l I			17								GND	2.4 V		"				G			
l I			18		-					-		GND	2.4 V	"				Н			
l I	IH2	3010	19		5.5 V	GND	5.5 V	GND	GND	GND	GND	GND	GND	GND				A		100	μA
l I			20		GND	5.5 V					"			"				В			
ł			21			GND		5.5 V										С			
1 1			22					GND	5.5 V									D			
1			23 24						GND	5.5 V GND	5.5 V							E			
l I			24 25							GND	GND	5.5 V						G			
l I			26								"	GND	5.5 V					н			
l 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				A	-0.7	-1.6	mA
l I	12		28		5.5 V	0.4 V					"			"				В			
l I			29			5.5 V		0.4 V			"			"				С	"		
ł			30		"			5.5 V	0.4 V	"	"			"				D	"		
1			31						5.5 V	0.4 V								E			
l I			32							5.5 V	0.4 V							F			
ł			33 34								5.5 V	0.4 V 5.5 V	0.4.1/					G H			
ł		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	0.4 V 5.5 V	GND				V _{CC}		5.0	mA
ł	CCL	3005	36		GND	GND	5.5 V	GND	GND	GND	GND	GND	GND	GND				V _{CC}		1.65	mA
ł	I C	0000	37		-12 mA	OND	4.5 V	OND	OND	OND	OND	OND	OND	GND				A		-1.5	V
1.	10		38			-12 mA								"				В		"	i.
1			39					-12 mA						"				č			
			40						-12 mA					"				D		"	
V V			41							-12 mA				"				E			
ł			42								-12 mA							F			
ł	1		43									-12 mA	10 1				1	G			
		ta tanada t	44	line ite in e f		4				-			-12 mA					Н			
			conditions and																		
3			conditions and	limits as for							241	2414	241	CND		1	1	A to V	2	20	
9	t _{PHL}	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			A to Y	3	20	ns
Tc = 25°C	t _{PLH}	(Fig. 3)	46		INI	0.414	5.0.1/		0.414	0.414	0.411	0.4.1/						A to Y	3	25	ns
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			A to Y	3	24	ns
Tc = 125°C		(Fig. 3)	48														1	A to Y	3	27	ns
11	Same tes	ts, terminal	conditions and	limits as fo	r subgroup	10, except T	c = -55°C.														

TABLE III. <u>Group A inspection for device type 01</u>. Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V or open)

												gh ≥ 2.0									
1			Cases A, B, D	1	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	Measured	Lin	nits	Unit
1		method	Test no.	1A	1Y	NC	V _{CC}	NC	2A	2B	2C	2D	2Y	GND	1B	1C	1D	terminal	Min	Max	1
1	VoL	3007	1	2.0 V	16 mA		4.5 V		5.5 V	5.5 V	5.5 V	5.5 V		GND	2.0 V	2.0 V	2.0 V	1Y		0.4	V
Tc = 25°C			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	2Y			
ł	OH	3006	3	0.8 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	5.5 V	1Y	2.4		V
ł			4	5.5 V	"					"					0.8 V			1Y			
ł			5												5.5 V	0.8 V		1Y			
V			6						0.8 V				4 mA	"		5.5 V	0.8 V 5.5 V	1Y 2Y			
ł			8						5.5 V	0.8 V			4 IIIA %	"			J.J V "	21 2Y			
ł			9	"					0.0 v "	5.5 V	0.8 V		".	"	"			2Y			
ł			10	"					"		5.5 V	0.8 V	η.	"	"			2Y			
ł	OS	3011	11	GND	GND		5.5 V							GND	GND	GND	GND	1Y	-20	-55	mA
ł			12						GND	GND	GND	GND	GND					2Y			"
ł	IH1	3010	13	2.4 V			5.5 V		GND	GND	GND	GND		GND	GND	GND	GND	1A		40	μA
1 .			14	GND						"					2.4 V			1B			
1			15												GND	2.4 V		1C			
1 1			16 17						" 2.4 V							GND	2.4 V GND	1D 2A			
ł			17						Z.4 V GND	2.4 V							GND "	2A 2B			
ł			19						GND "	GND	2.4 V							2D 2C			
ł			20	"					"	"	GND	2.4 V						2D			
ł	IH2	3010	21	5.5 V			5.5 V		GND	GND	GND	GND	"	GND	GND	GND	GND	1A		100	μA
ł			22	GND						"			"		5.5 V			1B			
ł			23	"					"	"			"		GND	5.5 V		1C			
1 .			24	"					"				"			GND	5.5 V	1D			
1			25						5.5 V								GND	2A 2B			
ł			26 27						GND	5.5 V GND	5.5 V							2B 2C			
ł			27 28							GND "	GND	5.5 V						20 2D			
ł	IL	3009	29	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	5.5 V	1A	-0.7	-1.6	mA
ł	IL.	0000	30	5.5 V			0.0 1		"	"	"	"		0.1.5	0.4 V	"	"	1B	"	"	
ł			31	"					"	"					5.5 V	0.4 V		1C			
l I			32													5.5 V	0.4 V	1D			
1 1			33	"					0.4 V	"					"		5.5 V	2A			
l I			34						5.5 V	0.4 V			"					2B			
ł			35 36			:				5.5 V	0.4 V 5.5 V	0.4 V						2C 2D			
ł		3005	30	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	5.5 V	V _{CC}		10	mA
l I	CCL CCH	3005	38	GND			5.5 V		GND	GND	GND	GND		GND	GND	GND	GND	V _{CC}		3.3	mA
ł		5005	39	-12 mA			4.5 V		OND	OND	OND	OND		GND	OND	OND	OND	1A		-1.5	V
Ι.	IC		40	12 1103			-1.0 0							"	-12 mA			1B		"	
1			41											"		-12 mA		1C			
			42											"			-12 mA	1D		"	"
V			43						-12 mA					"				2A			
ł			44							-12 mA	40 4							2B			
ł			45 46								-12 mA	10 ^						2C 2D			
2	Sama taa	to torminal	46 conditions and	limite on fai	oubarous	1 overet Tr	- 12500 -	nd V test		4		-12 mA		1				20	I	I	
	Same test	ts, terminal	conditions and conditions and	limite as for	subgroup	1, except 10	$y = 125^{-}0^{-}0^{-}$	nu VIC lests		u. I											
9		3003	47	Innits as for	OUT	г, ехсерс То	5.0 V	iu vic tests						GND	2.4 V	2.4 V	2.4 V	1A to 1Y	3	20	ne
9 Tc = 25°C	t _{PHL} t _{PHL}	(Fig. 3)	47	IIN	001		3.0 v		IN	2.4 V	2.4 V	2.4 V	OUT	"	2.4 V	2.4 V	2.4 V	2A to 2Y	5	20	ns "
10 - 20 0	PLH	3003	49	IN	OUT		5.0 V			2. v	2. v	2.7 V		GND	2.4 V	2.4 V	2.4 V	1A to 1Y	3	25	ns
ł	PLH	(Fig. 3)	50		001		0.0 v "		IN	2.4 V	2.4 V	2.4 V	OUT	"	2.7 V	2. T V	2.7 V	2A to 2Y	"		"
10	t _{PHL}	3003	51	IN	OUT		5.0 V							GND	2.4 V	2.4 V	2.4 V	1A to 1Y	3	24	ns
Tc = 125°C		(Fig. 3)	52						IN	2.4 V	2.4 V	2.4 V	OUT	"				2A to 2Y			
t	PLH	3003	53	IN	OUT		5.0 V							GND	2.4 V	2.4 V	2.4 V	1A to 1Y	3	27	ns
								1							1						
t 11	PLH	(Fig. 3)	54						IN	2.4 V	2.4 V	2.4 V	OUT					2A to 2Y			1

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)

t t

		MIL-STD-	Cases A, B, D	1	2	3	4	5	6	7	8	9	10	11	12	13	14				i i
ubgroup	Symbol	883	Case C	1	2	12	14	6	3	4	5	9	10	7	11	8	13	Measured	Lin	nits	Unit
		method	Test no.	1A	1B	1Y	V _{cc}	2Y	2A	2B	2C	3A	3B	GND	3C	3Y	1C	terminal	Min	Max	1
1	VoL	3007	1	2.0 V	2.0 V	16 mA	4.5 V		5.5 V	GND	5.5 V		2.0 V	1Y		0.4	V				
c = 25°C			2	5.5 V	5.5 V			16 mA	2.0 V	2.0 V	2.0 V					40.4	5.5 V	2Y			
		3006	3 4		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	3Y 1Y	2.4		v
	ОН	3000	4 5	5.5 V	0.8 V	4 IIIA "	4.3 V		5.5 V	GND	5.5 V "		5.5 V	1Y	2.4						
			6	"	5.5 V	"					"			"	"		0.8 V	1Y			
V			7	"	"			4 mA	0.8 V	"	"				"		5.5 V	2Y			
v			8						5.5 V	0.8 V	" 0.8 V							2Y 2Y			
			9 10							5.5 V "	0.8 V 5.5 V	0.8 V				4 mA		2 Y 3 Y			
			11	"					"		"	5.5 V	0.8 V		"	.4 110 ("	3Y			
			12	"	"								5.5 V		0.8 V	"	"	3Y			
	OS	3011	13	GND	GND	GND	5.5 V							GND			GND	1Y	-20	-55 "	mA
			14 15					GND	GND	GND	GND	GND	GND		GND	GND		2Y 3Y			
	IH1	3010	16	2.4 V	GND		5.5 V		GND	GND	GND	GND	GND	GND	GND	GND	GND	1A		40	μA
I	101		17	GND	2.4 V				"		"	"	"	"	"			1B		"	μυς "
			18	:	GND												2.4 V	1C			
I.			19						2.4 V								GND	2A			
			20 21						GND "	2.4 V GND	2.4 V							2B 2C			
			22	"					"	"	GND	2.4 V		"	"			3A			
			23	"	"							GND	2.4 V	"	"			3B			:
		0040	24									" () NID	GND		2.4 V			3C			
	IH2	3010	25 26	5.5 V GND	GND 5.5 V		5.5 V		GND "	GND "	GND "	GND	GND "	GND "	GND "		GND "	1A 1B		100	μA "
			20	"	GND									"	"		5.5 V	1C		"	
			28	"	"				5.5 V		"			"	"		GND	2A		"	. "
I			29						GND	5.5 V								2B			
			30 31							GND	5.5 V GND	5.5 V						2C 3A			
			32	"					"		"	GND	5.5 V	"	"			3B		"	
			33	"	"		-		-	-	"		GND	"	5.5 V			3C		"	
	IL	3009	34	0.4 V	5.5 V				5.5 V	GND	5.5 V		5.5 V	1A	-0.7	-1.6	mA				
			35 36	5.5 V	0.4 V 5.5 V												0.4 V	1B 1C			
			37	"	3.3 v "				0.4 V		"			"	"		5.5 V	2A			
1			38	"	"				5.5 V	0.4 V	"				"			2B			
			39							5.5 V	0.4 V							2C			
			40 41								5.5 V "	0.4 V 5.5 V	0.4 V					3A 3B			
			42	"					"			0.0 V	5.5 V	"	0.4 V			3C			
	ССН	3005	43	GND	GND		5.5 V		GND	GND	GND	GND	GND	GND	GND		GND	V _{CC}		4.95	mA
	CCL	3005	44	5.5 V	5.5 V		5.5 V		5.5 V	GND	5.5 V		5.5 V	V _{cc}		15	mA				
	IC		45 46	-12 mA	-12mA		4.5 V							GND "				1A 1B		-1.5	V "
I.			46 47		-12mA									"			-12 mA	1B 1C			
I			48						-12 mA					"				2A			
V			49							-12 mA								2B			
			50 51								-12 mA	12 m^						2C			
			51 52									-12 mA	-12 mA					3A 3B			
			53										12 11/3	"	-12 mA			3C			
2	0	a terminal	conditions and	limite as for	r subaroun	1 excent To	- 125°C a	nd Via tests	are omitte	Ч	•	•	•	•	•	•	•		•		

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)

		MIL-STD-	Cases A, B, D	1	2	3	4	5	6	7	8	9	10	11	12	13	14				Ī
Subgroup	Symbol	883	Case C	1	2	12	14	6	3	4	5	9	10	7	11	8	13	Measured	Lim	nits	Unit
		method	Test no.	1A	1B	1Y	V _{CC}	2Y	2A	2B	2C	ЗA	3B	GND	3C	3Y	1C	terminal	Min	Max	1
9	t _{PHL}	3003	54	IN	2.4 V	OUT	5.0 V							GND			2.4 V	1A to 1Y	3	20	ns
Tc = 25°C		(Fig. 3)	55					OUT	IN	2.4 V	2.4 V							2A to 2Y			
			56									IN	2.4 V	"	2.4 V	OUT		3A to 3Y			
	PLH	3003	57	IN	2.4 V	OUT	5.0 V							GND			2.4 V	1A to 1Y	3	25	ns
		(Fig. 3)	58					OUT	IN	2.4 V	2.4 V							2A to 2Y			
			59				-					IN	2.4 V	"	2.4 V	OUT		3A to 3Y			
10	t _{PHL}	3003	60	IN	2.4 V	OUT	5.0 V							GND			2.4 V	1A to 1Y	3	24	ns
$Tc = 125^{\circ}C$;	(Fig. 3)	61					OUT	IN	2.4 V	2.4 V							2A to 2Y			
			62									IN	2.4 V		2.4 V	OUT		3A to 3Y			I "
	PLH	3003	63	IN	2.4 V	OUT	5.0 V							GND			2.4 V	1A to 1Y	3	27	ns
		(Fig. 3)	64					OUT	IN	2.4 V	2.4 V							2A to 2Y			
			65									IN	2.4 V	"	2.4 V	OUT		3A to 3Y			

"

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TABLE III. <u>Group A inspection for device type 03</u> -Continued. Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V or open)

		MIL-STD-	Cases A, B, D	1	2	Termina 3	4	5	6	7	8	9	10	11	12	13	14				1
ubgroup	Symbol	883	Case C	1	2	3	14	6	4	5	8	9	10	7	12	13	11	Measured	Lin	nits	Unit
	-	method	Test no.	1A	1B	1Y	V _{cc}	2Y	2A	2B	3Y	ЗA	3B	GND	4A	4B	4Y	terminal	Min	Max	1
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		1Y		0.4	V
c = 25°C			2	5.5 V	5.5 V			16 mA	2.0 V	2.0 V								2Y			
			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	3Y 4Y			
	OH	3006	5	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	TOTIA	1Y	2.4		V
	0.1		6	5.5 V	0.8 V	"				"				"	"			1Y			
			7 8		5.5 V			4 mA	0.8 V									2Y			
V			8 9						5.5 V "	0.8 V 5.5 V	4 mA	0.8 V						2Y 3Y			
			10	"					"		.4 117 (5.5 V	0.8 V	"	"			3Y			
			11	"	"				"	"		"	5.5 V	"	0.8 V	"	4 mA	4Y			
		0014	12	" ()\ D	" ()\ D	OND	"		"	"		"	"	" 0ND	5.5 V	0.8 V		4Y	"		"
	OS	3011	13 14	GND	GND	GND	5.5 V	GND	GND	GND				GND "				1Y 2Y	-20	-55 "	mA "
			15					OND	OND	OND	GND	GND	GND	"				3Y			
			16											"	GND	GND	GND	4Y			
I	IH1	3010	17	2.4 V	GND		5.5 V		GND	GND		GND	GND	GND	GND	GND		1A		40	μA
			18 19	GND	2.4 V GND				2.4 V									1B 2A			
			20	"	"				GND	2.4 V				"	"			2B			
I			21	"	"				"	GND		2.4 V		"	"			ЗA			"
			22 23									GND	2.4 V GND		" 2.4 V			3B 4A			
			23 24	"						"			GND	"	GND	2.4 V		4A 4B			
	IH2	3010	25	5.5 V	GND		5.5 V		GND	GND		GND	GND	GND	GND	GND		1A		100	μA
			26	GND	5.5 V				/									1B			
			27 28		GND "				5.5 V GND	5.5 V								2A 2B			
I.			29	"					"	GND		5.5 V		"	"			ЗA			
			30	"					"	"		GND	5.5 V	"	"			3B			
			31 32										GND		5.5 V GND	5.5 V		4A 4B			
	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		4D 1A	-0.7	-1.6	mA
	IL	0000	34	5.5 V	0.4 V		0.0 1							"	"			1B	"	"	
			35		5.5 V				0.4 V			"						2A			
			36 37						5.5 V	0.4 V 5.5 V		0.4 V						2B 3A			
			38							0.0 v "		5.5 V	0.4 V	"				3B			
			39	"	"				"	"		"	5.5 V	"	0.4 V			4A			
		0005	40	" GND	" ()\ D		" 5.5 V		" GND			" GND	" GND	" GND	5.5 V GND	0.4 V		4B		"	"
	CCH CCL	3005 3005	41 42	5.5 V	GND 5.5 V		5.5 V 5.5 V		5.5 V	GND 5.5 V		5.5 V	5.5 V	GND	5.5 V	GND 5.5 V		V _{CC}		6.6 20	mA mA
	I C	5005	43	-12 mA	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		1A		-1.5	V
	10		44		-12mA									"				1B			
i			45						-12 mA	10 m (2A			
v			46 47							-12 mA		-12 mA						2B 3A			
			48									12 11/3	-12 mA	"				3B			"
			49											"	-12 mA			4A			"
			50 conditions and											"		-12 mA		4B			

TABLE III. <u>Group A inspection for device type 04</u>. Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V or open)

		MIL-STD-	Cases A, B, D	1	2	3	4	5	6		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	Measured	Lim	nits	Unit
		method	Test no.	1A	1B	1Y	V _{CC}	2Y	2A	2B	3Y	3A	3B	GND	4A	4B	4Y	terminal	Min	Max	
9	t _{PHL}	3003	51	IN	2.4 V	OUT	5.0 V							GND				1A to 1Y	3	20	ns
Tc = 25°C		(Fig. 3)	52					OUT	IN	2.4 V				"				2A to 2Y			
			53								OUT	IN	2.4 V	"				3A to 3Y			
			54											"	IN	2.4 V	OUT	4A to 4Y			
	PLH	3003	55	IN	2.4 V	OUT	5.0 V							GND				1A to 1Y	3	25	ns
		(Fig. 3)	56					OUT	IN	2.4 V				"				2A to 2Y		"	
			57								OUT	IN	2.4 V	"				3A to 3Y			
			58											"	IN	2.4 V	OUT	4A to 4Y			
10	t _{PHL}	3003	59	IN	2.4 V	OUT	5.0 V							GND				1A to 1Y	3	24	ns
Tc = 125°C		(Fig. 3)	60					OUT	IN	2.4 V				"				2A to 2Y			
			61								OUT	IN	2.4 V	"				3A to 3Y			
			62											"	IN	2.4 V	OUT	4A to 4Y			
	PLH	3003	63	IN	2.4 V	OUT	5.0 V							GND				1A to 1Y	3	27	ns
		(Fig. 3)	64					OUT	IN	2.4 V				"				2A to 2Y			
			65								OUT	IN	2.4 V					3A to 3Y			
.			66											"	IN	2.4 V	OUT	4A to 4Y		"	"
11	Same tes	ts, terminal	conditions and	limits as fo	r subgroup	10, except	Tc = -55°C.														

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)

	1				-								V, IOW \leq			40					
			Cases A, B, D	1	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	Measured	Lim		Unit
		method	Test no.	1A	2Y	2A	V _{CC}	ЗA	3Y	4A	4Y	5A	5Y	GND	6Y	6Y	6A	terminal	Min	Max	
1	VoL	3007	1	2.0 V		5.5 V	4.5 V	5.5 V		5.5 V		5.5 V		GND		5.5 V	16mA	1Y		0.4	V
Tc = 25°C			2	5.5 V	16 mA	2.0 V				"				"				2Y			
			3			5.5 V		2.0 V	16mA									3Y			
			4 5					5.5 V		2.0 V 5.5 V	16mA	2.0 V	16mA					4Y 5Y			
			6							J.J V "		2.0 V 5.5 V	TOTTA		16mA	2.0 V		6Y			
	OH	3006	7	0.8 V		5.5 V	4.5 V	5.5 V		5.5 V		5.5 V		GND	TOTIN	5.5 V	4mA	1Y	2.4		V
	on		8	5.5 V	4 mA	0.8 V				"			"					2Y			
			9	"		5.5 V		0.8 V	4 mA	"								3Y			"
V			10					5.5 V		0.8 V	4 mA		." .					4Y			
v			11 12							5.5 V		0.8 V 5.5 V	4 mA		4 mA	" 0.8 V		5Y 6Y			
		3011	12	GND			5.5 V					5.5 V		GND	4 IIIA	0.6 V	GND	1Y	-20	-55	mA
	OS	3011	13	GND	GND	GND	J.J V "							"			GND	2Y	-20	-55	"
			15		OND	OND		GND	GND									3Y			
			16							GND	GND		"					4Y			
I			17									GND	GND	"				5Y			"
			18											"	GND	GND		6Y	-	"	"
	IH1	3010	19	2.4 V GND		GND	5.5 V	GND		GND		GND		GND		GND		1A		40	μA "
			20 21	GND		2.4' V GND		2.4 V										2A 3A			
			22			"		GND		2.4								4A			
I			23							GND		2.4 V						5A			
			24	"						"		GND	"			2.4 V		6A			
	IH2	3010	25	5.5 V		GND	5.5 V	GND	"	GND		GND	"	GND		GND		1A		100	μA
			26	GND		5.5 V				"								2A			
			27 28			GND		5.5 V GND		5.5 V								3A 4A			
1			28					GND		GND		5.5 V						4A 5A			
			30							"		GND				5.5 V		6A			
	IL	3009	31	0.4 V		5.5 V	5.5 V	5.5 V	"	5.5 V		5.5 V	"	GND		5.5 V		1A	-0.7	-1.6	mA
			32	5.5 V		0.4 V				"			"	"				2A			
			33			5.5 V		0.4 V					"					3A			
			34 35					5.5 V		0.4 V 5.5 V		0.4 V	"					4A 5A			
1			36							5.5 V		0.4 V 5.5 V				0.4 V		6A			
	CCL	3005	37	5.5 V		5.5 V	5.5 V	5.5 V		5.5 V		5.5 V	"	GND		5.5 V		V _{CC}		30	mA
	CCH	3005	38	GND		GND	5.5 V	GND				GND	"			GND		V _{cc}		9.9	mA
	I C		39	-12 mA		-	4.5 V	-					"	GND				1A		-1.5	V
			40			-12 mA							"					2A		"	"
i i			41					-12 mA	GND	10 1			GND					3A			
V			42							-12 mA		10						4A			
v			43 44									-12 mA				-12 mA		5A 6A			
2	Same tes	ts terminal	conditions and	limits as for	subaroun .	1 excent To	- 125°C ⊃	nd V. a tests	are omitte	4		I				-12 11/4	1	04			
			conditions and																		
0	Came les	io, terminal	oonaniono anu	111113 43 101	Subgroup	i, 5766pt 16	, = -55 0 ai		are omitted	•											

TABLE III. <u>Group A inspection for device type 05</u>. Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V or open)

	1	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	Measured	Lim	its	Unit
Cubgroup	Cymbol	method	Test no.	1A	1B	12 1Y		2Y	2A	2B	3Y	3A	3B	GND	4A	4B	4Y	terminal	Min	Max	O. III
					IБ	11	V _{cc}	21	24	20	31	SA	30		4A	4D					'
9	t _{PHL}	3003	45	IN	0.UT		5.0 V							GND			OUT	1A to 1Y	3	20	ns
Tc = 25°C		(Fig. 3)	46		OUT	IN												2A to 2Y			
			47					IN	OUT									3A to 3Y			
			48							IN	OUT		0.117					4A to 4Y			1 . '
			49									IN	OUT					5A to 5Y			
			50												OUT	IN		6A to 6Y			
	PLH	3003	51	IN			5.0 V							GND			OUT	1A to 1Y	3	25	ns
		(Fig. 3)	52		OUT	IN							"					2A to 2Y			
			53					IN	OUT									3A to 3Y			
+			54							IN	OUT		0.117					4A to 4Y			1 . '
·			55									IN	OUT		OUT			5A to 5Y			
10			56				5 0 1 (OUT	IN		6A to 6Y			
10	t _{PHL}	3003	57	IN	OUT		5.0 V							GND			OUT	1A to 1Y	3	24	ns
Tc = 125°C		(Fig. 3)	58		OUT	IN							"					2A to 2Y			
			59					IN	OUT									3A to 3Y			
			60							IN	OUT		0.117					4A to 4Y			
			61									IN	OUT		0.UT			5A to 5Y			
		0000	62												OUT	IN	0.117	6A to 6Y			
	PLH	3003	63	IN			5.0 V							GND			OUT	1A to 1Y	3	27	ns "
		(Fig. 3)	64		OUT	IN			0.117				"					2A to 2Y			1 . '
			65					IN	OUT		0.117							3A to 3Y			
+			66							IN	OUT		0.117					4A to 4Y			
·	l	1	67									IN	OUT		OUT		1	5A to 5Y			
			68		I										OUT	IN	I	6A to 6Y			
11	Same tes	ts, terminal	conditions and	limits as fo	r subgroup	10, except	$1 c = -55^{\circ}C.$														
													"								

TABLE III. <u>Group A inspection for device type 05</u> -Continued. Terminal conditions (pins not designated may be high \geq 2.0 V, low \leq 0.8 V or open)

group \$	Symbol V _{OL}	883 method 3007	C, and D Test no.	1 1A	2 1B	12	14	6	3	4	5	9	10	7	11	8	13	Measured	Lim		
-						1Y	V _{cc}	2Y	2A	2B	2C	3A	3B	GND	3C	3Y	1C	terminal	Min	Max	Un
-		5007	1	2.0 V	2.0 V	16 mA	4.5 V	21	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	GND	5.5 V	01	2.0 V	1Y	IVIIII	0.4	v
1	CEX		2	2.0 V 5.5 V	5.5 V	TOTILA	4.5 V	16 mA	2.0 V	2.0 V	2.0 V	J.J V "	J.J V "	GND "	J.J V "		2.0 V 5.5 V	2Y		0.4	
1	CEV		3	"	"				5.5 V	5.5 V	5.5 V	2.0 V	2.0 V		2.0 V	16 mA		3Y			
I			4	0.8 V	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	-	5.5 V	1Y		250	μ
I	02/		5	5.5 V	0.8 V					"								1Y			1
I			6	"	5.5 V					"				"	"		0.8 V	1Y			i i
'			7	"	"			5.5 V	0.8 V	"				"	"		5.5 V	2Y		"	ł
			8						5.5 V	0.8 V								2Y			i
			9							5.5 V	0.8 V	/				\/		2Y			i i
			10								5.5 V	0.8 V	0.0.1/			5.5 V		3Y 3Y			ł
			11 12									5.5 V	0.8 V 5.5 V		0.8 V			31 3Y			
-			13	-12 mA	1		4.5 V				-	-	5.5 V	GND	0.6 V			1A		-1.5	,
	IC		14	-12 11/4	-12 mA		4.5 V							GND "				1B		-1.5	1
			15		12 110 (-12 mA	1C			ł
			16						-12 mA					"				2A			i
V			17							-12 mA								2B			i i
			18								-12 mA			"				2C			ł
			19									-12 mA		"				ЗA			i i
			20										-12 mA		40.0			3B			i
-		0040	21	0.414	OND				OND	OND	OND	ONID	OND		-12 mA		OND	3C			
	IH1	3010	22	2.4 V	GND		5.5 V		GND	GND	GND	GND	GND	GND	GND		GND	1A		40	ļ
			23 24	GND	2.4 V GND												2.4 V	1B 1C			i
			24 20		GIND "				2.4 V								GND	2A			ł
1			26	"					GND	2.4 V				"	"		"	2B			i
			27	"					"	GND	2.4 V			"	"			2C			i
			28	"						"	GND	2.4 V						ЗA			ł
			29	"	"				"	"		GND	2.4 V	"	"			3B			i
L			30	"	"				"	"			GND	"	2.4 V		"	3C			-
	IH2	3010	31	5.5 V	GND		5.5 V		GND	GND	GND	GND	GND	GND	GND		GND	1A		100	ļ
			32	GND	5.5 V													1B			i
			33		GND				-								5.5 V	1C			i
			34 35						5.5 V GND	5.5 V							GND	2A 2B			i i
			35						GND "	5.5 V GND	5.5 V							2B 2C			i
			37							GND	GND	5.5 V						20 3A			i
			38	"					"	"	"	GND	5.5 V	"	"			3B		"	i
			39	"	"				"	"			GND	"	5.5 V			3C		"	i
F	IL	3009	40	0.4 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	1A	-0.7	-1.6	r
			41	5.5 V	0.4 V					"	"		"	"	"			1B			i
			42	"	5.5 V					"				"	"		0.4 V	1C			i
			43						0.4 V								5.5 V	2A			i i
1			44						5.5 V	0.4 V								2B			i
			45							5.5 V	0.4 V	0.4.1/						2C			i
			46 47								5.5 V	0.4 V 5.5 V	0.4 V		"			3A 3B			i
			47	"	"				"			0.0 v "	0.4 V 5.5 V	"	0.4 V			3D 3C			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	V _{cc}		15	r
F	CCL	3005	50	GND	GND		5.5 V		GND	GND	GND	GND	GND	GND	GND		GND	V _{CC}		4.95	r
2 S			conditions and	-	-	1. except To		nd Vuo tests	-	-											

TABLE III.Group A inspection for device type 06.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	Measured	Lim	its	Unit
		method	Test no.	1A	1B	1Y	V _{CC}	2Y	2A	2B	2C	ЗA	3B	GND	3C	3Y	1C	terminal	Min	Max	
9	t _{PHL}	3003	51	IN	2.4 V	OUT	5.0 V							GND			2.4 V	1A to 1Y	3	23	ns
Tc = 25°C		(Fig. 3)	52					OUT	IN	2.4 V	2.4 V							2A to 2Y			
			53									IN	2.4 V	"	2.4 V	OUT		3A to 3Y		-	
	PLH	3003	54	IN	2.4 V	OUT	5.0 V							GND			2.4 V	1A to 1Y	3	28	ns
		(Fig. 3)	55					OUT	IN	2.4 V	2.4 V							2A to 2Y			
			56									IN	2.4 V	"	2.4 V	OUT		3A to 3Y		-	
10	t _{PHL}	3003	57	IN	2.4 V	OUT	5.0 V							GND			2.4 V	1A to 1Y	3	29	ns
Tc = 125°C		(Fig. 3)	58					OUT	IN	2.4 V	2.4 V							2A to 2Y			
			59									IN	2.4" V	"	2.4 V	OUT		3A to 3Y			
	PLH	3003	60	IN	2.4 V	OUT	5.0 V							GND			2.4 V	1A to 1Y	3	35	ns
		(Fig. 3)	61					OUT	IN	2.4 V	2.4 V							2A to 2Y			
			62									IN	2.4 V	"	2.4 V	OUT		3A to 3Y			
11	Same tes	ts, terminal	conditions and	limits as fo	r subgroup	10, except	Tc = -55°C.														
t																					

TABLE III. <u>Group A inspection for device type 06</u> -Continued. Terminal conditions (pins not designated may be high \geq 2.0 V, low \leq 0.8 V or open)

1	Symbol	MIL-STD- 883	Cases A, B, D Case C	1	2	3	4	5	6	7	8	9	10	11	12	13	14				
1	Symbol	883	Cono C									-									
				2	3	1	14	4	5	6	10	8	9	7	11	12	13	Measured	Lim		Unit
		method	Test no.	1A	1B	1Y	V _{cc}	2Y	2A	2B	3Y	3A	3B	GND	4A	4B	4Y	terminal	Min	Max	
	Vol	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		1Y		0.4	V
Tc = 25°C			2	5.5 V	5.5 V			16 mA	2.0 V	2.0 V				"	"			2Y		"	
			3						5.5 V	5.5 V	16 mA	2.0 V	2.0 V	"	"			3Y			
			4	"					"	"		5.5 V	5.5 V	"	2.0 V	2.0 V	16 mA	4Y		"	
	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		1Y		250	μA
			6 7	4.5 V	0.8 V			V		4.5 V								1Y			
			7 8	5.5 V	5.5 V			5.5 V	0.8 V 4.5 V	4.5 V 0.8 V								2Y 2Y			
I I			8 9						4.5 V 5.5 V	0.8 V 5.5 V	5.5 V	0.8 V	4.5 V					21 3Y			
			10						"	"	0.0 1	4.5 V	0.8 V					3Y			
			11	"	"				"	"		5.5 V	5.5 V	"	0.8 V	4.5 V	5.5 V	4Y			
			12											"	4.5 V	0.8 V		4Y			
ļ	IH1	3010	13	2.4 V	GND		5.5 V		GND	GND		GND	GND	GND	GND	GND		1A		40	μA
			14	GND	2.4 V					"				"	"			1B			
			15	"	GND				2.4 V	"				"	"			2A			
			16						GND	2.4 V								2B			
'			17							GND		2.4 V						3A			
			18 19									GND	2.4 V GND		2.4 V			3B 4A			
			20										GND	"	GND	2.4 V		4A 4B			
ł	IH2	3010	21	5.5 V	GND		5.5 V		GND	GND		GND	GND	GND	GND	GND		1A		100	μA
	IEZ	0010	22	GND	5.5 V		0.0 1		"	"		"	"	"	"	"		1B		"	"
			23		GND				5.5 V					"	"			2A			
			24						GND	5.5 V				"				2B			
I			25	"						GND		5.5 V		"	"			3A			
			26		"				"			GND	5.5 V	"	"			3B			
			27										GND		5.5 V			4A			
ļ		3009	28	0.4 V	5.5 V		5.5 V		5.5 V	5.5 V	"	E E V	5.5 V	GND	GND	5.5 V 5.5 V		4B	0.7	1.0	
	I L	3009	29 30	0.4 V 5.5 V	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 "		1A 1B	-0.7	-1.6	mA "
			31	J.J V "	5.5 V				0.4 V					"				2A			
ļ			32		0.0 *				5.5 V	0.4 V								2B			
I			33							5.5 V		0.4 V		"				3A			
ļ			34	"						"		5.5 V	0.4 V	"	"			3B			
ļ			35	"						"			5.5 V	"	0.4 V			4A	"		
			36	"	"		"		"	"				"	5.5 V	0.4 V		4B			"
	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		V _{cc}		20	mA
ļ	CCH	3005	38	GND	GND		5.5 V		GND	GND		GND	GND	GND	GND	GND		V _{cc}		6.6	mA
	IC		39 40	-12mA	12m/		4.5 V							GND				1A		-1.5	V "
I.			40 41		-12mA				-12mA					"				1B 2A			
I I			41						-1211A	-12mA				"				2A 2B			
V			43							12111/1		-12mA		"				3A			
ļ			44										-12mA	"				3B			
			45											"	-12mA			4A			
			46											"		-12mA		4B			
			conditions and																		
3	Same test	ts, terminal	conditions and	limits as for	r subgroup '	1, except To	; = -55°C ar	nd V _{IC} tests	are omitted	l.											

TABLE III. <u>Group A inspection for device type 07</u>. Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V or 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	2	3	1	14	4	5	6	10	8	9	7	11	12	13	Measured	Lim	nits	Unit
		method	Test no.	1A	1B	1Y	V _{cc}	2Y	2A	2B	3Y	ЗA	3B	GND	4A	4B	4Y	terminal	Min	Max	
9	t _{PHL}	3003	47	IN	2.4 V	OUT	5.0 V							GND				1A to 1Y	3	23	ns
Tc = 25°C		(Fig. 3)	48					OUT	IN	2.4 V				"				2A to 2Y			
			49								OUT	IN	2.4 V	"				3A to 3Y			
			50												IN	2.4 V	OUT	4A to 4Y			
	PLH	3003	51	IN	2.4 V	OUT	5.0 V							GND				1A to 1Y	3	28	ns
		(Fig. 3)	52					OUT	IN	2.4 V				"				2A to 2Y			
			53								OUT	IN	2.4 V	"				3A to 3Y			
			54												IN	2.4 V	OUT	4A to 4Y			
10	t _{PHL}	3003	55	IN	2.4 V	OUT	5.0 V							GND				1A to 1Y	3	29	ns
Tc = 125°C		(Fig. 3)	56					OUT	IN	2.4 V				"				2A to 2Y			
			57								OUT	IN	2.4 V	"				3A to 3Y			
			58												IN	2.4 V	OUT	4A to 4Y			
	PLH	3003	59	IN	2.4 V	OUT	5.0 V							GND				1A to 1Y	3	35	ns
		(Fig. 3)	60					OUT	IN	2.4 V				"				2A to 2Y			
			61								OUT	IN	2.4 V	"				3A to 3Y			
			62												IN	2.4 V	OUT	4A to 4Y			
14	Same tes	ts, terminal	conditions and	limits as fo	r subgroup	10, except	Tc = -55°C.														

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)

		MIL-STD-	Cases A, B, D	1	2	3	4	5	6	7	8	9	10	11	12	13	14				
ubgroup	Symbol	883	Case C	1	4	3	14	5	6	9	8	11	10	7	12	13	2	Measured	Lin	nits	Uni
		method	Test no.	1A	2Y	2A	V _{CC}	ЗA	3Y	4A	4Y	5A	5Y	GND	6Y	6A	1Y	terminal	Min	Max	
1	Vol	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	1Y		0.4	V
= 25°C			2	5.5 V	16 mA	2.0 V												2Y			
			3			5.5 V		2.0 V	16 mA									3Y			
			4					5.5 V		2.0 V	16 mA							4Y			1 '
			5	"						5.5 V		2.0 V	16 mA	"				5Y			
			6	"		"	"			"		5.5 V	"		16 mA	2.0 V		6Y		"	· ·
	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	1Y		250	μ
			8	5.5 V	5.5 V	0.8 V							"					2Y			
			9			5.5 V		0.8 V	5.5 V									3Y			
1			10					5.5 V		0.8 V	5.5 V							4Y			
•			11							5.5 V		0.8 V	5.5 V		V	0.0.1/		5Y			
			12 13	-12mA			4.5 V					5.5 V		GND	5.5 V	0.8 V		6Y 1A		-1.5	,
	IC		13	-1211A		-12mA	4.5 V							GND				2A		-1.5	ĺ
			15			-121174		-12mA					-					3A			1
			16					-1211/4		-12mA				"				4A			1
V			17							-121174		-12mA		"				5A			
			18											"		-12mA		6A			1
	IH1	3010	19	2.4 V		GND	5.5 V	GND		GND		GND		GND		GND		1A		40	ļ
			20	GND		2.4 V								-				2A			
			21			GND		2.4 V										3A			1
			22					GND		2.4 V								4A			
I			23							GND		2.4 V						5A			
			24			-	-	-		-		GND				2.4 V		6A			
	IH2	3010	25	5.5 V		GND	5.5 V	GND	"	GND		GND		GND		GND		1A		100	ļ
			26	GND		5.5 V						"						2A			1
			27	"		GND		5.5 V				"						ЗA			1
			28	"				GND		5.5 V			"					4A			
I			29							GND		5.5 V						5A			
			30									GND	"			5.5 V		6A			
	IL	3009	31	0.4 V		5.5 V	5.5 V	5.5 V	"	5.5 V		5.5 V		"		5.5 V		1A	-0.7	-1.6	r
			32	5.5 V		0.4 V		0.414										2A			1
			33 34			5.5 V		0.4 V 5.5 V		0.4 V		-						3A 4A			1
			34					5.5 V		0.4 V 5.5 V		0.4 V						5A			
1			36							0.0 v "		0.4 V 5.5 V			1	0.4 V		6A			1
	001	3005	37	5.5 V		5.5 V	5.5 V	5.5 V		5.5 V		5.5 V		GND		5.5 V		V _{CC}		30	n
	CCL	3005	38	GND		GND	5.5 V	GND		5.5 V		GND		UND		GND		V _{CC}		9.9	n
2			conditions and	-	r subaroun :	-		-	are omitte	4		0110	"	1	I		1	V CC	1	3.3	<u> </u>
			conditions and										"								
4	oame lest	s, terminal	conditions and	minus as for	subgroup	i, except 10	; = -ɔɔ⁻∪ ar	iu v _{IC} lests	GND	1.											

TABLE III. <u>Group A inspection for device type 08</u>. Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V or 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	4	3	14	5	6	9	8	11	10	7	12	13	2	Measured	Lim	nits	Unit
		method	Test no.	1A	2Y	2A	V _{CC}	3A	3Y	4A	4Y	5A	5Y	GND	6Y	6A	1Y	terminal	Min	Max	1
9	t _{PHL}	3003	39	IN			5.0 V							GND			OUT	1A to 1Y	3	23	ns
Tc = 25°C		(Fig. 3)	40		OUT	IN												2A to 2Y			
			41					IN	OUT									3A to 3Y			
			42							IN	OUT							4A to 4Y			
			43									IN	OUT					5A to 5Y			
			44				"							"	OUT	IN		6A to 6Y	-		
	PLH	3003	45	IN			5.0 V							GND			OUT	1A to 1Y	3	28	ns "
		(Fig. 3)	46		OUT	IN												2A to 2Y			
			47					IN	OUT									3A to 3Y			
+			48							IN	OUT		0.UT					4A to 4Y			
·			49 50									IN	OUT		OUT	IN		5A to 5Y 6A to 6Y			
10	4	3003		IN			5.0.1/							GND	001	lin	OUT		3	20	
10 To 1250C	t _{PHL}		51 52	IIN	OUT	IN	5.0 V							GND			001	1A to 1Y 2A to 2Y	3	29	ns "
Tc = 125°C		(Fig. 3)	53		001	IN		IN	OUT									3A to 3Y			
			53 54					IIN	001	IN	OUT							4A to 4Y			
			55							IIN	001	IN	OUT					5A to 5Y			
			56										001		OUT	IN		6A to 6Y			
	PLH	3003	57	IN			5.0 V							GND			OUT	1A to 1Y	3	35	ns
	FLO	(Fig. 3)	58		OUT	IN												2A to 2Y			
		(59					IN	OUT									3A to 3Y			
			60						_	IN	OUT							4A to 4Y			
t			61									IN	OUT	"				5A to 5Y			
			62											"	OUT	IN		6A to 6Y			
11	Same tes	ts, terminal	conditions and	limits as fo	r subgroup	10, except	Tc = -55°C.														
													"								

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

		MIL-STD-	Case C																		
ubgroup	Symbol	883																Measured	Lin		Unit
		method	Test no.	1A	1B	1Y	2A	2B	2Y	GND	3Y	ЗA	3B	4Y	4A	4B	V _{CC}	terminal		Max	<u> </u>
1	Vol	3007	1	2.0 V	2.0 V	16 mA	5.5 V	5.5 V		GND		5.5 V	5.5 V		5.5 V	5.5 V	4.5 V	1Y		0.4	V
= 25°C			2	5.5 V	5.5 V		2.0 V	2.0 V	16 mA									2Y Min			
			3				5.5 V	5.5 V			16 mA	2.0 V	2.0 V					3Y			
			4			= = \/		/				5.5 V	5.5 V	16 mA	2.0 V	2.0 V		4Y			
	CEX		5	0.8 V	4.5 V 0.8 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	1Y 1Y		250	μΑ
ļ			6 7	4.5 V 5.5 V	0.8 V 5.5 V		0.8 V	4.5 V	5.5 V									2Y			
			8	3.5 V	5.5 V		4.5 V	4.3 V 0.8 V	5.5 V									21 2Y			
I I			9	"	"		5.5 V	5.5 V		"	5.5 V	0.8 V	4.5 V		"			3Y			
			10									4.5 V	0.8 V					3Y			
ļ			11	"	"			"		"		5.5 V	5.5 V	5.5 V	0.8 V	4.5 V		4Y			
			12	"						"			"	"	4.5 V	0.8 V		4Y			
	IC		13	-12mA						GND							4.5 V	1A		-1.5	V
ļ			14		-12mA									"				1B			
ļ			15				-12mA	40										2A			
V			16 17					-12mA				-12mA						2B 3A			
			18									-121174	-12mA					3A 3B			
ļ			19							"			12110		-12mA			4A			
ļ			20							"						-12mA		4B			
	IH1	3010	21	2.4 V	GND		GND	GND		GND			GND		GND	GND	5.5 V	1A		40	μ
			22	GND	2.4 V			"		"					"			1B			· `"
			23	"	GND		2.4 V	"		"					"			2A			
1			24	"	"		GND	2.4 V			GND							2B			
·			25					GND				2.4 V			"			3A			
			26 27									GND	2.4 V GND		2.4 V			3B 4A			
			28										GIND "		GND	2.4 V		4A 4B			
	IH2	3010	20	5.5 V	GND		GND	GND		GND			GND		GND	GND	5.5 V	4B 1A		100	μ/
ļ	IH2	3010	30	GND	5.5 V		OND	"		"			"		"	"	0.0 V	1B		"	μ/
			31	"	GND		5.5 V											2A			
			32				GND	5.5 V			GND				"			2B			
1			33	"				GND			GND	5.5 V						ЗA			
			34	"	"			"		"		GND	5.5 V					3B			
			35										GND		5.5 V			4A			i .
ļ		0000	36					551/				-			GND	5.5 V		4B	0.7		
	I L	3009	37 38	0.4 V 5.5 V	5.5 V 0.4 V		5.5 V	5.5 V		GND		5.5 V	5.5 V		5.5 V	5.5 V	5.5 V	1A 1B	-0.7	-1.6	m
			38	5.5 V	0.4 V 5.5 V		0.4 V							"				2A			
			40		0.0 v "		5.5 V	0.4 V										2B			
1			41	"	"			5.5 V				0.4 V						3A			
			42		"					"		5.5 V	0.4 V					3B			
			43	"	"			"		"			5.5 V		0.4 V			4A		"	
			44	"	"					"			"		5.5 V	0.4 V		4B		"	
	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	V _{cc}		20	m
	CCH	3005	46	GND	GND		GND	GND		GND		GND	GND	"	GND	GND	5.5 V	V _{CC}		6.6	m
			conditions and conditions and																		

TABLE III. <u>Group A inspection for device type 09</u>. Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V or open)

	1	MIL-STD-	Case C	1	2	3	4	5	6	7	8	<u>a</u>	10	11	12	13	14				
		-	Case C	'	2	5	4	5	0	'	0	5	10		12	15	14				
Subgroup	Symbol	883																Measured	Lim	nts	Unit
		method	Test no.	1A	1B	1Y	2A	2B	2Y	GND	3Y	ЗA	3B	4Y	4A	4B	V _{CC}	terminal		Max	
9	t _{PHI}	3003	47	IN	2.4 V	OUT				GND							5.0 V	1A to 1Y	3	23	ns
Tc = 25°C		(Fig. 3)	48				IN	2.4 V	OUT	"								2A to 2Y _{Min}			
			49							"	OUT	IN	2.4 V					3A to 3Y			
			50											OUT	IN	2.4 V		4A to 4Y			1
	PLH	3003	51	IN	2.4 V	OUT				GND							5.0 V	1A to 1Y	3	28	ns
		(Fig. 3)	52				IN	2.4 V	OUT	"								2A to 2Y			
		,	53							"	OUT	IN	2.4 V					3A to 3Y			
			54							"				OUT	IN	2.4 V		4A to 4Y			1
10	t _{PHL}	3003	55	IN	2.4 V	OUT				GND							5.0 V	1A to 1Y	3	29	ns
Tc = 125°C		(Fig. 3)	56				IN	2.4 V	OUT	"								2A to 2Y			
			57							"	OUT	IN	2.4 V					3A to 3Y			
			58											OUT	IN	2.4 V		4A to 4Y			1
	PLH	3003	59	IN	2.4 V	OUT				GND							5.0 V	1A to 1Y	3	35	ns
		(Fig. 3)	60				IN	2.4 V	OUT	"								2A to 2Y			
		,	61								OUT	IN	2.4 V					3A to 3Y			
			62							"				OUT	IN	2.4 V		4A to 4Y			1
14	Same tes	ts, terminal of	conditions and	l limits as fo	r subgroup	10, except	Гс = -55°C.														

TABLE III.Group A inspection for device type 09Continued.Terminal conditions (pins not designated may be high \geq 2.0 V, low \leq 0.8 V or open)

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 <u>Acquisition requirements.</u> 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.
 - f. 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
	Voltage level at an input terminal
V _{IC}	
l _{IN}	Current flowing into an input terminal

6.6 Logistic support. 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	Generic-industry
type	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.