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MIL-M-38510/79D <u>17 AUGUST 2005</u> SUPERSEDING MIL-M-38510/79C 5 NOVEMBER 1987

MILITARY SPECIFICATION

MICROCIRCUITS, DIGITAL, BIPOLAR, SCHOTTKY TTL, DATA SELECTORS / MULTIPLEXERS WITH THREE-STATE OUTPUTS, MONOLITHIC SILICON

Inactive for new design after 23 August 1996.

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, Schottky TTL, data selectors / multiplexers (three-state) microcircuits. Two product assurance classes and a choice of case outlines and lead finishes are provided 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 For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.4).

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 type.</u> The device type is as follows:

Device type	Circuit
01	8 input, data selector / multiplexer
02	Dual, 4-input, data selector / mutiplexer
03	Quad, 2-input, data selector / multiplexer
04	Quad, 2-input, data selector / multiplexer with inverted output
05	8-input, data selector / mutiplexer with 3-state outputs
06	Quad, 2-input, data selector / multiplexer with 3-state outputs
07	Quad, 2-input, data selector / multiplexer with 3-state inverted output
08	Dual, 4-input, data selector / multiplexer with 3-state outputs

1.2.2 <u>Device class</u>. The device class is the product assurance level as defined in MIL-PRF-38535.

1.2.3 Case outlines. The case outlines are as designated in MIL-STD-1835 and as follows:

Outline letter	Descriptive designator	<u>Terminals</u>	Package style
Е	GDIP1-T16, CDIP2-T16	16	Dual in line package
F	GDFP2-F16, CDFP3-F16	16	Flat Package
2	CQCC1-N20	20	Square chip
Х	CQCC2-N20	20	Square chip carrier package

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@dscc.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.

Supply voltage range Input voltage range Storage temperature range Maximum power dissipation (P _D) <u>1</u> /:	1.2 V dc at -18 mA to +5.5 V dc
Device types 01 and 02	
Device type 03	
Device type 04	
Device type 05	
Device type 06	545 mW
Device type 07	
Device type 08	550 mW
Lead temperature (soldering 10 seconds)	
Thermal resistance, junction-to-case (θ_{JC}) :	
Cases E, F, 2, and X	(See MIL-STD-1835)
Junction temperature (T _J) <u>2</u> /	+175°C

1.4 Recommended operating conditions.

Supply voltage (V _{CC})	4.5 V dc minimum to 5.5 V dc maximum
Minimum high level input voltage (V _{IH})	2.0 V dc
Maximum low level input voltage (VIL)	0.8 V dc <u>3</u> /
Case operating temperature range (T _c)	-55°C to 125°C

2.0 APPLICABLE DOCUMENTS

2.1 <u>General</u>. 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.

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

<u>3</u>/ V_{IL} = 0.7 V at +125 $^{\circ}$ C

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 6.3).

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</u>. The terminal connections shall be as specified on figure 1.

3.3.2 <u>Truth table</u>. The truth table shall be as specified on figure 2.

3.3.3 <u>Schematic circuits.</u> The schematic circuit shall be maintained by the manufacturer and made available to the qualifying activity and the preparing activity upon request.

3.3.4 <u>Case outlines.</u> 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>. Unless otherwise specified, the electrical performance characteristics are as specified in table I, and apply over the full recommended case operating temperature range.

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.

3.7 Marking. Marking shall be in accordance with MIL-PRF-38535 and 1.2 herein.

3.8 <u>Microcircuit group assignment.</u> The devices covered by this specification shall be in microcircuit group number 11 (see MIL-PRF-38535, appendix A).

Test	Symbol		nditions Tc < +125°C	Device	Lir Min	nits Max	Units
			-	type	IVIIII	IVIAX	
High level output voltage	V _{OH}	V_{CC} = 4.5 V; V_{IL} =	0.8 V	01, 02	2.5		V
		I _{OH} = -1.0 mA		03, 04			
		@T _C = 125°C, V _{IL} =	= 0.7 V				
	$\begin{array}{ c c c c c c } Symbol & -55^{\circ}C \leq T_{C} \leq +125^{\circ}C \\ Unless otherwise specified \\ \hline \\ ge & V_{OH} & V_{CC} = 4.5 \ V; \ V_{IL} = 0.8 \ V \\ I_{OH} = -1.0 \ mA & \\ \hline & & $			05, 06	2.4		
		I _{OH} = -2.0 mA					
		@T _C = 125°C, V _{II} =	= 0.7 V				
				07, 08			
		I _{OH} = -1.0 mA					
		@T _C = 125°C, V _{IL} =	= 0.7 V				
Low level output voltage	V _{OL}	V _{CC} = 4.5 V		ALL		.5	V
		I _{OL} = 20 mA					
		$T_{C} = 125^{\circ}C$		ALL		.45	V
Input clamp voltage	Vic	V _{CC} = 4.5 V		ALL		-1.2	V
prove provide	. 10		25°C				
Off state output current	I _{OFF1}			05, 06		50	μA
		V _O = 2.7 V		07, 08			
		V _{CC} = 5.5 V		05, 06		-50	μA
ff state output current I _{OFF2}		V _O = 0.5 V		07, 08			
High level input current	I _{IH1}	V _{CC} = 5.5 V	All inputs	01, 02		50	μA
		V _{IN} = 2.7 V		05, 08	-		
				03, 04			
ow level output voltage oput clamp voltage off state output current off state output current igh level input current igh level input current				06, 07		100	
				03, 04		100	
				06, 07			
High level input current	I _{IH2}		All inputs	All		1.0	mA
Low level input current	IIL	V _{CC} = 5.5 V	All inputs	01, 02	-1.0	-2.0	mA
		V _{IN} = 0.5 V		05, 08			
			A and B inputs	03, 04	0.1		
			All inputs except S	06, 07	-1.0 <u>2/</u>		
			S and G inputs	03, 04	0.1	-4.0	
			S input	06, 07	-2.0 <u>2/</u>	-4.0	

MIL-M-38510/79D TABLE I. <u>Electrical performance characteristics</u>.

		Conditions	Device	Lir	mits	Units
Test	Symbol	type	Min	Max	Offito	
Short circuit output current	I _{OS}	$V_{CC} = 5.5 V $ <u>1</u> /	All	-40	-110	mA
Supply current	I _{CC}	$V_{CC} = 5.5 V$	01, 02		70	mA
			03		78	
			04		61	
Supply current	Icco	V _{CC} = 5.5 V	05		85	mA
		V _{IN} = 5.5 V	06		99	
		V _{IN} = 5.5 V 06 07			87	-
			08		100	
Supply current	I _{CC1}	V _{CC} = 5.5 V	08		80	mA
Collector cut-off current	I _{CEX}	V _{CC} = 5.5 V, V _{OH} = 5.5 V	01 thru		250	μA
		V_{IL} = GND, V_{IH} = 5.5 V	08			
Low level supply current	I _{CCL}	V _{CC} = 5.5 V	06		93	mA
			07		81	
High level supply current	I _{CCH}	V _{CC} = 5.5 V	06		68	mA
			07		56	
From A, B, C, to Y	t _{PLH2}	V _{CC} = 5.0 V C _L = 50 pF	01	2.0	26.0	ns
From A, B, C, to Y	t _{PHL2}	$R_L = 280\Omega$	01	2.0	26.0	ns
From A, B, C, to W	t _{PLH1}		01	2.0	22.0	ns
From A, B, C, to W	t _{PHL1}		01	2.0	20.0	ns
From any D to Y	t _{PLH6}		01	2.0	18.0	ns
From any D to Y	t _{PHL6}		01	2.0	18.0	ns
From any D to W	t _{PLH5}		01	2.0	11.5	ns

MIL-M-38510/79D TABLE I. <u>Electrical performance characteristics</u> - Continued.

		Conditions	Device	Lir	nits	Units
Test	Symbol	$-55^{\circ}C \le T_C \le +125^{\circ}C$ Unless otherwise specified	type	Min	Max	Offico
From any D to W	t _{PHL5}	$V_{CC} = 5.0 V$ $C_L = 50 pF$	01	2.0	11.5	ns
From strobe to Y	t _{PLH4}	$R_{L} = 280 \Omega$	01	2.0	24.0	ns
From strobe to Y	t _{PHL4}		01	2.0	26.0	ns
From strobe to W	t _{PLH3}		01	2.0	19.5	ns
From strobe to W	t _{PHL3}		01	2.0	18.0	ns
From data to Y	t _{PLH1}		02, 08	2.0	14.5	ns
From data to Y	t _{PHL1}		02, 08	2.0	14.5	ns
From select to Y	t _{PLH2}		02, 08	2.0	26.0	ns
From select to Y	t _{PHL2}		02, 08	2.0	26.0	ns
From strobe to Y	t _{PLH3}		02	2.0	22.0	ns
From strobe to Y	t _{PHL3}		02	2.0	21.0	ns
From data to Y	t _{PLH2}		03	2.0	12.0	ns
			04		11.0	
From data to Y	t _{PHL2}		03	2.0	12.0	ns
			04		11.0	
From strobe to Y	t _{PLH3}		03	2.0	18.0	ns
			04		18.0	
From strobe to Y	t _{PHL3}		03	2.0	18.5	ns
			04		18.5	

TABLE I. Electrical performance characteristics - Continued.

		Conditions	Device	Lir	nits	Units
Test	Symbol	$-55^{\circ}C \le T_C \le +125^{\circ}C$ Unless otherwise specified	type	Min	Max	Grinto
From select to Y	t _{PLH1}	$V_{CC} = 5.0 V$ $C_L = 50 pF$	03	2.0	18.5	ns
		$R_{L} = 280 \Omega$	04		18.5	
From select to Y	t _{PHL1}		03	2.0	18.5	ns
			04		18.5	
From A, B, C to Y	t _{PLH2}		05	2.0	26.0	ns
From A, B, C to Y	t _{PHL2}		05	2.0	28.0	ns
From A, B, C to W	t _{PLH1}		05	2.0	22.0	ns
From A, B, C to W	t _{PHL1}		05	2.0	20.0	ns
From any D to Y	t _{PLH4}		05	2.0	18.0	ns
From any D to Y	t _{PHL4}		05	2.0	18.0	ns
From any D to W	t _{PLH3}	-	05	2.0	11.5	ns
From any D to W	t _{PHL3}		05	2.0	11.5	ns
From strobe to Y	t _{ZH3}		05	2.0	25.5	ns
From strobe to Y	t _{ZL3}		05	2.0	27.5	ns
From strobe to Y	t _{HZ4}		05	2.0	24.0	ns
From strobe to Y	t _{LZ4}		05	2.0	22.0	ns
From strobe to W	t _{ZH1}]	05	2.0	25.5	ns
From strobe to W	t _{ZL1}		05	2.0	27.5	ns
From strobe to W	t _{HZ2}		05	2.0	24.0	ns

MIL-M-38510/79D TABLE I. <u>Electrical performance characteristics</u> - Continued.

		Conditions	Device	Lir	nits	Units
Test	Symbol	$-55^{\circ}C \leq T_C \leq +125^{\circ}C$ Unless otherwise specified	type	Min	Max	Onito
From strobe to W	t _{LZ2}	$V_{CC} = 5.0 V$	05	2.0	22.0	ns
From select to Y	t _{PLH1}	$C_{L} = 50 pF$ $R_{L} = 280 \Omega$	06	2.0	22.0	ns
			07		18.5	
From select to Y	t _{PHL1}		06	2.0	22.0	ns
			07		18.5	
From data to Y	t _{PLH2}		06	2.0	12.0	ns
			07		10.0	
From data to Y	t _{PHL2}		06	2.0	11.0	ns
			07		10.0	
From output control to Y	t _{ZH}		05, 06	2.0	28.0	ns
			07		28.0	
			08		30.0	
From output control to Y	t _{ZL}		05, 06	2.0	30.0	ns
			07		30.0	
			08		31.0	
From output control to Y	t _{HZ}		05, 06	2.0	24.0	ns
			07		24.0	
			08		18.0	
From output control to Y	t _{LZ}		05, 06	2.0	22.0	ns
			07		22.0	
			08		20.0	

MIL-M-38510/79D TABLE I. <u>Electrical performance characteristics</u> - Continued.

 $\label{eq:loss} \begin{array}{ll} \underline{1}' & \mbox{Not more than one output should be shorted at one time.} \\ \underline{2}' & \mbox{For device type 06, } I_{IL} \mbox{ minimum limit shall be -0.005 mA for circuit B.} \end{array}$

	Subgroups (see table III)				
MIL-PRF-38535 Test requirements	Class S Devices	Class B Devices			
Interim electrical parameters	1	1			
Final electrical test parameters	1*, 2, 3, 7, 9, 10, 11	1*, 2, 3, 7,9			
Group A test requirements	1, 2, 3, 7, 8, 9, 10, 11	1, 2, 3, 7, 8, 9, 10, 11			
Group B electrical test parameters when using the method 5005 QCI option	1, 2, 3, 7, 8, 9, 10, 11	N/A			
Group C end-point electrical Parameters	1, 2, 3, 7, 8, 9, 10, 11	1, 2, 3			
Group D end point electrical Parameters	1, 2, 3	1, 2, 3			

TABLE II. Electrical test requirements.

*PDA applies to subgroup 1

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 effect the form, fit, or function as described herein.

4.2 <u>Qualification inspection</u>. Qualification inspection shall be in accordance with MIL-PRF-38535.

4.3 <u>Screening.</u> Screening shall be in accordance with MIL-PRF-38535, and shall be conducted on all devices prior to gualification 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.

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-38535 and as follows:

- a. Tests shall be as specified in table II herein.
- b. Subgroups 4, 5, and 6 shall be omitted.
- 4.4.2 Group B inspection. Group B inspection shall be in accordance with table II of 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 in the appropriate tables 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 current and positive when flowing into the referenced terminal.

					-	-		-			-	-									
Terminal name Deviec type 08	E, F	16	В	1C3	1C2	1C1	1C0	7	GND	2Υ	2C0	2C1	2C2	2C3	A	2G	V_{cc}				
Termina Deviec	2, X	NC	1G	в	13	1C2	NC	1C1	1C0	1	GND	NC	2Υ	2C0	2C1	2C2	NC	2C3	A	2G	V _{cc}
l name ype 07	Е, F	S	1A	1B	7	2A	2B	2۲	GND	ЗҮ	3B	3A	4Υ	4B	4A	0E	V _{cc}				
Terminal name Device type 07	2, X	NC	S	1A	1B	1	NC	2A	2B	2Υ	GND	NC	ЗҮ	3B	ЗА	4Υ	NC	4B	4A	OE	V _{cc}
ll name type 06	Е, F	S	1A	1B	≯	2A	2B	2Υ	GND	ЗҮ	3B	ЗА	4Υ	4B	4A	ЭC	V _{cc}				
Terminal name Device type 06	2, X	NC	S	1A	1B	7	NC	2A	2B	2Υ	GND	NC	ЗҮ	3B	3A	4Υ	NC	4B	4A	0E	V _{cc}
Terminal name Device type 05	Е, F	D3	D2	D1	DO	≻	Μ	ST	GND	С	В	A	D7	90	D5	D4	V _{cc}				
Terminal name Device type 05	2, X	NC	D3	D2	D1	DO	NC	٢	M	ST	GND	NC	С	В	A	D7	NC	D6	D5	D4	V _{cc}
l name ype 04	E, F	S	1A	1B	1	2A	2B	2Υ	GND	3Υ	3B	3A	4Υ	4B	4A	ŋ	V _{cc}				
Terminal name Device type 04	2, X	NC	S	1A	1B	1	NC	2A	2B	2Υ	GND	NC	3Υ	3B	3A	4Υ	NC	4B	4A	ß	V _{cc}
I name ype 03	E, F	S	1A	1B	17	2A	2B	2Υ	GND	3Υ	3B	3A	4Υ	4B	4A	ŋ	V _{cc}				
Terminal name Device type 03	2, X	NC	S	1A	1B	1	NC	2A	2B	2Υ	GND	NC	ЗҮ	3B	ЗА	4Υ	NC	4B	4A	ß	V _{cc}
l name ype 02	Е, F	1G	В	1C3	1C2	1C1	1C0	4	GND	2Υ	2C0	2C1	2C2	2C3	A	2G	V _{cc}				
Terminal name Device type 02	2, X	NC	1G	В	1C3	1C2	S	1C1	1C0	1Y	GND	NC	2Υ	2C0	2C1	2C2	NC	2C3	A	2G	V _{cc}
I name ype 01	E, F	D3	D2	D	8	≻	×	ST	GND	ပ	в	A	D7	D6	D5	D4	V _{cc}				
Terminal name Device type 01	2, X	S	D3	D2	5	ß	S	≻	N	ST	GND	S	С	В	A	D7	NC	D6	D5	D4	V _{cc}
umber \$	E, F	+	2	с	4	5	9	7	8	6	10	11	12	13	14	15	16				
Terminal number case	2, X	-	2	ę	4	5	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20

FIGURE 1. Terminal connections.

					Inpu	ts							Out	puts	
	Select	t	Strobe				Da	ata				Туре	e 01	Тур	e 05
С	В	А	S	D0	D1	D2	D3	D4	D5	D6	D7	Y	W	Y	W
Х	Х	Х	Н	Х	Х	Х	Х	Х	Х	Х	Х	L	Н	Z	Z
L	L	L	L	L	Х	Х	Х	Х	Х	Х	Х	L	Н	L	Н
L	L	L	L	н	Х	Х	Х	Х	Х	Х	х	Н	L	н	L
L	L	Н	L	Х	L	Х	Х	Х	Х	Х	Х	L	Н	L	Н
L	L	Н	L	х	Н	х	Х	Х	Х	Х	х	Н	L	Н	L
L	Н	L	L	х	Х	L	Х	Х	Х	Х	х	L	Н	L	Н
L	Н	L	L	х	Х	Н	Х	Х	Х	Х	Х	Н	L	Н	L
L	Н	Н	L	х	х	х	L	Х	Х	х	х	L	Н	L	Н
L	Н	Н	L	х	х	Х	Н	Х	Х	Х	х	Н	L	Н	L
Н	L	L	L	х	Х	Х	Х	L	Х	Х	х	L	Н	L	Н
Н	L	L	L	х	Х	Х	Х	Н	Х	Х	Х	Н	L	Н	L
н	L	Н	L	х	х	Х	Х	Х	L	Х	х	L	Н	L	Н
н	L	Н	L	Х	Х	Х	Х	Х	Н	Х	Х	Н	L	н	L
Н	Н	L	L	Х	Х	Х	Х	Х	х	L	х	L	Н	L	Н
н	Н	L	L	Х	Х	Х	Х	Х	Х	Н	Х	Н	L	н	L
н	Н	Н	L	Х	Х	Х	Х	Х	х	Х	L	L	Н	L	Н
Н	Н	Н	L	Х	Х	Х	Х	Х	Х	Х	Н	Н	L	Н	L
		H = hig	gh logic lev	vel,	L = I	ow log	ic level	,	X = irr	elevan	t, Z	= high i	mpedar	nce	

Device types 01 and 05

FIGURE 2. Truth tables.

Sele Inpu		C	Data ir	nputs		Strobe	Outputs
В	А	C0	C1	C2	C3	G	Y
х	Х	Х	х	х	х	Н	L
L	L	L	х	х	х	L	L
L	L	Н	х	х	х	L	Н
L	Н	х	L	х	х	L	L
L	Н	х	Н	х	х	L	Н
н	L	х	х	L	х	L	L
н	L	х	х	н	х	L	Н
н	Н	Х	х	х	L	L	L
Н	Н	Х	х	х	Н	L	Н

Device type 02

Address inputs A and B are common to both sections. H = high level, L = low level, X = irrelevant

	Inputs			Outp	out Y
Strobe	Select	А	В	Туре 03	Type 04
Н	Х	Х	Х	L	Н
L	L	L	Х	L	Н
L	L	Н	Х	н	L
L	Н	Х	L	L	Н
L	Н	Х	Н	Н	L

Device types 03 and 04

 $\mathsf{H} = \mathsf{high} \; \mathsf{level}, \quad \mathsf{L} = \mathsf{low} \; \mathsf{level}, \quad \mathsf{X} = \mathsf{irrelevant}.$

FIGURE 2. <u>Truth tables</u> – Continued.

Device types 06 and 07

	Inputs			Outp	out Y
Output Control	Select	А	В	Туре 06	Type 07
Н	Х	Х	Х	Z	Z
L	L	L	Х	L	Н
L	L	Н	Х	Н	L
L	Н	Х	L	L	Н
L	Н	Х	Н	Н	L

 $\begin{array}{ll} \mbox{H = high level,} & \mbox{L = low level,} & \mbox{X = irrelevant,} \\ \mbox{Z = high impedance (off).} \end{array}$

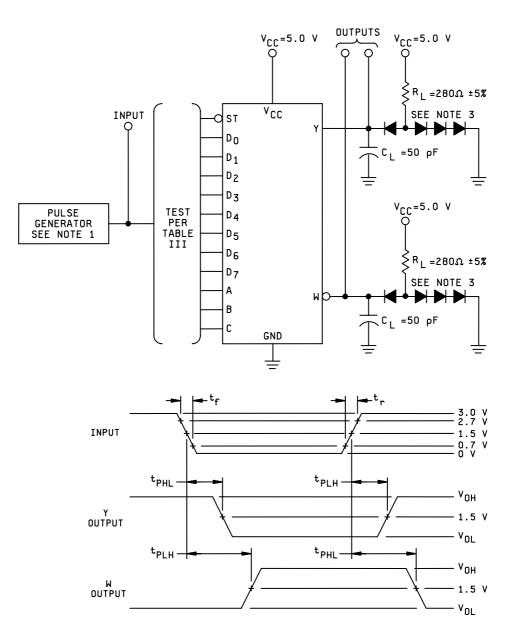
Function table

Device type 08

Sele Inpu		C	Data ir	nputs		Output control	Output
В	А	C0	C1	C2	C3	G	Y
х	Х	Х	х	х	х	Н	Z
L	L	L	х	х	х	L	L
L	L	Н	х	х	Х	L	Н
L	Н	х	L	х	Х	L	L
L	Н	х	Н	х	Х	L	Н
Н	L	х	х	L	Х	L	L
Н	L	х	х	Н	Х	L	Н
Н	Н	Х	х	х	L	L	L
Н	Н	Х	х	х	Н	L	Н

Address inputs A and B are common to both sections. H = high level, L = low level, X = irrelevant, Z = high impedance (off).

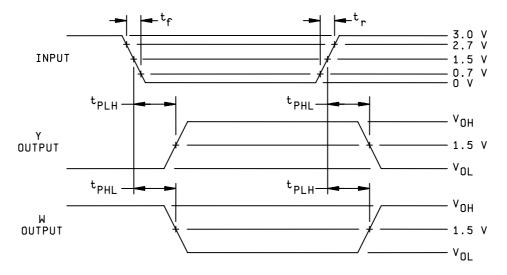
FIGURE 2. Truth tables - Continued.



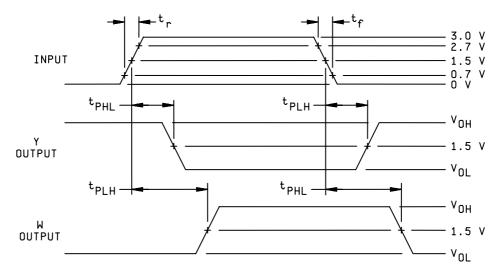
NOTES:

- 1. The input pulse has the following characteristics: t_r = $t_f \le$ 2.5 ns, PRR \le 1 MHz, and $Z_{OUT} \approx$ 50 Ω .
- 2. CL includes probe and jig capacitance.
- 3. All diodes are 1N3064 or equivalent.
- 4. Only the output under test needs to be loaded.

FIGURE 3. Switching time test circuits and waveforms for device type 01.

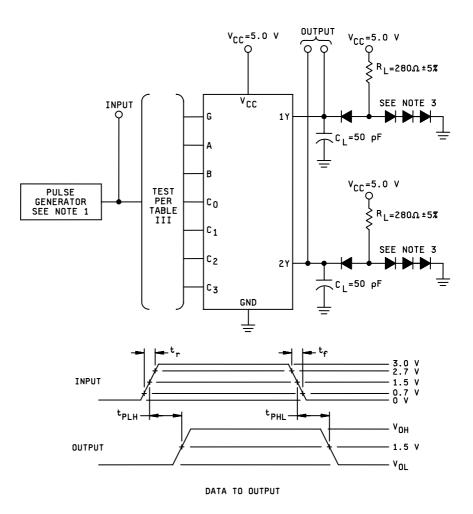


STROBE TO OUTPUT VOLTAGE WAVEFORMS - TYPE 01



DATA TO OUTPUT VOLTAGE WAVEFORMS - TYPE 01

FIGURE 3. Switching time test circuits and waveforms for device type 01- Continued.



NOTES:

- 1. The input pulse has the following characteristics: $t_f = t_f \le 2.5$ ns, PRR ≤ 1 MHz, and $Z_{OUT} \approx 50 \Omega$.
- 2. C_L includes probe and jig capacitance.
- 3. All diodes are 1N3064 or equivalent.
- 4. Only the output under test needs to be loaded.

FIGURE 4. Switching time test circuits and waveforms for device type 02.



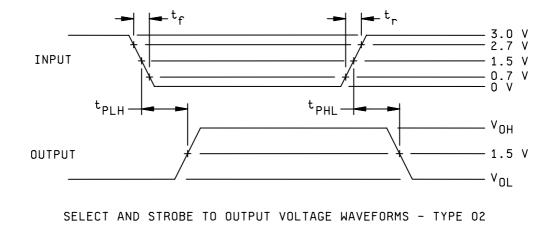
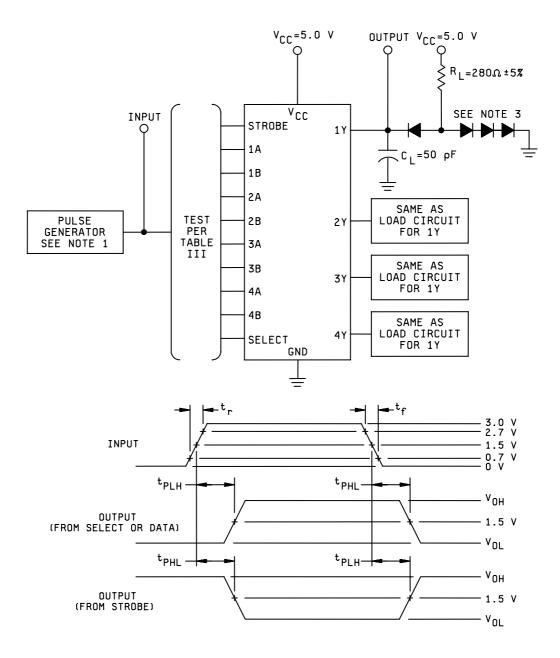


FIGURE 4. Switching time test circuits and waveforms for device type 02 - Continued.

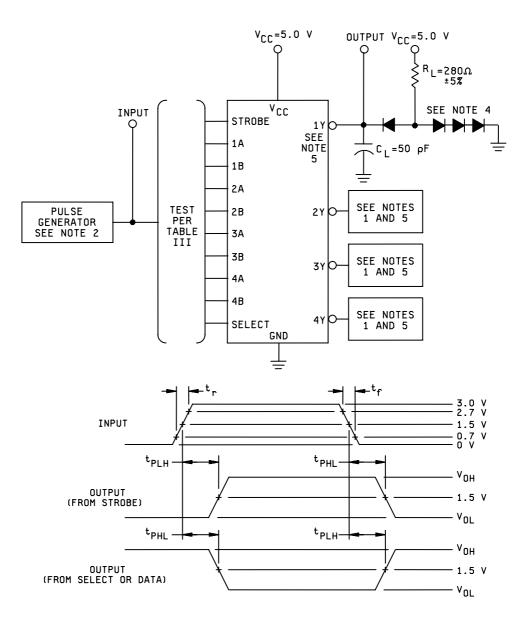


1. The input pulse has the following characteristics: PRR \leq 1 MHz, t_r = t_f \leq 2.5 ns, and Z_{OUT} \approx 50 Ω .

- 2. C_L includes probe and jig capacitance.
- 3. All diodes are 1N3064 or equivalent.

4. Load circuit is required on a given output only where table III indicates "OUT" on that output. Load circuits may otherwise be omitted.

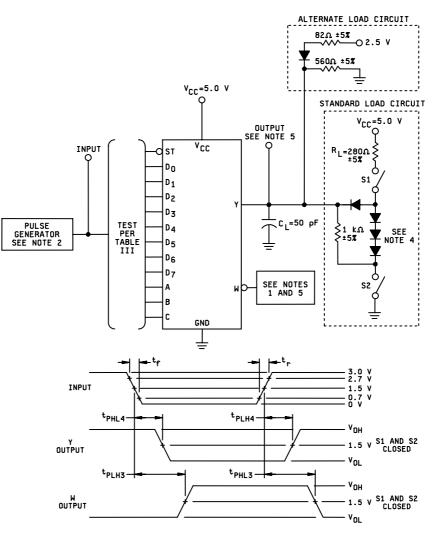
FIGURE 5. Switching time test circuits and waveforms for device type 03.



NOTES:

- 1. Connect same load as shown for output 1Y.
- 2. The input pulse has the following characteristics: PRR \leq 1 MHz, t_r = t_f \leq 2.5 ns, and Z_{OUT} \approx 50 Ω .
- 3. C_L includes probe and jig capacitance.
- 4. All diodes are 1N3064 or equivalent.
- 5. Load circuit is required on a given output only where table III indicates "OUT" on that output. Load circuits may otherwise be omitted.

FIGURE 6. Switching time test circuits and waveforms for device type 04.

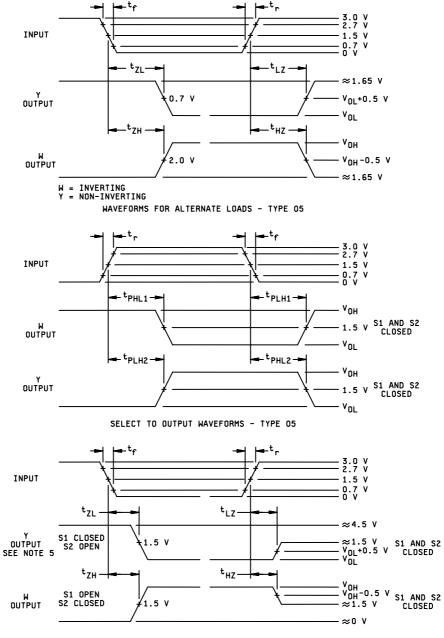


DATA TO OUTPUT WAVEFORMS - TYPE 05

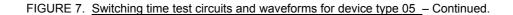
NOTES:

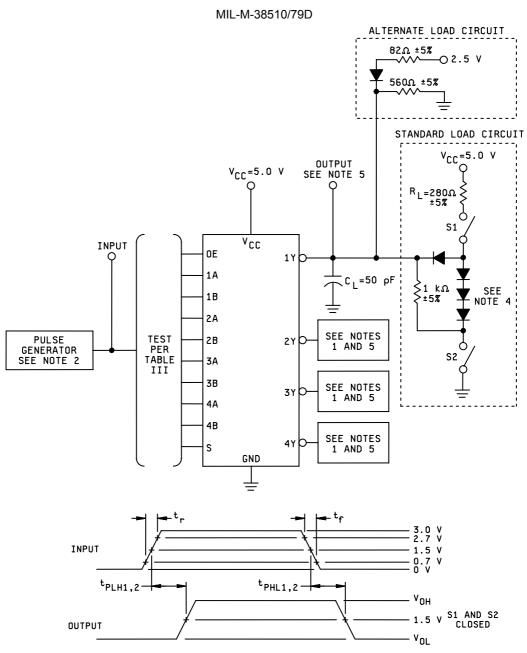
- 1. Connect same load as shown for Y output.
- 2. The input pulse has the following characteristics: $t_r = t_f \le 2.5$ ns, PRR ≤ 1 MHz, and $Z_{OUT} \approx 50 \Omega$.
- 3. C_L includes probe and jig capacitance.
- 4. All diodes are 1N3064 or equivalent.
- 5. Load circuit is required on a given output only where table III indicates "OUT" on that output. Load circuits may otherwise be omitted.
 - A. Output 1 is for an output with internal conditions such that the output is low except when disabled by the output control.
 - B. Output 2 is for an output with internal conditions such that the output is high except when disabled by the output control.
- 6. Manufacturer may test with either the standard load circuit or the alternate load circuit at his option.

FIGURE 7. Switching time test circuits and waveforms for device type 05.



STROBE TO OUTPUT WAVEFORMS - TYPE 05

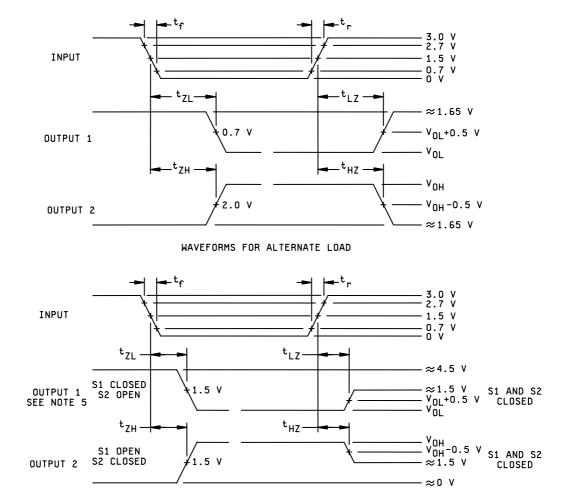




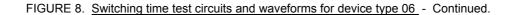
NOTES:

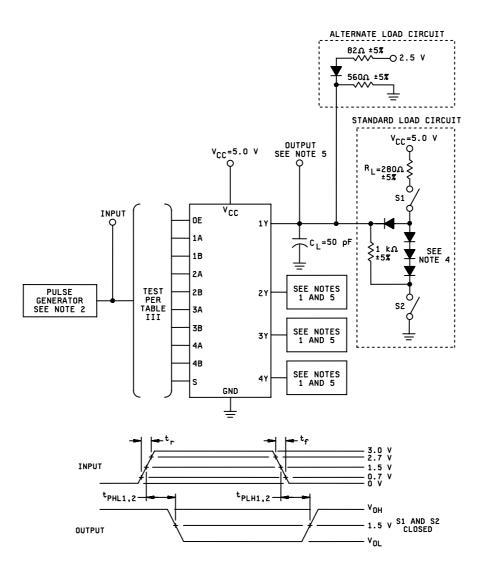
- 1. Connect same load as shown for 1Y output.
- 2. The input pulse has the following characteristics: $t_r = t_f \le 2.5$ ns, PRR ≤ 1 MHz, and $Z_{OUT} \approx 50 \Omega$.
- 3. C_L includes probe and jig capacitance.
- 4. All diodes are 1N3064 or equivalent.
- 5. Load circuit is required on a given output only where table III indicates "OUT" on that output. Load circuits may otherwise be omitted.
 - A. Output 1 is for an output with internal conditions such that the output is low except when disabled by the output control.
 - B. Output 2 is for an output with internal conditions such that the output is high except when disabled by the output control.
- 6. Manufacturer may test with either the standard load circuit or the alternate load circuit at his option.

FIGURE 8. Switching time test circuits and waveforms for device type 06.



WAVEFORMS FOR STANDARD LOAD

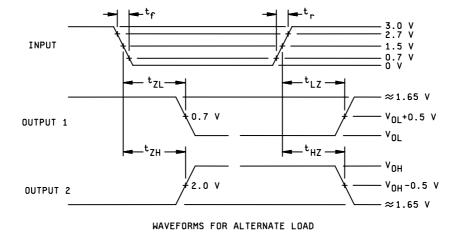


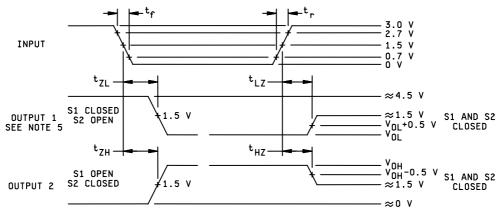


NOTES:

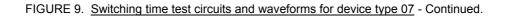
- 1. Connect same load as shown for 1Y output.
- 2. The input pulse has the following characteristics: $t_f = t_f \le 2.5$ ns, PRR ≤ 1 MHz, and $Z_{OUT} \approx 50 \Omega$.
- 3. C_L includes probe and jig capacitance.
- 4. All diodes are 1N3064 or equivalent.
- 5. Load circuit is required on a given output only where table III indicates "OUT" on that output. Load circuits may otherwise be omitted.
 - A. Output 1 is for an output with internal conditions such that the output is low except when disabled by the output control.
 - B. Output 2 is for an output with internal conditions such that the output is high except when disabled by the output control.
- 6. Manufacturer may test with either the standard load circuit or the alternate load circuit at his option.

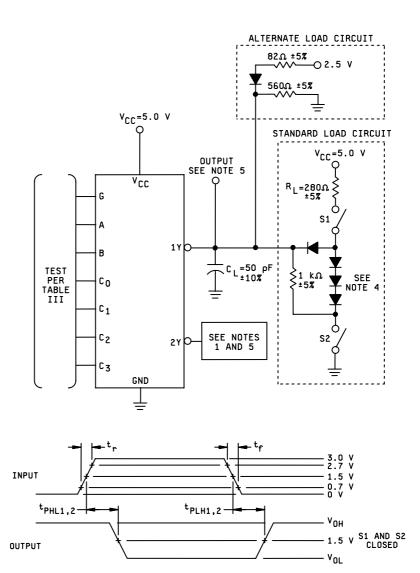
FIGURE 9. Switching time test circuits and waveforms for device type 07.





WAVEFORMS FOR STANDARD LOAD

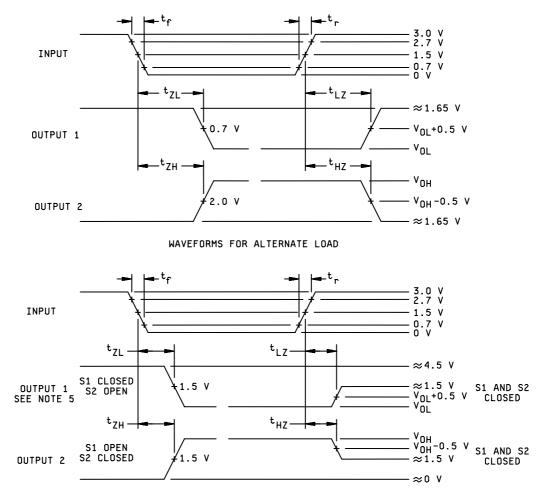




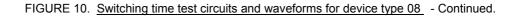
NOTES:

- 1. Connect same load as shown for 1Y output.
- 2. The input pulse has the following characteristics: $t_f = t_f \le 2.5$ ns, PRR ≤ 1 MHz, and $Z_{OUT} \approx 50 \Omega$.
- 3. C_L includes probe and jig capacitance.
- 4. All diodes are 1N3064 or equivalent.
- 5. Load circuit is required on a given output only where table III indicates "OUT" on that output. Load circuits may otherwise be omitted.
 - A. Output 1 is for an output with internal conditions such that the output is low except when disabled by the output control.
 - B. Output 2 is for an output with internal conditions such that the output is high except when disabled by the output control.
- 6. Manufacturer may test with either the standard load circuit or the alternate load circuit at his option.

FIGURE 10. Switching time test circuits and waveforms for device type 08.



WAVEFORMS FOR STANDARD LOAD



																																T											
	Unit		^ "		3		ШA		٩d	'n	×	n	×	ä	ä	3	×	ä	¥	ä	ЧW	¥	×	n	×	¥	×	3	3 3		3	n	ä	н	н	H	a	×	а :		: 3		•
imits		MIAX	0.5	C.U			-100 1/		50	×	×	×	3	×	×	¥	3	¥	ä	ä	1.0	×	3	×	я	×	×	3	2		3	-2	¥	3	3	×	×	×	a 1				J
Test limits	Ai.	INIII I		1	2.5	2.5	-40	-40																								-	¥	29	29	×	и	ų	а :		. 3		
	Measured		× ×	7	≥	×	3	≻	ß	D2	5	8	ST	с	в	A	D7	DG	D5	4	D3	D2	5	8	ST	с	в	۲	70	ŝ	5 5	D3	02	5	8	ST	U	в	4	20		ŝ	4
	Mea		,																																								
16	20	Vcc	4.5 V "	: :	3	39	5.5 V	×	ä	3	ä	×	3	3	3	3	3	3	3	ä	37	3	×	¥	ä	¥	×	2	3 3		3	×	3	H	H	39	39	3	8				:
15	19	D4																		2.7 V											5.5 V												0.5 V
14	18	D5																	2.7 V											i i	> c.c										7 3 0	V C.U	
13	17	D6																2.7 V											ï	0.0 V											V G.U		
12	15	D7		0.8 \	0.8 V		GND										2.7 V												5.5 V											0.5 V			
5	14	А	0.8 V	× 0.2	2.0 V	0.8 V	5.5 V	GND	GND	5.5 V	GND	5.5 V				2.7 V	GND	5.5 V				5.5 V	GND	2.0 <	GND 5.5 V	5.5 V	GND	5.5 V	GND				0.5 V	5.5 V	GND	2.0 V	GND						
10	13	В	0.8 V	× 0.2	2.0 V	0.8 V	5.5 V	GND	¥	×	5.5 V	5.5 V			2.7 V		GND	GND	5.5 V	5.5 V	GND	GND	5.5 V	5.5 V			5.5 V		GND	GND	> c.c *	n	¥	GND	GND			0.5 V		5.5 V	2 G M C	GND	-
6	12	С	0.8 V	-			5.5 V	GND	5.5 V		×			2.7 V					×			×	и	ä		5.5 V			GND			×	n	н	н		0.5 V						-
ø	10	GND	GND	-	*		×		'n	×	×	'n	×	×	×	×	×	×	×	ų	11	¥	×	ų	×	n	3	3				я	×	*	*	n	×	×	a :				;
2	6	ST 0	0.8 V (3	n	ND	GND	.5 V	ų	'n	z	.7 V				.5 V	'n	ч	ä	11	z	×	ä	'n				.5 <		. 3	GND	'n	n	n	.5 V							
9	8	Ν	20 mA 0	+	-1 mA		GND	0	ŝ				2				2												Ω.			0				0							
5	7	×		ZU MA		-1 mA	-	GND																																			
4	5		2.0 V	70		2.0 V -1		5.5 V G				2.7 V												5.5 V											0.5 V								
			2.(2.(5.5				2.1											>	5.5										>									
3	4	D1									2.7 V												5.5 V										>	0.5 V									
2	3	D2								2.7 V											/	5.5 V											0.5 V										
~	/ 2	. D3							2.7 V												5.5 V											0.5 V											
Cases E.F		Test no.	- 0	N	ო	4	5	9	7	8	6	10	5	12	13	4	15	16	17	18	19	20	21	22	23	24	25	26	27	87 0	30	31	32	33	34	35	36	37	38	65	04 5	4	42
MIL-	STD-883		3007	3007	3006	3006	3011	3011	3010	3	3	3	3	3	3	3	×	a	я	3	77	3	я	я	3	3	3	3	3 3		3	3009	z	н	н	7	я	3		: :			
	Symbol 3		NoL	VoL	Voh	VoH	los	los	IH1												ГНО	!										lıL1											
	Subgroup		1	$T_{C} = +25^{\circ}C$																	I											<u> </u>											
	Subç		I	0																																							

See footnotes at end of device type 01.

MIL-M-38510/79D

Table III. Group A inspection for device type 01 Terminal conditions (pins not designated may be H \ge 2.0 V, or L \le 0.8 V, or open)

Downloaded from Arrow.com.

	Unit		mA	Ч	ЧA	>	¥	¥	¥	×	щ	3	×	¥	ų	¥	н																			
nits	M	Max	70	250	250	-1.2	¥	u	¥	×	¥	¥	×	¥	¥	¥	н																			
Test limits	Mi.~	UIM																																		
	Measured		Vcc	M	٢	D3	D2	5	8	ST	U	в	٩	D7	D6	D5	D4			3/			-	-	-		-	-								:
16	20 M	Vcc	5.5 V	5.5 V	5.5 V	4.5 V	z	×	z	z	×	z	×	×	×	z	н			4.5 V					-		-									
15	19	D4	GND														-18 mA			A <u>2</u> /	۲	В	۷	В	۷	в	۷	В	В	۷	۷	В	۷	В	۷	в
14	18	D5	GND 0													-18 mA	-			A <u>2</u> / /	٨	в	۲	в	A	в	۲	в	A	в	в	۷	۷	в	۷	Ш
13	17	D6	GND (-18 mA	7		= 0.45 V.		A <u>2</u> / /	A	В	A	В	A	в	A	в	A	В	٨	в	в	A	A	ш
12	15	D7	GND 0	GND										-18 mA	7			nax) = 0.		A <u>2</u> / /	۷	В	۷	в	۷	в	۷	В	۷	В	۷	В	۷	В	В	A
7	14	A	GND 0	5.5 V 0	GND								-18 mA	7				= 0.7 V, V _{OL} (max)		A <u>2</u> / /	В	В	۷	۷	в	в	۷	۷	В	в	۷	۷	В	в	۷	٨
10	13	В	GND (5.5 V 5	GND 0							-18 mA	7					VIL = 0.7		A <u>2</u> / /	в				٨		:		в		:		۲			-
ი	12	C	GND (5.5 V 5	GND (-18 mA	7							itted.	A <u>2</u> /	В		-		:		-	-	A	:	:					
ω	10	GND	GND (*	"	и	×	n	z	z	* -	×	×	×	×	×	н	and VIC tests are omitted	and V _{IC} tests are omitted	GND ,			-		:		-	-		:	:					
7	6	ST 0	GND (×	и					-18 mA								nd V _{IC} te	d V _{IC} test	A <u>2</u> / 0	В	:	-		-		-	-	:	:	:				:	
9	8	M		5.5 V						7								+125°C a	= -55°C and		т	_	т	_	т	_	т	_	т	_	г	_	т	_	т	_
5	7	Y		÷	5.5 V													Tc =	T _C	L	_	т	_	т	_	т	_	т	_	т	_	т	_	т	_	т
4	5	D0	GND		5.5 V				-18 mA									up 1, exce	up 1, exce	A <u>2</u> /	В	۷	A	В	A	В	A	В	A	В	٨	В	A	В	A	ш
m	4	D1	GND					-18 mA	<u>``</u>									r subgrou	r subgrou	A <u>2</u> /	۲	В	в	۷	۲	в	۷	в	٨	В	۲	В	۲	В	۷	в
5	3	D2	GND				-18 mA											nits as fo	nits as fo	A <u>2</u> /	٨	в	٨	в	в	A	۷	в	A	в	٨	в	A	в	A	в
-	2	D3	GND			-18 mA												is, and lir	is, and lir	A <u>2</u> /	٨	В	٩	в	۷	в	в	٩	A	в	۷	в	۷	в	۷	ш
Cases E,F	X, 2 <u>5</u> /	Test no.	43	44	45		47	48	49	50	51	52	53	54	55	56	57	conditior	conditior	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
MIL-	<u> </u>		3005															, terminal	, terminal	3014	¥	×	×	2	3	×	×	×	ų	3	3	¥	×	ň	×	z
	Symbol ST	Ξ	lcc	lcex		VIC												Same tests, terminal conditions, and limits as for subgroup 1, except	Same tests, terminal conditions, and limits as for subgroup 1, except	Truth	table	test														
	Subgroup Sy		-	T _C = +25°C (cont')														2 Se	3 Se	7 Tr	T _C = +25°C tat	te														

TABLE III. Group A inspection for device type 01 – Continued. Terminal conditions (pins not designated may be H \ge 2.0 V, or L \le 0.8 V, or open)

MIL-M-38510/79D

See footnotes at end of device type 01.

	Unit			su	:	=	=	-	÷	-	:	:	-	=		-	÷	=	÷	=	-	-		:	-	:		ų	•						:
Test limits		Max		15.5	•	:	17.0	:	=	20	:	:	•	:	-	14.0	15.0	20	18.5	9.0	•	-	=	:	•	•	•	×	•	:	:	•	•	-	•
Test		UIIM		2.0	•	:	=	÷	-	-	:	:	:	:	•	:	=	-	-	=	•	-	-	:	•	•	•	n	•	:	•	•	•	÷	
	Measured			M		=	=	÷	÷	۲				=		M	M	≻	≻	M	÷	÷	-		-		•	37	•	-		•	-		-
16	20	Vcc		5.0 V		-	=	÷	÷	÷	-	-	-	-		=	=	=	=	-	÷	-	•			-	-	я	-	-	-	-			
15	19	D4				2.7 V			2.7 V			2.7 V			2.7 V									z								z			
14	18	D5																							z								z		
13	17	D6																								Z								Z	
12	15	D7																									z								Z
1	14	A		z	GND	GND	z	GND	GND	z	GND	GND	z	GND	GND	-	=	=	-	:	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	27V
10	13	В		GND	Z	GND	GND	Z	GND	GND	Z	GND	GND	Z	GND	:	=	-	-	-		2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2 7 V
6	12	U													z	GND	=	-	-	:														:	
ø	10	GND		0		:	-			-				:			-	-	-	-		-						я		:					-
7	6	ST		GND			-			:				:		Z	-	-	-	GND								*		:				-	-
9	8	w				:	-									OUT	OUT			OUT (n			:				-
5	7	7		-						OUT						0	-	OUT	OUT	-															
4	5	DO		GND		-	-			:				-		2.7 V	-	-	-	z								z							
e	4	D1		2.7 V 0			2.7 V			2.7 V			2.7 V			2					z								z						
N	3	D2	-55°C.	2	2.7 V		2	2.7 V		2	2.7 V		2	2.7 V								Z								Z					
-	2	D3	5°C and		2			7			7			0									z								z				
Cases E,F			Repeat subgroup 7 at T_C = +125°C and -55°C	5	76	7	78	79	80	<u> </u>	82	83	4	85	86	87	88	89	06	91	92	93	94	95	96	97	98	66	100	101	102	103	104	105	106
		u Test no.	up 7 at 1				7.	7	Ø	8	80	8	ò	ø	Ø	8	80	õ	ō	6	0	0	Ó	б	б	6	Ó	6	11	11	10	11	10	1	7
MIL-	S S	lineili	tt subgro	3003	Fig. 4	×	"	*	*	*	×	2	я	и	2	¥	3	и	я	и	3	3	3	¥	2	×	2	*	×	×	2	2	×	*	ä
	Symbol		Repea	tPHL1			tPLH1			tPHL2			tPLH2			tPHL3	tPLH3	tPHL4	tPLH4	tPHL5								tPLH5							
	Subgroup		8	6	T _C = +25°C																														

TABLE III. Group A inspection for device type 01 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

	Unit		su	-			F	÷	F		=	=	=	=	=	:	:	:		-	:		÷	Ŧ	-	-	-	-	-		-			=
imits		MIAX	14.0			-					=	-	-	-				-	20	•	=	22	=	-	26		-	-	-	:	18	19.5	26	24
Test limits	A1:~	MIIM	2.0		:	÷	÷	÷	÷		=	=	-	-	÷			÷	:		-	:	=	-	-		-	-		:	-	-	-	
	Measured	terminal	٢				-	÷	÷		=		=	-	-	=	-		N			-			٢			-	=		W	w	7	٨
16	20	Vcc	5.0 V				÷	÷	÷		=	=	-	-	-				-	-		-	-	-	-	•	-	-	-		-	:	-	-
15	19	5					Z								Z						2.7 V			2.7 V			2.7 V			2.7 V				
14	18	D5						Z								Z																		
13	17	D6							Z								Z																	
12	15	D7								z								z																
11	14	۷	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	z	GND	GND	z	GND	GND	Z	GND	GND	z	GND	GND	-	-	-	
10	13	В	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	z	GND	GND	≥	GND	GND	≥	GND	GND	Z	GND	-	=	-	-
6	12	U	GND				2.7 V				GND	:	:	:	2.7 V			:	GND	GND	Z	GND	GND	Z	GND	GND	Z	GND	GND	Z	GND	-	-	-
8	10	GND	GND			-			=		=	-	:	-	:			-	-			-	=	-	-	=		-	-	-	-	-	-	-
7	6	ST	GND		:	:			=	-	-	:	:	:	-	-		:	-		=	-	=	-		=			:		Z	=	-	
9	8	8																	OUT				-	-							OUT	OUT		
5	7	≻	OUT		:					:	=	-	-	-		:									OUT			:					OUT	OUT
4	5	8	z								z								GND				-	-				:			2.7 V		-	-
3	4	D		z								z							2.7 V			2.7 V			2.7 V			2.7 V						
2	3	D2			z								Z							2.7 V			2.7 V			2.7 V			2.7 V					
٦	2	D3				Z								Z																				
Cases E,F	X, 2 <u>5</u> /	Test no.	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138
- MIL		method T	3003	Fig. 4	×	3	ä	ä	×	39	n	=	-	×	29	39	¥	3	3	ĸ	¥	3	3	10	n	3	н	я	3	3	'n	ч	ч	29
2	Symbol STD-883	Ē	tPHL6 3	۰Ľ							tpl.H6								tPHL1			tPLH1			tPHL2			tpLH2			tPHL3	tpLH3	tPHL4	tpLH4
	Subgroup Syr		9 tp	T _C = +25°C							tp								10 tp	T _C = +125°C		t _P			τ			tp			t	t	t	tp

TABLE III. Group A inspection for device type 01 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

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See footnotes at end of device type 02

											1								1																Г
	Unit		su	•	•	:	=	:	:	-	:	:	:	•	-	•	•	=	-	•	-	-	-	•	•	=	-	•	:	-	:	=	•	•	
imits	MOM.	IVIAX	11.5	•	•	-	=	:	:	-	-		:	•	=			=	18		-	-	=	•	•	=			:	-	:	=			
Test limits	Ai.o		2.0	•	:		÷				-			·	:	•	•	÷	-	÷	:	:	·	·	·		:	:		:	:	-	:	:	
1	Measured	terminal	M	-	-	=	÷	=	=		=	-	=	-	-	÷	=	÷	7	-			-	-	-	-	-	-	=	-		=	=	-	
16	20	Vcc	5.0 V	-		-	÷	-			-		-			-	-	÷	-	-						-	-					=			
15	19	D4					Z								Z								Z								z				
14	18	D5						z								z								z								Z			
13	17	D6							z								z								z								z		
12	15	D7								Z								z								N								Z	
11	14	٨	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	
10	13	ш	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	
6	12	U				-				:																					2.7 V	:			
8	10	GND									-				:				-		:						-								
7	6	ST				-					-					-			-								-					-			
9	8	8	OUT 0																																
5	7	~	0																OUT	-															1
4	5	8	z								Z								N								N								4
3	4	5		z								z								z								Z							
2	3	D2			z								Z								z								Z						•
+	2	D3			_	Z							-	Z							_	Z							-	Z					
	<u>5</u> /		6	0	-		8	4	Q.	o	7	8	6			8	9	4	5	9	7		6	0	-	2	3	4	Q.		7	8	0	0	
Cases E,F	83 X, 2	Test no.		140	141	142	143	144	145	146	14	148	149	150	151	152	153	154	15:	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	
-MIL-	• /	meinod	3003	Fig. 4	×	2	×	u	×	z	n	×	u	×	×	и	3	×	n	F	•	×	×	×	×	и	и	z	×	z	z	a	z	×	
	Symbol		tPHL5								tPLH5								tPHL6								tpLH6								Ċ
	Subgroup		10	T _C = +125°C																							10	T _C = +125°C							11

TABLE III. Group A inspection for device type 01 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

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2/ A = 2.4 V; B = 0.4 V. 3/ $H \ge 1.5 V$; $L \le 1.5 V$. 4/ Only a summary of attributes is required. 5/ Case 2 pins not designated are NC.

<u>1</u>/ For circuit B, $I_{OS(max)} = -110 \text{ mA}$.

	Unit		> *	"	'n	_				3	3	3	-				-	Ā	3		3		2	-	-	-	-		٩n	2	2	2	3				н	2	-	
		×	-			~																							+											
Test limits		XBINI		0	0.5	7		3	3	77	77	3	3	×	3	29	3	-2.0		3	77	3	2	29	2	4	3		50	22	22	77	3	3	3	3	2	29	2	ä
Te			2.5 2.5															-1.0	¥	ä	u	ä	×	a	×	3	3	: :												3
	Measured	terminal	1Y 2Y	ž	27	٩	(@	100	101	1C2	1C3	16	2C0	2C1	2C2	2C3	2G	۷	Ш	16	2G	1C0	101	1C2	1C3	2C0	2C1	2C2 2C3	4	В	16	2G	100	101	102	1C3	2C0	2C1	2C2	2C3
16	20	Vcc	4.5 V "	"	з	я	77	19	я	39	39	39	я	я	39	19	"	5.5 V	n	и	11	n	я	3	39	39	3	: 3	я	11	11	77	n	"	я	3	и	39	¥	я
15	19	2G	0.8 V		2.0 V												-18 mA				0.5 V					GND						2.7 V					5.5 V	=	:	-
14	18	A	0.8 V 0.8 V			-18 mA												0.5 V				GND	5.5 V	GND	5.5 V	GND	5.5 V	GND 5.5 V	2.7 V				5.5 V	GND						
13	17	2C3														-18 mA												05V												2.7 V
12	15	2C2													-18 mA													0.5 V											2.7 V	
5	14	2C1												-18 mA													0.5 V											2.7 V		
10	13	2C0	2.0 V										-18 mA													0.5 V											2.7 V			
6	12	2Y :	-1 mA	-	20 mA								7													0														
8	10	GND	GND " -1	'n		n	u	u	'n	n	n	r	ň	ň	u.	u	*	n	ĸ	ň	u	'n	u	u		3	3			u	u	u	'n	*	и	×	u	u		
		1Y G	-1 mA G	V UC	K																																			
7	6			00	70			ЪМ														>											>							
9	8	1 1C0	2.0 V					-18 mA														0.5 V	>										2.7 V	>						
£	7	101							-18 mA														0.5 V											2.7 V	_					
4	5	1C2								-18 mA	4													0.5 V											2.7 V					
e	4	1C3									-18 mA														0.5 V											2.7 V				
2	3	В	0.8 V 0.8 V				-18 mA												0.5 V			GND	GND	5.5 V	5.5 V	GND	GND	5.5 <		2.7 V			5.5 V	5.5 V	GND	GND	5.5 V	5.5 V	GND	GND
-	2	16	0.8 V	202	× 0.7							-18 mA								0.5 V		GND	•	-	:						2.7 V		5.5 V	•	•	•				
Cases E,F	X, 2 <u>5</u> /	Test no.	- 0	¢	04	LC.	9 0	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27 28	29	30	31	32	33	34	35	36	37	38	39	40
MIL-	3TD-883	method	3006 3006	2005	3007													3009	×	*	и	н	×	z	z	¥	3		3010	и		и	79	¥	×	×	×	z	z	3
	Symbol STD-883		Чон Кон		VoL VoL	Nic	2											_=	į										LH1											
	Subgroup 3		1 T _C = +25°C	 }		<u>I</u>												L											<u> </u>											

See footnotes at end of device type 02

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Terminal conditions (pins not designated may be H \ge 2.0 V, or L \le 0.8 V, or open)

	Unit		ШA	3	n	-	-		3	n	*	ШA	×	×	¥		z	Ч	Ч												
mits		Max	1.0	¥	11	n	17	39	n	n	**	1.0	:	:	-100 1/	-100 1/	70	250	250												
Test limits	- 1 V														40	-40															
	Measured	terminal	A	в	16	2G	1C0	1C1	1C2	1C3	2C0	2C1	2C2	2C3	7	2Υ	Vcc	1Y	2Υ			See <u>4</u> /	-	-	-	-	-	-	-	-	
16	20	Vcc	5.5 V	¥	u	u	×	77	u	u	u	u	77	¥	z	z	×	я	и			4.5 V	:		-	:	-				
15	19	2G				5.5 V					5.5 V	a		:		GND	GND		GND			A <u>2</u> /	в		-			÷			
14	18	٨	5.5 V				5.5 V	GND	5.5 V	GND	5.5 V	GND	5.5 V	GND	-			:				B <u>2</u> /			۷	۷	В	ш	۲	A	
13	17	2C3												5.5 V			GND					A <u>2</u> /	۷	В	۲	В	٨	в	В	A	
12	15	2C2											5.5 V				GND			= 0.45 V.		A <u>2</u> /	۷	В	۷	ш	В	٩	A	В	
11	14	2C1										5.5 V					GND					A <u>2</u> /	A	ш	В	A	۲	в	۲	в	
10	13	2C0									5.5 V					5.5 V	GND		5.5 V	V _{IL} = 0.7 V, V _{OL}		A <u>2</u> /	ш	٨	۷	в	A	ш	A	В	
6	12	2Υ														GND			5.5 V		itted.	_	_	т	_	т	_	т	_	т	
8	10	GND	GND	×	×	×	"	3	×	×	ä	n	×	*	2	¥	3	я		sts are o	and V _{IC} tests are omitted	GND	z	×	×	3	3	×	3	×	ci
7	6	1													GND			5.5 V		nd V _{IC} te	I VIC test	_	_	т	_	т	_	т	_	т	and -55°(
9	8	1C0					5.5 V								5.5 V		GND	5.5 V		-125°C a	55°C and	A <u>3</u> /	В	A	۷	В	٩	в	۲	В	+125°C ;
5	7	1C1						5.5 V									GND	÷		pt T _C = +	pt Tc = ⊣	A <u>3</u> /	A	В	В	A	٨	ш	٨	в	ept To =
4	5	1C2						4,	5.5 V								GND			o 1, exce	o 1, exce	A <u>3</u> /	A	Ш	A	В	в	A	۷	В	ID 7. exc
3	4	1C3							4,	5.5 V							GND			subgroup	subgroup	A <u>3</u> / /	۲	В	٨	В	A	в	В	A	r subaroi
2	3	В		5.5 V			5.5 V	5.5 V	GND	GND	5.5 V	5.5 V	GND		:		:	:		ts as for	ts as for	в <u>3</u> / ,			-		۲	-			nits as fo
1	2	1G		4,	5.5 V		5.5 V	=	:	:	4,	4)	0		GND			GND		and limi	and limi	A <u>3</u> / I	в		=						s. and lin
Cases E,F	2 <u>5</u> /	Test no.	41	42	43 5	44	45	46	47	48	49	50	51	52	53 (54	55	56 0	57	onditions	onditions	58 /	59	60	61	62	63	64	65	66	condition
MIL- E	STD-883 X, 2		3010 4	"				-									3005 5		~	srminal co	srminal co	3014 5	-	,					,	,	terminal (
Σ	bol STD	method			•	-	•	•	•	•	•	5	•	•	s 3011	•		X		Same tests, terminal conditions, and limits as for subgroup 1, except T_C = +125°C and V _{IC} tests are omitted.	Same tests, terminal conditions, and limits as for subgroup 1, except T_{C} = -55 $^{\circ}\mathrm{C}$, ,	•	•	-	-			Same tests, terminal conditions, and limits as for subgroup 7, except T_{C} = +125°C and -55°C.
	Ip Symbol		1 _{IH2}	ņ								I _{IH2}			los		lcc	lcex		Same	Same	Truth	C table	test							San
	Subgroup		٢	T _C = +25°C																2	e	7 2/	T _C = +25°C								8

See footnotes at end of device type 02

TABLE III. Group A inspection for device type 02 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or L ≤ 0.8 V, or open)

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	Unit		su	ч	¥	¥	3	3	¥	3	=	¥	¥	¥	¥	¥	z	×	7	3	77	я	я	77	29	77		я	=	-
mits	Max		11.0	я	10	77	22	39	77	22	:	ų	11	n	ų	a	ų	77	20	n	39	ų	'n		:		15.5	15.5	17.0	17.0
Test limits	Min		2.0	ч	ä	×	z	z	×	z	×	¥	¥	¥	¥	и	¥	×	u	¥	z	¥	"		÷	:		:	=	-
Measured terminal		1	-	-		2Y	-	÷		7	-	=		2Υ	-	÷		7	7	2Υ	2Υ	1	7	2Υ	2Υ	1	2Υ	1	2	
16	20	Vcc	5.0 V	ä	n	и	и	¥	z	и	и	ä	ä	×	ä	×	×	и	×	×	¥	ä	'n	=	-		-	-	=	
15	19	2G					GND	:	:	:					GND		:	:			GND	GND			GND	GND		z		Z
14	18	٨	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	z	GND	z	GND	z	GND	Z	GND	-		=	
13	17	2C3								Z								Z												
12	15	2C2							Z								Z					GND				GND				
11	14	2C1						Z								Z					GND				GND					
10	13	2C0					Z								Z						2.7 V	2.7 V			2.7 V	2.7 V		2.7 V		7 1
9	12	2Υ					OUT		÷	:					OUT		-	:			OUT	OUT			OUT	OUT		OUT		DUT
8	10	GND	GND	ч	ä	×	×	z	ч	×	з	¥	¥	¥	¥	и	¥	×	×	¥	z	¥	GND	z	×	¥	'n	¥	n	н
7	6	1	OUT	:		:					OUT	:	:						OUT	OUT			OUT	OUT			OUT		OUT	
6	8	1C0	z								z								2.7 V	2.7 V			2.7 V	2.7 V			2.7 V		2.7 V	
5	7	1C1		Z								Z							GND				GND							
4	5	1C2			Z								z							GND				GND						
3	4	1C3				Z								z																
2	3	в	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	Z	GND	Z	GND	Z	GND	Z	GND	:	=	-
٦	2	1G	GND	:	-	:					GND	:	:	:					GND	GND			GND	GND			N		Z	
Cases E,F	X, 2 <u>5</u> /	Test no.	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	06	91	92	93	94
- IIV	MIL- Symbol STD-883 method		3003	Fig. 5	3	z	2	¥	¥	2	:	ĸ		ĸ	ĸ	×	¥	z	3	ĸ	¥	н	я	¥	:				-	-
			tpHL1								tPLH1								tPHL2				tpLH2				tpHL3		tpLH3	
	Subgroup		6	T _C = +25°C							L								<u> </u>				<u> </u>				<u> </u>		L	

TABLE III. Group A inspection for device type 02 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or L ≤ 0.8 V, or open)

See footnotes at end of device type 02

																															<u> </u>
	Unit		su	-	•	•	-	-	•	•	-	•	'n	"	n	'n	n	"	n	-	n	n	"	ä	'n	'n	'n	ä	"	"	
limits		Max	14.5	•	•		-	-			14.5	-	¥	¥	'n	'n	'n	¥	26	•	'n	n	26	u	'n	'n	21	21	22	22	
Test limits			2.0	•	-		=	-			-		×	×	×	×	×	×	я	×	×	×	"	×	×	×	×	×	×	×	
	Measured	terminal	1		Ŧ		2Υ	=	=	÷	1		-		2Υ			÷	1	7	2Υ	2Υ	1	≯	2Υ	2Υ	1	2Υ	1	2۲	
16	20	V _{CC}	5.0 V		-		-	-			=	÷	-		-		-	-	-		-		-	-			=	•	=	-	
15	19	2G					GND	=	-						GND			:			GND	GND			GND	GND	z		Z		
14	18	A	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	z	GND	z	GND	Z	GND	z	GND			:	:	
13	17	2C3								Z								Z													
12	15	2C2							Z								z					GND				GND					
11	14	2C1						z								z					GND				GND	-					
10	13	2C0					Z								Z						2.7 V 0	2.7 V			2.7 V 0	2.7 V		2.7 V		2.7 V	
6	12	2Y 2					OUT	-							OUT						OUT 2	OUT 2			OUT 2	OUT 2		OUT 2		OUT 2	
8	10	GND	GND	r a		3	0		-	-	3		4	-	0	-	2	3	3		0	0		-	0	0	*	0		0	
		-							-	-	TI .		-	-		-		-	L L	5			, T	5	-	-				-	
7	6	0 1Y	OUT	•	•	•					OUT	•	:	-					V OUT	V OUT				V OUT			V OUT		V OUT		55°C.
9	8	1 1C0	Z								≧								0 2.7 V	2.7 V			0 2.7 V	2.7 V			2.7 V		2.7 V		t T _C = -55°C.
5	7	1C1		Z								Z							GND				GND								10 excep
4	5	1C2			Z								Z							GND				GND							, dnorb
3	4	1C3				Z								Z																	as for su
2	3	В	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	Z	GND	Z	GND	Z	GND	Z	GND	÷	-	•	nd limits
٢	2	16	GND	•	•	:					GND	•	-	•					GND	GND			GND	GND			Z		Z		tions, ar
Cases E,F	X, 2 <u>5</u> /	Test no.	95	96	97	98	66	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	nal condi
MIL-	TD-883	method	3003	Fig. 5				=	-	ч	z			¥	×	ч	×	z	я		×	-	'n	×	×	ч	z	¥	и	z	sts, termi
	Symbol STD-883		tPHL1								tPLH1								tPHL2				tPLH2				tPHL3		tpLH3		Same tests, terminal conditions, and limits as for subgroup 10 except
	Subgroup		10	T _C = +125°C							<u> </u>								<u> </u>								<u> </u>		<u> </u>		11

TABLE III. Group A inspection for device type 02 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

<u>1</u>/ For circuit B, $l_{OS(max)} = -110 \text{ mA}$ <u>2</u>/ Only a summary of attributes is required. <u>3</u>/ A = 2.4 V; B = 0.4 V. <u>4</u>/ H <u>2</u>1.5 V; L <u>5</u>1.5 V. <u>5</u>/ Case 2 pins not designated are NC.

																	0/																							
	Unit		^	3	a :	a		×	•	п	3	ч	H	я	и	×	¥	я	•	×	шA	н	¥	3	×	ч	ч	н	н	3	Ч	3	3	×	×	и	и	3	¥	я
mits	Mov	Max					0.5	'n	n	u	-1.2	n	п	п	и	'n	n	п		и	-4 <u>6</u> /	-4 <u>6</u> /	-2 7/	н и	н и	н и	н и	п	п	ни	100	100	50	n	н	и	и	и	'n	*
Test limits	Mi.~		2.5			-																	-1 2/				н и	21 21 21	и и	и и										
	Measured	terminal	1Y	2Υ	3Y	4Υ	1	2Υ	ЗҮ	4Υ	S	1A	1 B	2A	2B	3B	3A	4B	4A	U	U	S	1A	18	2A	2B	3B	ЗA	4B	4A	ŋ	S	1A	1B	2A	2B	3B	ЗA	4B	~ ~ ~
16	20	Vcc	4.5 V	a	a :	a	z	3	×	n	n	×	×	ч	и	×	×	×		и	5.5 V	н	×	¥	¥	ч	×	н	н	¥	n	¥	¥	я	ч	и	н	н	u	22
15	19	U	0.8 V			=	2.0 V			=										-18 mA	0.5 V	5.5 V	GND								2.7 V	GND	5.5 V			-	-	:		-
14	18	4A																	-18 mA											0.5 V										~ ~ ~ ~
13	17	4B				2.0 V												-18 mA											0.5 V										2.7 V	
12	15	4γ				-1 mA				20 mA																														
11	14	ЗA															-18 mA											0.5 V										2.7 V		
10	13	3B			2.0 V											-18 mA											0.5 V										2.7 V			
6	12	зү			-1 mA				20 mA							7											0													_
8	10	GND	GND		` ı	4	z	×	,	u	29	×	×	×	2	**	*	×	3	2	n	39	¥	¥	×	×	×	39	2	ä	n	×	×	2	3	2	29	3	3	3
7	6	2Y G		-1 mA				20 mA																																
6	8	2B		2.0 V -1				20							-18 mA											0.5 V										2.7 V				
5	7	2A :		i,										-18 mA	-18										0.5 V	ö									2.7 V	~				
4	5		-1 mA				20 mA							-18											Ö										6					
3							20						mA											>										>						
	4		2.0 V									mA	-18 mA											0.5 V									>	2.7 V						
2	3	1A	>									-18 mA									>		ID 0.5 V	>	0	>	>	0	>	0	Q	>	2.7 V							
si 1	<u>5</u> / 2	10. S	2.0 V	-		-					-18 mA										5.5 V		GND						5.5 V		GND									
Cases E,F	X, 2	Test no.	٢	7	ი ი	4	2	9	7	8	6	10	1	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	32
- MIL-		method	3006	-	-	=	3007	-	•	=											3009	8	39	¥	3	'n	¥	8	29	39	3010	¥	•	3	3	3	3	39	39	*
	Symbol		V _{OH}				VoL				VIC										٦										1 _{IH1}									
	Subgroup		۲	T _C = +25°C																																				

Terminal conditions (pins not designated may be H ≥ 2.0 V, or L ≤ 0.8 V, or open)

See footnotes at end of device type 03

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	Unit		mA	¥		ч	79	=			3			mA	3		Ч	-	a 1	:																			_
imits	YCM.	Max	1.0	¥		ч	a	n	ä	3	3	1001	-100 1/	-100 1/	-100 1/	78	250	-	а :																				
Test limits	Min											07	40	-40	40																								
	Measured		თ	S	1A	1B	2A	2B	3B	ЗA	4B	44 2	24	ЗҮ	4γ	Vcc	1Y	2Y	3Υ	4Υ			See 3/	"	ч	ч	и	ĸ	¥	и	я	ч	и	ч	и	и	и	ų	
16	20	Vcc	5.5 V	×	и	×	и	29	4	×	3	: :	-	5.5 V	n	2	я	×	а 1				4.5 V	77	¥	×	×	ч	×	×	×	×	и	и	н	*	н	и	
15	19	U	5.5 V	GND	5.5 V	×	и	и	я	z	а :		GND	GND	GND	5.5 V	GND	-		:			A 2/	ـ	-	:		-		:	-			-				=	
14	18	4A										V C.C				GND							A 2/	I												٨	Ш	۵	0
13	17	4B									5.5 V				5.5 V	GND				V C.C).45 V.		A 2/	I												В	A	<	
12	15	47													GND					V C.C	VIL = 0.7 V, VOL(max) = 0.45 V.		_													_	Т	-	
11	14	ЗA								5.5 V						GND					.7 V, V _{OI}		A 2/									٨	В	В	A				
10	13	3B							5.5 V					5.5 V		GND			5.5 V				A 2/									В	۷	۷	В				
6	12	ЗҮ												GND					5.5 V		e omitted.	mitted	L L									L	Т	_	Т				
8	10	GND	GND	n	"	11	и	11	n	11	3	: 3		n	39	39	39	n	a :	:	T_{C} = +125°C and V _{IC} tests are omitted.	$T_{C} = -55^{\circ}C$ and V_{C} tests are omitted	GND	н	н	н	"	н	**	"	"	n	n	п	'n	"	n	2	
7	6	2Y											GND					5.5 V			and V _{IC}	and Vic te						_	т	_	т								_
9	8	2B						5.5 V					5.5 V			GND		5.5 V			= +125°C	= -55°C ;	A 2/	I				В	۷	۷	В								_
5	7	2A					5.5 V									GND					cept T _C	cent Tr	A 2/	I				۷	В	В	۷								_
4	5	7											5				5.5 V				oup 1, ex	oun 1 ex	5 ⁻ -	_	Т	_	т												_
3	4	1 B				5.5 V						551				GND	5.5 V				for subgr	for subar	A 2/	۰ ۵	۷	٨	в												_
2	3	1A			5.5 V											GND					limits as	limits as	A 2/	- ⊲	Ш	Ш	۷												_
٢	2	S	GND	5.5 V								<u>к к </u> \	, ;	39	:	-	"	=		:	ons, and	pus suc	A 2/	١.		в	В	A	٨	В	В	٨	A	В	Ш	۷	A	1	n
Cases E,F	X, 2 <u>5</u> /	Test no.	39	40	41	42	43	44	45	46	47	48	50	51	52	53	54	55	56	/9	al conditi	al conditi	58	59	60	61	62	63	64	65	99	67	68	69	20	71	72	ſ	2.2
MIL-	STD-883	IIIeIIIon	3010	¥	×	ч	=	-	-	-		3011	3011	3011	3011	3005		_			ts, termin	ts termin.	3014	-	:		-	-		-	-		ч	n	ч	ä	н	3	
	Symbol STD-883		I _{H2}									_	SO-	los)	-cc	ICEX				Same tests, terminal conditions, and limits as for subgroup 1, except	Same tests terminal conditions and limits as for subdroup 1 excent	Truth	table	test														
	Subgroup		-	T _C = +25°C												L	<u>.</u>				2	υ. ღ	1	To = +25°C															_

See footnotes at end of device type 03

	Unit	Max		14 ns	-	*	3	3	z	3	и и		10 11	и и	:	29	-	4	×	14 "	u u	a	16 16	13.5 "	z	10 11	
Test limits					•	-	-	-		-		6		•	•	-	•	•		-		•		13		•	3
Ţ				2.0	:	:	-	-	•	=	=	-	:	:	•	-	•	:	-	3	3	3	ä	×	ä	3	
	Measured	terminal		1	2Υ	3Υ	47	1	2Υ	ЗҮ	47	7	2Υ	3Υ	4Υ	1	2Y	ЗҮ	47	17	27	3Υ	47	1	27	3Υ	
16	20	V _{CC}		5.0 V	¥	n	¥	n	и	u	u	n	u	¥	¥	'n	'n	¥	¥	5.0 V	и	и	ų	"	ų	¥	
15	19	9		GND	и	39	и	39	я	39	×	ų	77	и	33	37	и	и	и	NI	-	-	•	=	÷		
14	18	4A					GND				GND				Z				Z				2.7 V				
13	17	4B					2.7 V				2.7 V				GND				GND				GND				
12	15	4Υ					OUT				OUT				OUT				OUT				OUT				
1	14	ЗА				GND				GND				z				z				2.7 V				2.7 V	
10	13	3B				2.7 V				2.7 V				GND				GND				GND				GND	
6	12	зү				OUT				OUT				OUT				OUT				OUT				OUT	
ø	10	GND	Ċ	GND	×	×	¥	и	×	×	×	n	×	×	×	¥	ų	×	¥	n	×	×	¥	×	¥	¥	-
7	6	2Υ	and -55°(OUT				OUT				OUT				OUT				OUT				OUT		
9	8	2B	+125°C 8		2.7 V				2.7 V				GND				GND				GND				GND		
5	7	2A	ept Tc =		GND				GND				z				z				2.7 V				2.7 V		
4	5	1	up 7, exc	OUT				OUT				OUT				OUT				OUT				OUT			
ю	4	1B	r subgroi	2.7 V				2.7 V				GND				GND				GND				GND			
2	3	1A	nits as fo	GND				GND				Z				z				2.7 V				2.7 V			
-	2	s	s, and lin	N				-		:		GND								. 4		-	=	=			
Cases E,F	2 <u>5</u> /	Test no.	Same tests, terminal conditions, and limits as for subgroup 7, except T_C = +125°C and -55°C.		76	.7	78	79	80	81	82	83	84	85	86	87	88	89	90	91	12	93	94	95	16	97	
	83 X, 2		minal c				2	2	80	8	8	8	8	8	80	8	8	8	б	6	თ	6	6	6	6	6	
MIL-	Symbol STD-883	method	tests, tei	3003	Fig. 6	×	•	ä	3	3	3	*	×	×	¥	ä	ä	×	•	×	×	:	•	=	•	•	
			Same	tPHL1				tPLH1				tPHL2				tPLH2				tPHL3				tPLH3			
	Subgroup		8 <u>4</u> /	6	T _C = +25°C																						-

TABLE III. Group A inspection for device type 03 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or L ≤ 0.8 V, or open)

			Cases E,F	1	2	3	4	5	9	7	80	6	10	11	12	13	14	15	16		Test limits	mits	
Subgroup	Symbol STD-883	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	6	10	12	13	14	15	17	18	19	20	Measured	A1.5		Unit
		method	Test no.	S	1A	1B	17	2A	2B	2Υ	GND	ЗҮ	3B	ЗА	47	4B	4A	U	Vcc	terminal		Max	
10	tPHL1	2003	66	N	GND	2.7 V	OUT				GND							GND	5.0 V	1	2.0	18.5	su
T _C = +125°C		Fig. 6	100	:		-		GND	2.7 V	OUT	39							:	и	2Υ	z	¥	×
		-	101	:							77	OUT	2.7 V	GND				:	11	ЗҮ	z	¥	×
		:	102								39				OUT	2.7 V	GND	:	ų	4Υ	и	×	×
	tpLH1	=	103	=	GND	2.7 V	OUT				77							-	11	17	×	3	29
		:	104	:				GND	2.7 V	OUT	39							:	77	2Υ	z	¥	¥
		-	105								77	OUT	2.7 V	GND				-	n	ЗҮ	и	×	×
		-	106	÷							79				OUT	2.7 V	GND	-	и	4Υ	и	z	×
	tpHL2	=	107	GND	Z	GND	OUT				37							-	11	7	з	12	и
		ч	108	:				Z	GND	OUT	77							:	и	2Υ	з	¥	×
		a	109	:							39	OUT	GND	Z				:	11	ЗҮ	z	ä	×
		ų	110	:							77				OUT	GND	Z	:	77	4Υ	×	¥	×
	tpLH2	n	111		NI	GND	OUT				39							:	я	1Y	и	29	3
		3	112					z	GND	OUT	я							:	я	2Υ	z	×	×
		¥	113			-					ų	OUT	GND	z					¥	ЗҮ	z	¥	¥
		•	114												OUT	GND	Z	:		4Υ	z	¥	×
	tpHL3		115		2.7 V	GND	OUT											z		1Y	"	18.5	*
		-	116			-		2.7 V	GND	OUT										2Υ	z	¥	¥
		-	117	:								OUT	GND	2.7 V				:		ЗҮ	з	¥	×
		:	118												OUT	GND	2.7 V	:		4Υ	z	¥	×
	tpLH3		119		2.7 V	GND	OUT											:		1Y	и	18	н
		3	120					2.7 V	GND	OUT	ų							:	и	2Υ	z	¥	×
		-	121									OUT	GND	2.7 V				:		ЗҮ	z	×	×
		-	122								-				OUT	GND	2.7 V	:		4Υ	и	н	и
11	Same te	sts, termi	Same tests, terminal conditions, and limits as for subgroup 10, except T_{C} = -55°C.	ons, and	limits as	for subgr	oup 10, e	xcept TC	= -55°C.														
]

TABLE III. Group A inspection for device type 03 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or L ≤ 0.8 V, or open)

1/ For circuit B, $l_{OS(max)} = -110 \text{ mA}.$ 2/ A = 2.4 V; B = 0.4 V.3/ H $\geq 1.5 \text{ V}; L \leq 1.5 \text{ V}.$ 4/ Only a summary of attributes is requised are NC5/ Case 2 pins not designated are NC6/ For circuit B, 0.1/ -4 mA.7/ For circuit B, 0.1/ -2 mA.

Only a summary of attributes is required.

Case 2 pins not designated are NC.

	Unit		> *	ä	и	=	ä	•	n	n	¥	×	ä	n	n	n	3	•	n	шA	3	×	×	×	×	3	ä	×	3	۷d	3	n	×	3	×	3	a :	: 3
imits	NOM	MIAX				0.5	×	z	ч	-1.2	×	×	ä	ч	ч	ч	з		и		-4 <u>6</u> /	-2 7/	3 3	31 31	3 3	2 2	3 3	н н	н н	100	100	50	×	ä	×	z	a :	: :
Test limits	NA!~	MIM	2.5		-																-2 <u>6</u> /	-1 7/	11 11	и и	11 11	н н	11 11	п п	п п									
	Measured	terminal	7 ×	. ×	×	≻	۲	۶	ţY	s	٩	18	2A	B	B	3A	^{†B}	4A	D	G	s	١A	18	2A	ZB	B	3A	₽	4A	ъ	S	٩	18	2A	ZB	B	Å.	19 19
	Mea							.,	7			`					1	7				•				.,	.,	7	7	-			`			.,		
16	20	V _{CC}	4.5 V "	ä	a	×	×	ä	и	n	¥	×	×	×	×	×	ä	•	u	5.5 V	×	×	×	×	3	¥	×	n	×	a	×	×	×	×	a	×		: 3
15	19	Ð	2.0 <	•	•	0.8 V	-	-	-										-18 mA	0.5 V	5.5 V	GND	=	=	-	-	-	•	•	2.7 V	GND	5.5 V	-	-	-	-		
14	18	4A																-18 mA											0.5 V									2.7 V
13	17	4B							2.0 V								-18 mA											0.5 V										2.7 V
12	15	4Υ			-1 mA				20 mA																													
11	14	3A														-18 mA											0.5 V										2.7 V	
10	13	3B						2.0 V							-18 mA	<u>``</u>										0.5 V	-									2.7 V		
6	12	ЗҮ		-1 mA				20 mA 2							7											0												
8	10	GND	GND "		2	"	×	, 20	u	n	×	×	×	n	n	n	n	×	u	×		u	u	×	×	3	ň	×	3		×	×	u	ň	×	3		
7	6	2Y G	-1 mA				20 mA																															
			7	-										mA											>										>			
9	8	2B					2.0 V						hA	-18 mA										>	0.5 V									>	2.7 V			
5	7	2A	4			A							-18 mA											0.5 \										2.7 V				
4	5	1Y	-1 mA			20 mA						1																										
ю	4	1B				2.0 V						-18 mA											0.5 V										2.7 V					
7	з	1A									-18 mA											0.5 V										2.7 V						
-	2	s				2.0 V	-	•	8	-18 mA										5.5 V	0.5 V	GND	5.5 V	GND	5.5 V	5.5 V	GND	5.5 V	GND	GND	2.7 V							
Cases E,F	X, 2 <u>5</u> /	Test no.	- 0	1 m	4	5	9	7	8	6	10	1	12	13	4	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37 38
-MIL-		8	3006			3007	-													3009	¥	я	я	n	×	¥	×	'n	×	3010	¥		×	×	2	×		: :
	Symbol STD-883	F	Чон			NoL :				VIC																				IH1								
				>		^				-										-																		
	Subgroup		1 To = בסהיר																																			

Terminal conditions (pins not designated may be H \geq 2.0 V, or L \leq 0.8 V, or open)

See footnotes at end of device type 04

	Unit		mA	10		ų	з			:	×	*	×		и	11	-	Ч		æ				T																
nits		Мах	1.0	н		¥	×	×	n	ä	z	ч	-100 <u>1</u> /	-	-		61	250	:	×	¥																			
Test limits	:	ЧШ													÷	-																								
	Measured	terminal	U	S	1A	18	2A	2B	3B	3A	4B	4A	1	2Y	ЗҮ	4Υ	Vcc	7	2۲	ЗҮ	4Υ			See <u>3</u> /	и	×	12	ч	11	и	×	ч	2	×	2	2	×	11	×	29
16	20	Vcc	5.5 V	и	н	×	'n	и	и	и	и	и	и		и	н	n	п	и	и	ч			4.5 V	n	ĸ	'n	ų	н	и	и	и	и	и	н	н	н	и	ų	н
15	19	U	5.5 V	GND	5.5 V	¥	×	×	и	n	×	ч	:	-	и	-	-	=	÷					в	-	-				:	-		-	-	-	-	:	=		-
14	18	4A										5.5 V					GND	=						A 2/													В	A	A	В
13	17	4B									5.5 V						GND	=				.45 V.		B <u>2</u> /													۷	в	в	A
12	15	4γ														GND					5.5 V	VIL = 0.7 V, VOL _(max) = 0.45 V.		-													_	т	Ч	т
11	14	ЗА								5.5 V							GND	=				7 V, V _{OL}		A 2/									В	۲	A	ш				
10	13	3B							5.5 V								GND	=				$V_{IL} = 0$		B <u>2</u> /									A	в	в	۲				
6	12	ЗҮ													GND					5.5 V		omitted.	mitted.	_									_	т	_	т				
80	10	GND	GND	н	ä	×	ä	×	и	u	¥	ч	з		¥	ч	n	n	и	и	¥	T_C = +125°C and V _{IC} tests are omitted.	and V _{IC} tests are omitted.	GND	u	¥	ä	¥	ч	ч	и	и	н	и	×	z	ч	и	¥	u
7	6	2۲												GND					5.5 V			and V _{IC}	nd V _{IC} te	-					_	т	L	т								
9	8	2B						5.5 V									GND	=			:	= +125°C	-55°C	B 2/					۷	В	в	۷								
5	7	2A					5.5 V										GND	-	-	:	:	cept Tc =	except T _C =	A <u>2</u> /					в	٩	٩	в								
4	5	1											GND					5.5 V				oup 1, exi	oup 1, ex	_	_	I	_	т												
3	4	1B				5.5 V											GND	=				or subgro	or subgro	B <u>2</u> /	۲	В	В	A												
2	3	1A			5.5 V												GND		-			imits as f	imits as f	A <u>2</u> /	В	A	A	В												
-	2	s	GND	5.5 V													5.5 V	*				ns, and li	ns, and l	B <u>2</u> /	۲	٨	В	В	٩	٩	в	в	۷	٩	в	в	٨	A	в	в
Cases E,F	X, 2 <u>5</u> /	Test no.	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	l conditio	l conditio	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
- MIL-		method	3010	н	¥	¥			-	-		÷	3011		-		3005					, termina	, termina	3014	-								-	n	н	×	×	н	¥	n
	Symbol S	-	I _{IH2}										los				lcc	Icex				Same tests, terminal conditions, and limits as for subgroup 1, except	Same tests, terminal conditions, and limits as for subgroup 1,	Truth	table	test														_
	Subgroup		1	T _C = +25°C													<u> </u>					2 S	З З	7	T _C = +25°C															

TABLE III. Group A inspection for device type 04 - Continued. Terminal conditions (pins not designated may be H ≥ 2.0 V, or L ≤ 0.8 V, or open)

See footnotes at end of device type 04

MIL	E,F	-	2	3	4	5	9	7	8	6	10	11	12	13	14	15	16		Test limits	nits	
~	X, 2 <u>5</u> /	2	3	4	5	7	8	6	10	12	13	14	15	17	18	19	20	Measured	~:P V		Unit
metnoa	Test no.	S	1A	1B	≯	2A	2B	27	GND	ЗҮ	3B	ЗA	47	4B	4A	U	V _{CC}	terminal		Max	
-	Same tests, terminal conditions, and limits as for subgroup 7, except	tions, and	l limits as	for subgr	oup 7, ex	TC	= +125°C	= +125°C and -55°C.	ن ن												
3003	75	Z	GND	2.7 V	OUT				GND							GND	5.0 V	7	2.0	14	su
Fig. 6	76	•				GND	2.7 V	OUT	¥							¥	¥	2Υ	-		·
		•							¥	OUT	2.7 V	GND				z	¥	ЗҮ	-		÷
	78	:							z				OUT	2.7 V	GND	z	¥	47	-		×
l I	79	-	GND	2.7 V	OUT				ч							и	и	7	=	n	×
	80	•				GND	2.7 V	OUT	×							z	×	2Υ	-	я	×
	81	-							×	OUT	2.7 V	GND				×	77	ЗҮ	-	77	×
	82								×				OUT	2.7 V	GND	и	и	47	=	n	я
1	83	GND	Z	GND	OUT				×							n	и	7	=	8.0	и
	84	•				Z	GND	OUT	ä							¥	ų	2Υ	-	я	z
	85	•							¥	OUT	GND	z				×	×	ЗҮ	-	¥	×
	86	-							ä				OUT	GND	z	a	и	47	-		=
	87	=	Z	GND	OUT				'n							**	**	λ١	=	"	**
	88	-				Z	GND	OUT	ч							ч	×	2Υ	-	÷	•
	89	-							ч	OUT	GND	Z				ч	×	3Υ	-	×	×
	06								и				OUT	GND	N	и	16	4Υ	=	u.	и
	91	×	2.7 V	GND	OUT				я							Z	"	λ١	n	14	я
	92	•				2.7 V	GND	OUT	¥								×	2Υ	ų	¥	×
	93	•							¥	OUT	GND	2.7 V					¥	ЗҮ	7	3	÷
	94	"							н				OUT	GND	2.7 V		и	4Υ	н	u	**
	96	=	2.7 V	GND	OUT				'n							-	"	λ١	"	13.5	"
	96	-				2.7 V	GND	OUT	ä								×	2Y	'n	3	×
	97	-							з	OUT	GND	2.7 V					×	ЗҮ	'n	ÿ	×
	98	-											OUT	GND	2.7 V			47	'n	ÿ	×
	66	Z	GND	2.7 V	OUT				я							GND	и	λ١	"	18.5	×
	100	-				GND	2.7 V	OUT	ä								×	2Y	'n	ÿ	×
	101	-							з	OUT	2.7 V	GND					×	ЗҮ	'n	ä	×
	102	•							11				ЦС	7 1	CIND CIND		п	~	ш	п	я

Table III. Group A inspection for device type 04 – Continued. Terminal conditions (pins not designated may be H \geq 2.0 V, or L \leq 0.8 V, or open)

See footnotes at end of device type 04.

									111															_
	Unit		su	×	×	z	н	×	н	z	×	×	z	z	n	z	z	z	н	z	z	z		
imits	V.C.M.	INIAX	18.5	a	29	×	11	×	×	и	39	×	ä	и	18.5	×	ä	×	18	ä	×	¥		
Test limits	Min		2.0	×	a	×	'n	¥	a	×	×	¥	¥	×	ä	¥	¥	×	'n	¥	×	¥		
	Measured	lemma	17	2Υ	ЗҮ	4Υ	1Y	2Υ	ЗҮ	4Υ	17	2Υ	ЗҮ	4Υ	1Y	2Υ	ЗҮ	4Υ	1Y	2Υ	ЗҮ	4Υ		
16	20	Vcc	5.0 V	и	a	¥	ų	ч	и	¥	n	ч	¥	:	=				-	¥	:			
15	19	U	GND	:	-				:		:				z						:			
14	18	4A				GND				Z				Z				2.7 V				2.7 V		
13	17	4B				2.7 V				GND				GND				GND				GND		
12	15	47				OUT				OUT				OUT				OUT				OUT		
11	14	ЗA			GND				Z				z				2.7 V				2.7 V			
10	13	3B			2.7 V				GND				GND				GND				GND			
6	12	ЗΥ			OUT				OUT				OUT				OUT				OUT			
8	10	GND	GND	¥	×	×	я	я	10	×	77	я	¥	:	-	:		:		¥	:	:		
7	6	2Υ		OUT				OUT				OUT				OUT				OUT				
9	8	2B		2.7 V				GND				GND				GND				GND			t T _C = -55°C.	
5	7	2A		GND				z				z				2.7 V				2.7 V			xcept T _C	
4	5	≯	OUT				OUT				OUT				OUT				OUT				oup 10, e	
3	4	1B	2.7 V				GND				GND				GND				GND				or subgro	
2	з	1A	GND				Z				z				2.7 V				2.7 V				imits as f	
٦	2	S	z	-	-	:	GND		-	:	-			:	-			:	-		:		ons, and I	
Cases E,F	X, 2 <u>5</u> /	Test no.	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	al conditio	
MIL-			3003	Fig. 6	-	:	-	×	n	×	n	×	z	:	=			:	-	z	-	=	Same tests, terminal conditions, and limits as for subgroup 10, except	
	Symbol STD-883	-	tpLH1				tPHL2				tpLH2				tPHL3				tpLH3				Same tes	
	Subgroup		10	T _C = +125°C			1				L				ı								11	
			•																				•	4

1/ For circuit B, $I_{OS(max)} = -110 \text{ mA}.$ 2/ A = 2.4 V; B = 0.4 V.3/ H ≥ 1.5 V; L ≤ 1.5 V.4/ Only a summary of attributes is required.5/ Case 2 pins not designated are NC.6/ For circuit B, 0.1/ -4 mA.7/ For circuit B, 0.1/ -2 mA.

TABLE III. Group A inspection for device type 04 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

	it						_				7														7											
	Unit		>	3	3	2	٩d	×		ä	1/ mA		Αц	*	*	ä	2	*	-	8	•	2	4	*	ЧШ	4	3	4	*	4	-	4	4	3	4	8
Test limits	-	Max	0.5	0.5			50	50	-50	-50	-100	-100 1/	50	3	3	×	×	3	-	×	3	×	¥	3	1.0	3	3	¥	3	u	-	3	3	ä	×	ä
Test		ЧШ			2.4	2.4					-40	40																								
	Measured	terminal	M	≻	N	≻	M	٢	M	≻	M	≻	D3	D2	D1	DO	ST	U	в	۷	D7	D6	D5	D4	D3	D2	D1	DO	ST	υ	в	۷	D7	D6	D5	74
16	20	Vcc	4.5 V	н	11	н	5.5 V	u	и	×	л	×	л	н	ж	ц	н	н	-	11	н	н	11	н	и	τ	×	н	н	11	11	z	z	¥	я	н
15	19	D4																						2.7 V												55V
14	18	D5																					2.7 V												5.5 V	
13	17	D6																				2.7 V												5.5 V		
12	15	D7		0.8 V	0.8 V						GND										2.7 V												5.5 V			
11	14	A	-8 V			-8 V			_			GND	DND	5.5 V	DND	.5 V				.7 V	GND	.5 V	GND	.5 V	GND	.5 V	DND	.5 V				.5 V		5.5 V	DNS	5
10	13	В			2.0 V 2							GND			5.5 V G				2.7 V	2		GND 5			GND G						5.5 V			GND 5		
6	12	U										GND	5.5 V			۔ ي		>	5						5.5 V G			۔ ي		5.5 V				ڻ ۽		
											5.5	Ö	5.5	•	•	-		2.7			G	•	-	•	5.5	-	-	-		5.5			ð			-
8	10	GND	V GND		77	3		u	'n	3	, (* •	" ^	3	3	3	*	3	4	×	*	3	3	3	×	3	3	×	3	и	*	2	*	3	3	ä
7	6	ST	A 0.8 V		:		7 2.0 V	-		•		GNI	5.5	•	•	-	2.7 V				5.2	•	•	•	•	-	-	•	•				5.5 V	•	•	-
9	8	>	20 mA		-2 mA		2.7 V		0.5 V		GND																									
5	7	≻		20 mA		-2 mA		2.7 V		0.5 V		GND																								
4	5	ß	2.0 V			2.0 V						5.5 V				2.7 V												5.5 V								
ю	4	Б													2.7 V												5.5 V									
2	3	D2												2.7 V												5.5 V										
-	2	D3											2.7 V												5.5 V											
Cases E,F	X, 2 <u>5</u> /	Test no.	-	2	з	4	5	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
MIL-		method	3007	3007	3006	3006					3011	3011	3010						-	×	×	×	×	×	я	×	×	×	×	я		*	-	3	×	ä
	Symbol STD-883	Ē	VoL 3		V _{OH} 3		lof F1		loFF2		los 3		I _{IH1} 3												l H2											
	Subgroup Sy		-	T _C = +25°C																																

Terminal conditions (pins not designated may be H \ge 2.0 V, or L \le 0.8 V, or open)

See footnotes at end of device type 05.

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	Unit		чч , ,	×	я				-		=	Ч Ч	> • •	3			•		:															
imits	A COV	IVIAX	۰÷ ۲	n	и				n		85	250 250	-1.2				÷		:															
Test limits	N.I.S.		7 = =	•	-																													
	Measured	lemma	03 02 04	DO	ST	υı	ш «	A D7	D6	D5 D4	Vcc	3≻	03 03	58	ST C	8 4	D7	D6 D5	D4		i	, <u>1</u>	¥	z :		и	а :		÷	÷		=	н	
16	20	Vcc	5.5 V "	¥	я	3 3			и	3 3	я	31	4.5 V "	11	3 E							4.4 V "	×	3	: :	я	2	: :	Ŧ	F			и	
15	19	D4								0.5 V	5.5 V							4 01	-18 mA			B ≦/	۷	В	4 H	n ∢	В	8 <	< ∢	в	4 B	A	В	
14	18	D5								0.5 V	5.5 V							-18 mA				B ⊵∕	٨	B ·	< ₪	• ∢	В	۵ ک	о <i>ф</i>	۷	< 8	۲	в	
13	17	D6							0.5 V		5.5 V							-18 mA	45 \/	.4 0 V.		B ≦∕	۷	m ·	< ₪	• ∢	В	۵ ک	ר ⊲	В	8 A	٩	в	
12	15	D7						05V	2		5.5 V	GND					-18 mA			(max) = 0		B ≦∕	۲	ш	< □	• ∢	B	< □	ר ⊲	в	< ₽	В	A	
11	14	A	5.5 V GND 5.5 V	GND				0.5 <	GND	5.5 V GND	5.5 V	5.5 V GND				18 m∆			- 11 11-1	VIL = 0.7 V, VOL(max) = 0.45 V	i	8 <u>7</u>	٨	< ۲	<u>م</u> م	2 ∢	۷	<u>م</u>	□ ∢	A	œ œ	. ∢	A	
10	13	В	5.5 V " GND	GND			V 6.0	55 V	5.5 V	GND	5.5 V	5.5 V GND				-18 mA				VIL = U	i	2 2			• ک		-	- 10			• ۲		-	
6	12	с	GND = =			0.5 V		л л V	>) =)		×	" GND			-18 mA				0000	omitted.	mitted.	₽	:				-	4 -	÷	÷		-	-	
8	10	GND	GND GND	ч	×	3 3			и	3 3	×	3 3	2 2 2	z	2 2	3 3	×	3 3 3		tests are	and VIC tests are omitted	ËND "	×	a :	: 3	н	8	: :		:		:	н	
7	6	ST	GND = =		0.5 V			GND) 		5.5 V	GND			-18 mA					and vic	nd VIC te	2 2								:		:	-	
9	8	Μ										5.5 V							0.101.	+125'C	-55°C	т –	т		I -	ιI	-	Ι-	ιI	_	т _	Ι	_	
5	7	٢										5.5 V								ept IC =	ept Ic =	- T	_	Ξ·	- I	: –	I		:	т	<u>-</u> т	_	н	
4	5	DO		0.5 V							5.5 V	5.5 V		-18 mA					1 200	up 1, exc	up 1, exc	≥ 19	۷	ш,	< ₪	∢	ш	< □	ר ע	в	< ₫	۲	в	
3	4	5	0.5 V								5.5 V		0 0 0	- 18 MA					0.00	or subgro	or subgro	B K	В	< 1	< ₪	∢	B	< □	ר ע	в	< ₫	۲	в	
2	3	D2	0.5 V								5.5 V		-18 mA						mite of fe	mits as ro	nits as to	B K	۷	ш	8 ⊲	< ◄	B	< □	ר ע	в	< ₫	۲	в	
+	2	D3	0.5 V								5.5 V		-18 mA							ns, and III	IS, and III	B K	۷	ш,	< ₪	6	٨ -	< □	ר ע	в	< ₫	۲	в)5.
Cases E,F	X, 2 <u>5</u> /	Test no.	35 36 37	38	39	40	41	4 4 2 6 4	5 4	45 46	47	48 49	50 51	52 53	54 55	56 57	58	20 00 00	01		al condition	62 63	64	65	66 67	68	69	70	72	73	74 75	76	77	ce type (
MIL-	STD-883	0	3009 "	z	я	3 3			-		3005								- to minor	s, termina	s, termina	3014					-			:		-	n	1 of devi
	Symbol S		4								lcco	lcex	Vic						Come to the f	Same tests, terminal conditions, and limits as for subgroup 1, except	Same tests, terminal conditions, and limits as for subgroup 1, except	l ruth table	test											tes at enc
	Subgroup		1 T _C = +25°C																c			/ Tc = +25°C	þ											See footnotes at end of device type 05.

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Repeat subgroup 7 af T ₅ = +125°C and 36°C. T N <td>E A</td> <td>De</td> <td>_</td> <td>Noc.</td> <td>terminal</td> <td>Min Max</td> <td></td>	E A	De	_	Noc.	terminal	Min Max	
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39 101 101 10 2.7 V 6 ND 2.7 V 7 ND 1.0 V 1.0				z	'n	29 29	37
100 101 N 101 101 N 102 103 N 103 2.7 V 6ND 104 103 103 105 2.7 V 6ND 106 0.0 V 2.7 V 107 108 0.0 V 108 2.7 V 2.7 V 109 2.7 V 2.7 V 101 103 2.7 V 103 104 101 104 104 104 105 106 101 107 108 109 108 109 101 109 101 101 110 N 101 111 101 101 </td <td></td> <td></td> <td></td> <td>¥</td> <td>-</td> <td>-</td> <td>=</td>				¥	-	-	=
101 N 101 N 102 102 102 2.7 V 2.7 V 103 103 2.7 V 6ND 6ND 6ND 104 105 105 10 10 10 10 105 106 108 10 1 1 1 1 1 105 106 108 10 1				-	-	-	-
102 103 103 103 1004 10 10 103 2.7 V GND 2.7 V 103 2.7 V GND 2.7 V 104 105 N 10 105 GND 2.7 V GND 10 105 105 GND 2.7 V 2.0 V 10 105 105 GND 2.7 V 2.0 V 10 10 106 GND 2.7 V GND 2.7 V 2.0 V 10 10 101 N N N N N 10				¥	-	-	=
103 104 10 10 104 104 10 10 10 105 106 27 27 10 101 27 27 10 10 102 27 27 10 10 103 27 27 27 10 104 27 27 27 10 105 600 27 27 10 101 10 10 10 10 10 105 001 10 10 10 10 10 104 103 10 10 10 10 10 10 105 103 10 10 10 10 10 10 10 105 10 10 10 10 10 10 10 10 10 105 103 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10				3	=	-	=
104 104 105 105 106 100 107 2.7 V 108 2.7 V 109 N 110 N<			z	4	=	=	=
In 105 In 105 In 105 In 105 In 106 In 106 In 106 In 107 In	GND			¥	-	-	=
N 106 GND	2.7 V			-	÷	-	=
N N N N N N N N N N N N N N					≻	" 14.0	=
N 2.7 V GND 2.7 V 2.7 V 2.7 V				-		-	
IN 2.7 V 2.7 V 2.7 V 2.1				•	-	-	-
a contraction of the contraction				-	=	-	=
					=	-	=
			Z	-	-	-	=
	GND			-	Ŧ	-	
2.7 V	2.7 V				u.	-	=

TABLE III. Group A inspection for device type 05 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

														1			1	1	r						1					
	Unit		su	•	=	=	=	•	-	-	-	=	-	-	-	-	-	-	¥	з	и	n	ä	•	¥	•	-	=	÷	×
imits	VeM	IVIAN	14.0		=	=	=		-	-	19.5	21	21	17	19.5	21	21	17	20	=	и	22	:		28		-	26	÷	
Test limits	Min		2.0		=	F			-			=								=	=				я		-		÷	
	Measured		Y	z	a	и	×	z	ч	z	w	-	=	-	٨	rr	÷	-	M		=	-	-	=	~		=	=	÷	=
16	20	Vcc	5.0 V		-	÷	-	:			:	-	-	-	:	-	-	:	n	и	и	3	и		'n	и		'n	'n	ä
15	19	D4					Z														2.7 V			2.7 V			2.7 V			2.7 V
14	18	D5						Z																						
13	17	D6							Z																					
12	15	D7								Z																				
11	14	A	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	77	×	×	×	'n	×	z	z	GND	GND	z	GND	GND	z	GND	GND	z	GND	GND
10	13	В	GND	GND	2.7 V	2.7 V	GND	GND	2.7 V	2.7 V	GND	77	"	39	'n	н	3	3	GND	Z	GND	GND	⊒	GND	GND	≧	GND	GND	⊒	GND
6	12	с	GND	-	=		2.7 V				GND	'n	'n	×	ÿ	и	×	¥	GND	GND	R	GND	GND	≥	GND	GND	≥	GND	GND	Z
8	10	GND	GND	×	11	×	×	л	'n	n						n		39	7	n	u	n	ä		×	×	'n	"	×	×
7	6	ST	GND	r,	н	n	n	×	×	×	N	"	'n	×	"	'n	и	×	GND	=		=			37	×	×	3	ä	n
6	8	M									OUT	-	-	=					OUT	=	=	-								
5	7	×	OUT	:	=		:			-					OUT		-	-							OUT			:		
4	5	DO	Z								GND	2.7 V	GND	2.7 V	2.7 V	GND	2.7 V	GND	GND											GND
3	4	D1		z									-						2.7 V			2.7 V			2.7 V			2.7 V		
2	3	D2			Z															2.7 V			2.7 V			2.7 V			2.7 V	
1	2	D3				z														. 1			. 4			. 1			. 1	
Cases E,F	X, 2 <u>5</u> /	Test no.	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141
MIL-		method Te	3003	Fig. 8	-						-				-	, ,	-	-	*		и и	*			3			•		
Μ	Symbol STD-883	ше		Fi																		H			12					
			tPLH4	U							tzн	ţzr	tHZ	tLZ	tzh	tzı	tHZ	tLZ	tphL1	Ď		tpLH1			tpHL2			tpLH2		
	Subgroup		6	T _C = +25°C															10	T _C = +125°C										

TABLE III. Group A inspection for device type 05 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or L ≤ 0.8 V, or open)

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See footnotes at end of device type 05

	Ħ																																						
	Unit		su	•	-	-	•	-	-	-	-	•	-	•	:	•	:	•	-	•	•	•	•	•	•	-	-	-	3	×	8	8	2	•	-	-	-	-	-
Test limits	ACM.	IVIAX	11.5	•	•	-	•	-	-	:	-	•	-	:	:	•	:	•	18	•	•	•	•	•	•	-	-	•	-	•	•	•	•	•	25.5	27.5	24	22	25.5
Test	U.I.D		2.0	•	-	-		-	-	:	=	•	=	-	-	-	-		-	-	•	•	-	•	-	-		-	-	•	-	:	•	-		-	=	-	
	Measured	lemma	Μ	=	=	-	-	-	-	-	-	39	и	я	n	n	n	77	٨	я	-	-		-	-	п		-	:	=	•	=	=	-	Μ	-	=	=	7
16	20	Vcc	5.0 V	-	-	=	-	=	=	-	-	•	=	÷	=	-	=		-	-	-	-	•		-	-	=	-	и	ä	н	н	z	-	-	-	=		=
15	19	D4					Z								Z								Z								Z								
14	18	D5						Z								Z								z								Z							
13	17	D6							Z								Z								Z								z						
12	15	D7								z								z								N								Z					
11	14	A	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND				-
10	13	В																																	GND	-	-	:	
6	12	С					>																								2.7 V				GND		-		
8	10	GND		×	×	2	-	2	n	10	:	ä	3	*	*	*	n	ĸ	,	*			=			u	:	×	×	¥	=	10	ĸ	2		:	:	:	-
7	6	ST 0		×	3	×	z	×	22	22	×	ä	2	3	79	3	79	×	я	3		ц	3	ĸ	*	u	"	×				-			Z	-	-	-	-
6	8	M							-	-			-																						OUT		-	-	
5	7	~	0																OUT																0				OUT
4	5	DO	z								z								o ⊻								Z								GND	2.7 V	GND	2.7 V	2.7 V 0
3	4			Z							_	Z								Z								Z							Ū	 	G	5.	
		2 D1			_							=	_							=	_							=	_										
2	3	D2			Z								Z								Z								Z										
1	1 2	o. D3				Z								Z								Z								Z									
Cases E,F	3 X, 2 <u>5</u> /	Τe	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178
- MIL-	STD-88	method	2003	Fig. 8	-	-	-	-	=	-	-		=		-	-	-		-	-			-	-	-	n	-	-	z		я	я	ч	-	-	-	-	-	=
	Symbol STD-883	-	tpHL3								tPLH3								tPHL4								tpLH4								tzH1	tzr1	t _{HZ2}	tız2	tzH3
	Subgroup		10	T _C = +125°C							L								I								<u> </u>								<u> </u>	<u>I</u>	<u>I</u>	<u>I</u>	I

TABLE III. Group A inspection for device type 05 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or L ≤ 0.8 V, or open)

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See footnotes at end of device type 05

		- IIM	Cases E.F	-	7	ю	4	5	9	7	œ	6	10	11	12	13	4	15	16		Test limits	imits	
Subgroup Symbol STD-883 X, 2 5/	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	80	6	10	12	13	14	15	17	18	19	20	Measured	~:PA	Move	Unit
		method	Test no.	D3	D2	Ы	8	≻	N	ST	GND	с	в	A	D7	D6	D5	P4	Vcc	terminai	MIM	Max	
10	tzL3	3003 Fig. 8	179				GND	OUT		Z	GND	GND	GND	GND					5.0 V	٢	2.0	27.5	su
T _C = +125°C t _{HZ4}	tHZ4	-	180				2.7 V			н	'n	=	-	=					37			24	
	tLZ4	-	181				GND	:		×	*	-	-	=								22	
11	Same te	sts, termir	11 Same tests, terminal conditions, and limits as for subgroup 10, except $T_{C} = -55$ °C.	ons, and	limits as	for subgr	oup 10, ∈	sxcept T _C	= -55°C.														

<u>1</u>/ For circuit B, $I_{OS(max)}$ = -110 mA.

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 $\underline{2}$ / A = 2.4 V; B = 0.4 V.

<u>3</u>/ H <u>></u> 1.5 V; L <u><</u> 1.5 V.

 $\underline{4}$ / Only a summary of attributes is required. $\underline{5}$ / Case 2 pins not designated are NC.

																																		1
	Unit		> "	×	n		:	н	," Au	и	ä		*	*		-	н	mA "	×	×	2	ä	* *	-	*	۳ ۳	×	и	n	×	ä		×	
imits	No M	Max				0.5 "	×	и	" 50	и	¥	-50	79	73	250	-	=	-4.0 <u>8/</u> -2.0 9/	10 0.7-	×	3	×		-	=	100	0. "	3	з	×	3	: :	×	
Test limits	NA:~		2.4 "	-	-													-2.0 <u>8/</u> -1.0 0/	<u>0</u> 2. -	u	ч	a	2		-									
	Measured	terminal	1Y 2Y	ЗҮ	4Υ	7 7	ЗҮ	4Υ	1Y 2Y	ЗҮ	4Υ	7 7	3√	47	17 27	3 7	47	S	₫ ₹	18	2A	2B	3B	3A 4R	4A	ω Ę	a 1A	18	2A	2B	3B	3A	44 4	
16	20	V _{CC}	4.5 V "	н	и	2 2	и	и	5.5 V "	и	н	а а	и	'n	= 3		и	n	н	и	и	×	2 3		и	n	'n	н	н	×	и	: 3	и	
15	19	OE	0.8 V #		-				2.0 V "	=	-		:	÷	GND =		-	0 5 \	>							7 F C	A 7.7							
14	18	4A						0.8 V			GND														0.5 V								2.7 V	
13	17	4B			2.0 V									5.5 V			5.5 V							051								7 1		
12	15	4γ			-2 mA			20 mA			2.7 V			0.5 V			5.5 V																	
11	14	ЗА					0.8 V			GND														V C.U								2.7 V		
10	13	3B		2.0 V									5.5 V			5.5 V							0.5 V								2.7 V			
6	12	ЗҮ		-2 mA			20 mA			2.7 V			0.5 V			5.5 V																		
8	10	GND	GND "	'n	n	3 3	a	щ	39	19	n	3 3	n	**	3 3	×	n	39 31	π	и	39	я	3	3	10	и и	и	77	n	n	и	: 3	и	
7	6	2Υ	-2 mA			20 mA			2.7 V			0.5 V			5 5 \	5																		
6	8	2B	2.0 V									5.5 V			557							0.5 V								2.7 V				
5	7	2A				0.8 V			GND												0.5 V								2.7 V					
4	5	1Y	-2 mA			20 mA			2.7 V			0.5 V			5.5 V																			
3	4	1B	2.0 V									5.5 V			5.5 V					0.5 V								2.7 V						
2	3	1A				0.8 V			GND										0.5 V								2.7 V	i						
1	2	S	2.0 V "		8	0.8 <			GND "	:	=	5.5 V	:	-	5.5 V "		-	0.5 V GND	GND	5.5 V	GND	5.5 V	5.5 V	GND 55V	GND	2.7 V E E V	5.5 V	GND	5.5 V	GND	GND	5.5 V	5.5 V	
Cases E,F	X, 2 <u>7</u> /	Test no.	1 2	с	4	6 5	7	8	9 10	11	12	13	15	16	17 18	19	20	21	23	24	25	26	27	28	30	31	33	34	35	36	37	38	40	1
MIL-	STD-883	method	3006 "		-	3007												3009 "	¥	з	ч	×	2 1		×	3010 "	ä	×	n	×	з		и	
	Symbol S	-	Чон			VoL			lofF1			lof F2			Icex			۱۱								l _{IH1}								
	Subgroup		1 Tr = +25°C												<u>.</u>											ι <u> </u>								

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Cases 1 2	۰ ۲	۰ ۲	6		٣		4	Ľ	y	7 8	σ	ć	,	1	5	14	1 ت	16		Test limits	ite	
2	E.F	E.F	3 4 5 4	4 5 7	2 4	~ ~	_	<u>ه</u> م				2 2	. 4	15	17	18	19	20	Measured		2	Unit
method	Test no. S 1A 1B 1Y 2A	Test no. S 1A 1B 1Y 2A	1A 1B 1Y 2A	1B 1Y 2A	1Y 2A	2A	-	2B	1.1	2Y GND	D 3Y	3B	ЗA	47	4B	4A	OE	Vcc	terminal	Min	Max	
I _{H2} 3010 41 5.5 V	41		5.5 V						1	GND	0							5.5 V	S		1.0	mA
" 42 5.5V	42		5.5 V							*							5.5 V	×	OE		×	ä
" 43 5.5 V 5.5 V	5.5 V	5.5 V		5.5 V						2								¥	1A		×	×
" 44 GND 5.5 V	GND	GND		5.5 V	5.5 V					2								¥	1B		×	
" 45 5.5 V 5.5 V	5.5 V	5.5 V		5.5 V	5.5 V	5.5 V	5.5 V			2								×	2A		×	
" 46 GND 5.5V	GND	GND		5.5	5.5	5.5	5.5	5.5	>	2								×	2B		×	
" 47 GND			GND							2		5.5 V						¥	3B		×	z
" 48 5.5 V			5.5 V							2			5.5 V					и	ЗA		×	×
- 49 GND			GND							*					5.5 V			×	4B		=	3
50 5.5 V	50		5.5 V							-						5.5 V			4A			
l _{os} 3011 51 " 5.5 V GND	51 " 5.5 V	" 5.5 V				GND				"							GND	и	1	40	-100 1/	×
" 52 " 5.5 V	52 "	=	- 2.5 \	5.5	5.5	5.5	5.5 \	5.5		" GND							-	z	2Υ	:	:	×
= 53 =		53	-							×	GND	5.5 V					-	×	ЗҮ		-	¥
" 54 "		54 "	39							и				GND	5.5 V		-	н	4Υ			и
I _{CCH} 3005 55 " GND 5.5 V GND 5.5 V	55 " GND 5.5 V GND	" GND 5.5 V GND	GND 5.5 V GND	5.5 V GND	GND			5.5 V		u		5.5 V	GND		5.5 V	GND	=	и	Vcc		68	=
I _{CCL} " 56 GND GND GND GND GND	56 GND GND GND GND	GND GND GND GND	GND GND GND	GND GND	GND			GND		21		GND	GND		GND	GND		31	Vcc		93	и
I _{CCO} " 57 GND GND GND GND GND	57 GND GND GND GND	GND GND GND GND	GND GND GND	GND GND	GND			GND		2		GND	GND		GND	GND	5.5 V	×	Vcc		66	-
VIC 58 -18 mA			-18 mA							2								4.5 V	s		-1.2	>
59 -18 mA			-18 mA	-18 mA						2								-	1A		-	-
60			-18 mA	-18 mA	-18 mA					и								×	1B		z	11
61 -18 mA			-18 mA	-18 mA	-18 mA	-18 mA	18 mA			2								z	2A		×	×
62 -18 mA			-18 r	-18 r	-18 r	-18 r	-18 r	18 r	hA	2								×	2B		ч	×
63	63	63								*		-18 mA						×	3B		=	н
64	64	64								2			-18 mA					×	3A		ч	×
65	65	65								×					-18 mA			×	4B		×	×
99	99	66								2						-18 mA		и	4A		×	и
67	67	67								z							-18 mA		OE			-
Same tests, terminal conditions, and limits as for subgroup 1, except T_c = +125°C and V _{IC} tests are omitted.	ssts, terminal conditions, and limits as for subgroup 1, except $T_{\rm C}$ = +1;	ral conditions, and limits as for subgroup 1, except $T_{\rm C}$ = +1	ons, and limits as for subgroup 1, except T_{C} = +12	imits as for subgroup 1, except T_{C} = +1.	or subgroup 1, except T _C = +1	up 1, except T _C = +12	pt T _C = +12	+	25°C an	d V _{IC} tests	are omitte		VIL = 0.7 V, VOL(max) = 0.45 V.)L(max) =	0.45 V.							
Same tests, terminal conditions, and limits as for subgroup 1, except T_{C} = -55°C and V _{IC} tests are omitted.	sts, terminal conditions, and limits as for subgroup 1, except $T_{\rm C}$ = -55°C	hal conditions, and limits as for subgroup 1, except T_{C} = -55°C	ons, and limits as for subgroup 1, except T_{C} = -55 $^{\circ}$ C	imits as for subgroup 1, except T_{C} = -55°C	or subgroup 1, except $T_{C} = -55^{\circ}C$	up 1, except T _C = -55°C	pt T _C = -55°C	55°C	c and	V _{IC} tests a	re omitted											

TABLE III. Group A inspection for device type 06 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

MIL-M-38510/79D

See footnotes at end of device type 06

					Ī		-						-				-			-			l
		MIL-	Cases E,F	۲	2	3	4	5	6	7	8	6	10	11	12	13	14	15	16		Test limits	imits	
Subgroup		Symbol STD-883	X, 2 <u>7</u> /	2	3	4	5	7	8	6	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	s	1A	1B	1	2A	2B	2Υ	GND	зҮ	3B	ЗА	4Υ	4B	4A	OE	Vcc	terminal		Max	
7	Truth	3014	68	A <u>2</u> /	A <u>2</u> /	B <u>2</u> /	_				GND							B <u>2</u> /	4.5 V	See <u>3</u> /			
T _C = +25°C	table	-	69	۷	в	۷	I				×							z	39	11			
	test	u	70	В	в	۷	_				×							и	19	и			
		×	71	ш	٨	ш	I				×							×	¥	и			
		a	72	٩				۷	ш	_	×							n	29	u			
		z	73	۷				В	٨	т	×							z	39	11			
		×	74	ш				в	٩	_	×							×	¥	и			
		a	75	в				۷	в	т	×							и	3	u			
		a	76	۷							×	_	В	۷				и	3	a			
		-	77	٩							×	т	۷	в				n	n	u			
		×	78	ш							×	_	٨	в				×	¥	и			
		-	79	Ш							×	т	В	۷				×	39	11			
		×	80	A							¥				_	ш	٩	ä	¥	ч			
		×	81	۲							¥				т	۷	ш	×	з	ч			
		z	82	Ш							×				_	A	ш	×	39	11			
	_	ц	83	В							ú				н	в	A	'n	æ	ú			
8	Same te	sts, termi	Same tests, terminal conditions, and limits as for subgroup 7, except	ons, and	limits as 1	for subgre	oup 7, ex		: +125°C	$T_C = +125^{\circ}C$ and -55°C.	ő												
6	tphL1	3003	84	Z	GND	2.7 V	OUT				GND							GND	5.0 V	1	2.0	17	su
T _C = +25°C		Fig. 9	85					GND	2.7 V	OUT	¥								з	2Υ	•		×
		-	86								•	OUT	2.7 V	GND					з	ЗҮ	•	•	*
		-	87								¥				OUT	2.7 V	GND		я	4γ			×
	tpLH1	=	88	z	GND	2.7 V	OUT				ч							:	39	1Y	11		-
		-	89					GND	2.7 V	OUT	¥								з	2Υ	и	3	×
		-	06								,	OUT	2.7 V	GND					a	ЗҮ	×	a	-
		-	91								¥				OUT	2.7 V	GND		3	4Υ	'n	¥	×
See footnotes at end of device type 06	otes at e	nd of dev	vice type	9C																			

TABLE III. Group A inspection for device type 06 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

	u		8	б	10	11	12	13	14	15	16		Test limits	lits	
method Testino. S 1A 1B 1Y t_{PHL2} 3003 92 GND IN GND OUT $Fig.9$ 93 C N GND OUT OUT t_{PLL2} 94 C 94 C N GND OUT t_{PLL42} C 96 C N GND OUT N t_{PLL42} C 96 C N GND OUT N t_{L1} C 96 C N GND OUT N t_{L1} C 100 Z7V N GND N N t_{L1} C 103 C N N N N t_{L1} C 103 C N N N N t_{L1} C 103 C N N N N t_{L1} C 103 C	c	8	9 10	12	13	14	15	17	18	19	20	Measured			Unit
PHL 303 92 GND IN GND OUT Fig.9 93 7 94 7 94 7 $Fig.9$ 93 7 94 7 94 94 $TepLe$ 94 7 96 7 96 7 $TepLe$ 7 96 7 94 94 94 $TepLe$ 96 7 96 7 94 94 $TepLe$ 96 7 96 7 94 94 $TepLe$ 97 96 7 94 94 94 $TepLe$ 100 27 9 27 9 94 $tepLe$ 101 7 94 94 94 94 $tepLe$ 101 105 101 9 94 94 $tepLe$ 101 106 101 9 94 94 $tepL 11172B2Y GND373BЗA474B4AOEVccterminalМах$	7	2B	2Y GND	37	3B	ЗA	47	4B	4A	OE	Vcc	terminal		Мах	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$			GND	0						GND	5.0 V	1	2.0	8.0	su
there 94 1 there 9 9 9 there 9 9 9 9 there 9 9 1 1 0 there 9 9 1 1 0 0 there 9 1 9 1 0 0 0 there 9 1 100 27 0 0 0 0 there 100 27 100 27 0 <td>Z</td> <td>GND</td> <td>OUT "</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>×</td> <td>2Y</td> <td>×</td> <td>*</td> <td>×</td>	Z	GND	OUT "								×	2Y	×	*	×
thut 95 * 96 * N GND N thut 7 96 7 N 6N 0 0 1 thut 7 96 7 N 6ND 0 1 0 0 1 thut 7 98 7 98 7 N 6ND 0 0 1 0 0 1 </td <td></td> <td></td> <td>31</td> <td>OUT</td> <td>GND</td> <td>z</td> <td></td> <td></td> <td></td> <td></td> <td>×</td> <td>ЗҮ</td> <td>×</td> <td>*</td> <td>×</td>			31	OUT	GND	z					×	ЗҮ	×	*	×
t_{PLL2} \cdot <th< td=""><td></td><td></td><td>39</td><td></td><td></td><td></td><td>OUT</td><td>GND</td><td>z</td><td>:</td><td>×</td><td>47</td><td>3</td><td>n</td><td>×</td></th<>			39				OUT	GND	z	:	×	47	3	n	×
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$			39							-	н	17	39	9.0	я
	Z	GND	out "							:	×	2Y	3	n	×
tzh 99 ~ 99 ~ 90 7 90 7 90 7 90 7 90			99	OUT	GND	Z				-	×	ЗҮ	×	3	×
$t_{\rm DH}$ 100 0.0T 0.0T r 101 102 101 0.0T r 102 103 103 0.0T $r_{\rm L}$ 104 GND GND GND 0.0T $r_{\rm L}$ 106 103 0.0T $r_{\rm L}$ 106 106 0.0T $r_{\rm L}$ 106 109 0.0T 0.T $r_{\rm L}$ 110 0.T 0.T 0.T $r_{\rm L}$ 111 0.T 0.T 0.T $r_{\rm HHL}$ 116 0.T 0.T 0.T $r_{\rm HHL}$ 116 0.T 0.T 0.T $r_{\rm HHL}$ 116			39				OUT	GND	z		z	47	×	n	×
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$			39							z	-	1	я	21.5	-
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		2.7 V	out "								z	2Y	×	-	×
			77	OUT	2.7 V						:	ЗҮ	×	-	
			39				OUT	2.7 V			×	47	ä		×
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	OUT		39							-	z	1	я	23	-
	GND		OUT "								×	2Y	×		¥
thr 107 107 107 108 27 V V			10	OUT		GND					×	ЗҮ	×	ä	×
Hz 5/ 108 2.7 V 0.0 T 109 109 0.0 T 110 110 0.0 T 111 0.0 T 0.0 T 112 0.0 T 0.0 T 0.0 T 113 0.0 T 0.0 T 0.0 T 0.0 T 113 0.0 T 0.0 T 0.0 T 0.0 T 116 10 0.0 T 0.0 T 0.0 T thH1 11 0.0 T 0.0 T 0.0 T 0.0 T thH1 11 0.0 T 0.0 T 0.0 T 0.0 T thH1 11 0.0 T 0.0 T 0.0 T 0.0 T 118 0.0 T 0.0 T 0.0 T 0.0 T 110 0.0 T 0.0 T 0.0 T 0.0 T 120 0.0 T 0.0 T			16				OUT		GND	-	н	4Υ	и	и	и
*** 109 ** 109 *** 110 ** 110 *** 111 ** 111 *** 111 ** 001 *** 113 ** 113 *** 114 ** 113 *** 116 ** 113 *** 116 ** 113 *** 116 ** 001 *** 116 ** 01 *** 116 ** 01 *** 118 ** 01 *** 119 * 01 *** 120 ** 01 *** 120 ** 01			"							-	и	1Y	29	11.5	и
*** 110 ** 110 ** tuz * 111 * 011 * tuz * 112 GND GND 017 * 113 * 113 * 017 * 114 * 114 * 017 * 116 * 114 * 017 * 116 * 114 * 017 * 116 * 116 * 017 * 116 * 118 * 017 * 119 * 6ND 2.7V 0UT * 119 * 6ND 2.7V 0UT * 120 * 6ND 2.7V 0UT * 120 * 6ND 2.7V 0UT		2.7 V	OUT "								×	2Y	×	*	×
h 111 1 hLz 111 112 hLz 112 113 r 113 113 r 113 113 r 114 1 r 115 114 r 116 1 r 118 1 r 119 1 r 110 1 r 100 1			3	OUT	2.7 V						×	ЗҮ	×	*	×
t_Lz 112 GND GND OUT - 113 - 113 - 0UT - 113 - 114 - - 0UT - 114 - 115 - 116 - - 0UT tPHL1 - 116 IN GND 2.7V 0UT tPHL1 - 116 N GND 2.7V 0UT tPLH1 - 118 - - 118 - - tPLH1 - 118 - - - - - - tPLH1 - 118 -			u.				OUT	2.7 V		:	и	4Υ	н	'n	n
113 113 113 114 114 114 115 115 115 116 11 116 117 116 11 118 118 118 119 1 119 119 1 110 111 1 110 111 1 110 119 1 110 111 1 110 111 1 110 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111 1 1 111			**							=	n	17	29	17	=
114 1 115 1 116 1 115 1 116 1 117 1 118 1 119 1 119 1 121 1 121 1 121 1 121 1	GND	_	out "								z	2۲	39		¥
tphL1 115 1 115 1 tphL1 1 116 N 0UT 0UT tpL1 1 1 1 1 0UT 0UT tpL1 1 1 1 1 0UT 0UT 0UT tpL1 1 1 1 1 1 0UT 0UT tpL1 1 1 1 1 0UT 0UT 0UT tpL1 1 1 1 0UT 0UT 0UT 0UT 0UT			3	OUT		GND				:	×	ЗҮ	×	=	=
IpHL1 116 IN CND 2.7 V OUT - 117 - 117 -			10				OUT		GND		и	4Υ	u	-	и
the formation of the fo			**							GND	×	₹	¥	22	¥
118	GND	2.7 V	OUT "								×	2Y	¥	3	a
119 - 1120 - 1120 - 1120 - 1120 - 1121 - 112			3	OUT	2.7 V	GND					×	ЗҮ	×	*	н
" 120 " GND 2.7V OUT " 121 "			u				OUT	2.7 V	GND	:	и	4Υ	н	×	и
= =			39								×	≯	4	ä	×
=	GND	2.7 V	out "								z	2۲	¥	×	¥
122			39	OUT	2.7 V	GND				-	z	ЗҮ	2	-	-
" 123 "			-				OUT	2.7 V	GND	-		4Υ	rt		

TABLE III. Group A inspection for device type 06 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or L ≤ 0.8 V, or open)

	Unit		su	ų	ų	×	-	ä		ų	-	ĸ	ĸ	ų	r,	×	ĸ	¥	-	ň		ų	-	ĸ	×	ų	<u> </u>
		X					2				8				0				2				2				-
Test limits			11	-	-	=	12	ä	31	3	28	3	ų	3	30	3	ų	3	15	:	=	-	22		3	ä	
Ť			2.0	-	-	=	3	3	3	3	n	3	n	3	"	4	7	3	"	3	3	3	3	39	3	3	
	Measured	terminal	₹	27	ЗҮ	4	7	2	ЗҮ	47	≁	2	ЗҮ	47	7	2	ЗҮ	47	1	2	37	47	≁	2Υ	3Ү	4Υ	-
16	20	Vcc	5.0 V	3	×	×	×	3	×	z	=	ä	z	z	*	×	z	ä	=	¥	=	z	×	z	¥	3	-
15	19	OE	GND	•	:	=	=	•	:	-	z	•	:	-		•	:	-		•	=	Z	:	:	=	•	
14	18	4A				Z				Z								GND								GND	
13	17	4B				GND				GND				2.7 V								2.7 V					
12	15	4Υ				OUT				OUT				OUT				OUT				OUT				OUT	
11	14	ЗA			z				z								GND								GND		
10	13	3B			GND				GND				2.7 V								2.7 V						
6	12	ЗҮ			OUT				OUT				OUT				OUT				OUT				OUT		
8	10	GND	GND	×	2	×	я	n	2	¥	3	1	×	¥	3	×	×	×	3	n	n	¥	2	n	79	×	
7	6	2Υ		OUT				OUT				OUT				OUT				OUT				OUT			
9	8	2B		GND				GND				2.7 V								2.7 V							: -55°C.
5	7	2A		z				z								GND								GND			cept To =
4	5	1	OUT				OUT				OUT				OUT				OUT				OUT	-			up 10. ex
3	4	1B	GND				GND				2.7 V								2.7 V								r subaroi
2	3	1A	Z				z								GND								GND				nits as fo
-	2	s	GND		:	:			:	:	2.7 V			:	GND 0				2.7 V			:	GND		=		3. and lin
Cases E,F	X, 2 <u>7</u> /	Test no.	124 G	125	126	127	128	129	130	131	132 2	133	134	135	136 G	137	138	139	140 2	141	142	143	144 0	145	146	147	conditions
						-		1.	-	-		÷	÷	-		-	÷	-		÷	÷	÷		÷	÷		Same tests, terminal conditions, and limits as for subgroup 10, except T_{C} = -55°C.
MIL-	Symbol STD-883	method	3003	Fig. 9	:	:		•	:	:	•	•	•	:	•	•	•	•	. /	•		:	-	39	2	¥	∋ tests, t∈
			tPHL2				tpLH2				tzH				tzı				tHZ <u>6</u> /				tLZ				Same
	Subgroup		10	T _C = +125°C																							11

TABLE III. Group A inspection for device type 06 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

<u>1</u>/ For circuit B, $I_{OS(max)}$ = -110 mA.

 $\underline{2}$ / A = 2.4 V; B = 0.4 V. $\underline{3}$ / H \ge 1.5 V; L \le 1.5 V. $\underline{4}$ / Only a summary of attributes is required. $\underline{5}$ / t_{Hz} maximum limit for circuit C is 22 ns.

 $t_{\rm HZ}$ maximum limit for circuit C is 24 ns.

14 10/

 $I_{\rm IL}$ limits for circuit B shall be -0.005 mA min / -0.1 mA max. Case 2 pins not designated are NC.

 $I_{\rm L}$ limits for circuit B shall be -0.005 mA min / -0.05 mA max. 8 6

	Unit		>		×	=	щ		ц	РЧ	ä	н	н	3		4 3						¥m,	×	н	и	ц	'n	н	-	я	۲d ۳				3	3	3	=	: :
mits		Max				0.5	×	×	ч	50	×	×	n	-50			:	250				4.0 0.0	0.4 4	'n	×	¥	×	н	-	-	100	ng			3	3	2	=	: :
Test limits	- 14 M		2.4		÷																	-2.0	<u>.</u> .	ä	×	×	×	a	÷	-									
	Measured	terminal	1	72	5 ₹	7	2Υ	ЗҮ	4Υ	1Y	2Y	ЗҮ	4Υ	≿	2	37	4Υ	7 2	24	37	4Υ	ωĘ	1 A	Ę (2A	2B	3B	3A	4B	4A	s l	e B	₹ i	1B	2A	2B	38	3A	4B 4A
16	20	Vcc	4.5 V	: 3	я	n	¥	'n	u	5.5 V	u	×	и	3	a :	a 1					:	а з	'n	н	и	z	'n	и	и	×	3 3	. :	a 1		z :	×	2	= :	: 3
15	19	OE	0.8 V			=				2.0 V	-	-		-	-			GND -				0 6 \/	200								Î	2.7.2							
14	18	4A							2.0 V				5.5 V																	0.5 V									2.7 V
13	17	4B			0.8 V											(GND			!	GND								0.5 V										2.7 V
12	15	4Υ			-2.0 mA				20 mA				2.7 V				V C.U				5.5 V																		
1	14	ЗА			·r			2.0 V				5.5 V																0.5 V										2.7 V	
10	13	3B		780	2											GND				GND							0.5 V										2.7 V		
6	12	ЗҮ		om ∩ c				20 mA				2.7 V				0.5 V				5.5 V							-												
80	10	GND	GND			3	×	3	r,	×	×	×	×	3				2 3		= 1		3 3	*	ч	'n	×	'n	н	*	×	3 3				3	z	2	=	
7	6	2Υ		-2.0 mA			20 mA				2.7 V				0.5 V				5.5 V																				
9	80	2B		- 28.0											GND			(GND							0.5 V										2.7 V			
5	7	2A					2.0 V				5.5 V														0.5 V										2.7 V				
4	5	۲	-2.0 mA			20 mA				2.7 V				0.5 V				5.5 V																					
e	4	1B	0.8 V											GND				GND						0.5 V										2.7.2					
5	3	1A				2.0 V				5.5 V													05V										2.7 V						
-	2	s	2.0 V			-				GND		=		5.5 V				5.5 <				0.5 V	GND		GND	5.5 V	5.5 V	GND	5.5 V	GND	2.7 V			GND	5.5 V	GND	GND	5.5 V	GND 5.5 V
Cases E,F	X, 2 <u>7</u> /	Test no.	,) 4		9									15	_			19	_																		39 40
- IIM			3006			3007			-													3009	ä	37	×	ų	×	19	-	я	3010 "	. :	4 3		3	z	3		
	Symbol S		VoH			VoL				lofF1				lof F2				Icex				١٢									IH1								
	Subgroup		1	T _C = +25°C																																			

See footnotes at end of device type 07

Terminal conditions (pins not designated may be H \geq 2.0 V, or L \leq 0.8 V, or open)

		MIL-	Cases E,F	1	2	3	4	5	9	7	8	9 1	10 1	11	12	13	14	15	16		Test limits	mits	
Subgroup	Symbol		X, 2 <u>7</u> /	2	3	4	5	7	8	6	10 1	12 1	13 1.	14	15	17	18	19	20	Measured			Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y (GND 3	3Y 3	3B 3,	3A 4	4Y ,	4B	4A	OE	Vcc	terminal	UIW	Max	
4	I _{IH2}	3010	41	5.5 V							GND		_						5.5 V	s		1.0	тA
T _C = +25°C		я	42	5.5 V							n						1	5.5 V	ч	Ы		ч	я
			43	5.5 V	5.5 V						n								ų	1A		¥	¥
			44	GND		5.5 V					3								¥	1 B		¥	
			45	5.5 V				5.5 V			n								ų	2A		¥	•
			46	GND					5.5 V		7								¥	2B		¥	
		-	47	GND							н	5.6	5.5 V						×	3B		×	77
		-	48	5.5 V							н		5.5	5.5 V					×	3A		×	77
		:	49	GND							я				5	5.5 V			'n	4B			7
		:	50	5.5 V												5	5.5 V			4A			
·	los	3011	51	5.5 V		GND	GND				'n							GND	n	7	40	-100 1/	n
		•	52						GND	GND	я								ц	27			я
		-	53	-							ۍ ۳	GND	GND						'n	ЗҮ	-		7
			54	"							ц			U	GND G	GND			ц	4Υ	-		я
	Іссн	3005	55	GND	GND	GND		GND	GND		я	ð	GND GN	GND	U	GND G	GND	-	n	Vcc		56	-
	lccL		56	5.5 V	GND	5.5 V	<u> </u>	GND	5.5 V		3	5.6	5.5 V GN	GND	5	5.5 V G	GND	-	37	Vcc		81	37
	lcco	÷	57	GND	GND	GND		GND	GND			õ	GND GN	GND	0	GND	GND 5	5.5 V	n	Vcc		87	=
•	VIC		58	-18 mA							'n		_						4.5 V	S		-1.2	>
			59		-18 mA						и								-	1A		=	
			60			-18 mA					¥								ų	18		ų	×
			61					-18 mA			×								×	2A		a	×
			62						-18 mA		n								ų	2B		ų	¥
			63								×	-18	-18 mA						я	3B			з
			64								7		-18	-18 mA					ų	ЗA		¥	3
			65								n				-1	-18 mA			×	4B		×	79
			99								×					Ť	-18 mA		×	4A		u	¥
			67								¥						7	-18 mA		ЭE			
2	Same tes	sts, termin	Same tests, terminal conditions, and limits as for subgroup 1, except	ns, and li	mits as fo	or subgro	up 1, exc.	ept T _C =	+125°C a	nd VIC te	T_C = +125°C and V _{IC} tests are omitted.		VIL = 0.7 V, VOL(max) = 0.45 V.	′, VoL(mé	_{ix)} = 0.4{	; V .							
e	Same tee	ste tarmin	Same tests terminal conditions and limits as for suboroun 1 event	ne and li	mite ac fr	orbdi o	t u	ant To =	EF°C an	4 Vic test	$T_{c} = -55^{\circ}C$ and V_{cc} tasts are omitted												
	Carlic ici	919, 1011				n Brine In	nyn 'r dn		3 2 2 2	מיון וכמ	מ מ כ כווויני												

TABLE III. Group A inspection for device type 07 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or L ≤ 0.8 V, or open) MIL-M-38510/79D

See footnotes at end of device type 07

2 3 4 5 7 8 9	Z/ Z 3 4 5 6 7 Z/ 2 3 4 5 7 8 9	2/ 2 3 4 5 6 7 2/ 2 3 4 5 7 8 9	2 2 %	 6 4 7 7<	4 (1) 7	5 6 7 7 8 9	6 7 8 9	6		8 10		9 12	13 10	14 11	15	13	4 18 18	15 19	16 20	Measured terminal	Test limits Min Ma	mits Max	Unit
Test no. S 1A 1B 1Y 2A 2B	S 1A 1B 1Y 2A	S 1A 1B 1Y 2A	1A 1B 1Y 2A	1B 1Y 2A	1Y 2A	2A		2E	~	2Υ	GND	ЗҮ	3B	ЗA	4γ	4B	4A	OE	Vcc				
68 A 2/ A 2/ B 2/ H 69 A B A L	A <u>2</u> / A <u>2</u> / B <u>2</u> / A B A	A <u>2</u> / A <u>2</u> / B <u>2</u> / A B A	A <u>2</u> / B <u>2</u> / B A	В <u>2</u> / А		н ц				_	GND "							в <u>2</u> / "	4.5 V "	See <u>3</u> / "			
а а а а а	а а а а а	а а а а а	. <	< 4							39							3	×	79			
B A B	B A B	B A B	AB	В							*							ä	×	n			
A	A	A	A					в		т	77							×	и	11			
73 A B A	A	A	B					٨		_	×							×	ä	ч			
В	В	В	8					۷		т	×							¥	×	7			
B	B	B	A					в		_	¥							¥	¥	¥			
			A								u	т	в	A				×	×	×			
			Α								¥	_	۷	в				×	¥	ч			
			<u>а</u>								ň	т	A	ю				×	×	¥			
			8								'n	_	в	۲				3	ä	¥			
			×								×				т	в	۷	n	и	n			
			A								ű				_	٩	в	н	'n	ч			
82 B			B								×				т	٨	в	z	¥	и			
8	8	8									Ŧ				_	в	A	-	-	-			
group 7, except T _C = +125°C	C = +125°C	C = +125°C	C = +125°C	C = +125°C	C = +125°C	C = +125°C	C = +125°C	+125°C ar	1	and $T_{C} = .$	-55°C.												
84 IN GND 2.7 V OUT 85 " GND 2.7 V	IN GND 2.7 V OUT GND	IN GND 2.7 V OUT GND	GND 2.7 V OUT GND	2.7 V OUT GND	OUT GND	GND		2.7 V		OUT	GND =							GND =	5.0 <	7 7	2.0	- 1	s =
=	=	=										OUT	2.7 V	GND						3Υ		÷	÷
-	-	-	=												OUT	2.7 V	GND			4Υ			=
" GND 2.7 V OUT	" GND 2.7 V OUT	" GND 2.7 V OUT	2.7 V OUT	2.7 V OUT	OUT						-							-	-	17			-
89 ⁼ GND 2.7 V	CND	CND						2.7 V		OUT								-	-	2۲	-		-
91	90	91										100	2.7 V	GND	OUT	2.7 V	GND			3Y 4Y			
92 GND IN GND OUT	GND IN GND	GND IN GND	IN GND	GND		OUT					ų							'n	'n	7	×	8.0	n
93 ⁼ GND	2 -	2 -	Z					GND		OUT	×							-	и	2Υ	=		×
94	94	94 "	=									OUT	GND	Z				-	¥	ЗҮ		:	×
95 "	95 "	95 "									щ				OUT	GND	N	-	и	4Υ		÷	и
" IN GND OUT	" IN GND OUT	" IN GND OUT	GND OUT	GND OUT	OUT						"							-	'n	1Y	'n		•
97 " GND	Z	Z						GND		OUT	ű							-	ä	27	н	ä	a
= 86	= 86		=								*	OUT	GND	Z				-	н	3Υ	77	н	•
= 66	:		-								3				Ę		N		n	~	ų	11	¥

TABLE III. Group A inspection for device type 07 – Continued. Terminal conditions (pins not designated may be H \ge 2.0 V, or L \le 0.8 V, or open)

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1 2 3 2 3 4 5 1A 1B 27 V GND	1 2 3 4 5 6 7 8 2 3 4 5 7 8 9 10 2 1A 1B 1Y 2A 2B 2Y GND 2.7 V GND OUT 2 2B 2 6 7	2 3 4 5 6 7 8 3 4 5 7 8 9 10 1A 1B 1Y 2A 2B 2Y GND 1A 0U 2A 2B 2B 2Y GND	3 4 5 6 7 8 4 5 7 8 9 10 1B 1Y 2A 2B 2Y GND GND OUT GND OUT 6 0	4 5 6 7 8 5 7 8 9 10 1Y 2A 2B 2Y GND 0UT GND 0UT * 6ND	5 6 7 8 7 8 9 10 2A 2B 2Y GND GND OUT "	6 7 8 8 9 10 2B 2Y GND GND OUT 6ND	7 8 9 10 2Y GND 0UT GND	8 0 0 0 8 0 8		9 3Y 0UT		GND 3B 13 10	3A 3A	12 15 4Y 0UT	13 17 4B GND	14 18 18 18 18 18 18 18 18 18 18 18 18 18	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	16 20 5.0 V 5.0 V	Measured terminal 1Y 2Y 3Y 4Y	Test limits Min Ma 2.0 21.	Max 21.5 *	Lait Cuit
		104 105 106 107 107 109 110 111 112 113 115	GND 5.1.1.6 GND 6.1.1.1.6 GND 7.1.1.1.6 GND 7.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	2.7 V	Q	очт очт	2.7 <	CN D	оит оит оит о		оит оит оит	GNO	2.7 <		GND	2.7 <			17 27 47 37 47 47 47 47 47 47 47 47 47 47 47 47 47		23	
		116 117 118 119 120 121 122 123 123 125	<u>z</u>	E GN GN	2.7 V 2.7 V GND	out out out		GND 2.7 V GND 2.7 V	OUT OUT	* * * * * * * * * *	OUT OUT	2.7 <	G G G G	OUT OUT	2.7 V 2.7 V 2.7 V	GND GND			17 27 27 47 47 47 27 7 27 27 27 27 27 27 27 27 27 27 27		18. 10	
		126 127 128 129 130 131	27 V	z	CND CND	OUT	z z		OUT OUT		OUT OUT	CND CND	z z	OUT OUT	GND	<u>z</u> <u>z</u>	<u>z</u>		2 4 4 3 5 4 4 3 4 5 4 4 5 5 5 5 5 5 5 5 5	* * * * * *	от и и и и и и и и и и и и и и и и и и и	
	3 3 3	133 134 135	* * *					GND		3 3 3	OUT	GND		OUT	GND			* * *	3 7 7	3 3 3	2 2 2	3 3 3

Table III. Group A inspection for device type 07 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

Downloaded from Arrow.com.

	Unit		su	×	29	29	:	я		я	:	я	'n	×	
nits		Мах	30	×	z	z	15		=	:	22		z	z	
Test limits	- 14		2.0	z	3	3	3	я	и	¥	3	я	¥	z	
	Measured	terminal	1Y	2Υ	ЗҮ	4Υ	1	2Υ	ЗҮ	4Υ	1	2Υ	ЗҮ	4Υ	
16	20	Vcc	5.0 V	ц	ų	ų	-	¥	=	¥	z	¥	¥	ų	
15	19	OE	Z	•	:	:	:			10	:				
14	18	4A				2.7 V								2.7 V	
13	17	4B								GND					
12	15	4Υ				OUT				OUT				OUT	
11	14	ЗA			2.7 V								2.7 V		
10	13	3B							GND						
6	12	ЗҮ			OUT				OUT				OUT		
8	10	GND	GND	z	¥	¥	2	¥	a	¥	3	¥	¥	¥	
7	6	2Υ		OUT				OUT				OUT			
6	8	2B						GND							. = -55°C
5	7	2A		2.7 V								2.7 V			sxcent To
4	5	1Y	OUT				OUT				OUT				oun 10. e
3	4	1B					GND								for subar
2	3	1A	2.7 V								2.7 V				limits as
-	2	s	GND		-	-	2.7 V		-		GND				ons. and
Cases E,F	X, 2 <u>7</u> /	Test no.	136	137	138	139	140	141	142	143	144	145	146	147	al conditio
MIL-	TD-883	method	3003	Fig. 10	:	:	-	:	=	:	-	¥	¥	¥	s. termine
	Symbol S	<u> </u>	tzı	_			t _{HZ} <u>6</u> /				tLZ				Same tests, terminal conditions, and limits as for suboroup 10, except $Tc = -55$ °C.
	Subgroup Symbol STD-883 X, 2 Z/		10	T _C = +125°C			1				ı				11

TABLE III. Group A inspection for device type 07 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or L ≤ 0.8 V, or open)

<u>1</u>/ For circuit B, $l_{OS(max)} = -110 \text{ mA}.$ <u>2</u>/ A = 2.4 V; B = 0.4 V. <u>3</u>/ H $\ge 1.5 \text{ V}; L \le 1.5 \text{ V}.$

 $\underline{4}$ / Only a summary of attributes is required.

 $\frac{5}{L_{hz}} \ t_{hz} \ maximum limit for circuit C is 22 ns. \\ \frac{6}{L_{hz}} \ t_{hz} \ maximum limit for circuit C is 24 ns. \\ \frac{1}{2} \ Case 2 pins not designated are NC.$

	Unit		"	3 3	۷۰۰	, "		> *	3 3	u	3 3	: 3	×		: ::	ЧШ		3	n	¥	¥	3 3	3	×	**	۷ň	3			×	я	×	a :		3
imits		NIAX		0.5	0.0	50	-50 -50	-1.2		×	z :		z	3 3	: 3	-2.0	3 3	z	×	×	з	3 3	3	ä	ч	50	3			ä	н	×	3		з
Test limits		UIIM	2.4 2.4													-1.0	3 3	и	п	и	н	3 3	ų	"	ú										
	Measured	terminai	1Y 2Y	7 5	17	1Y 2Y	1Y 2Y	< 8	<u>5</u>	<u>5</u> 5	103	1G 2C0	2C1	2C2	2C3 2G	۷	шć	20 2	100	1C1	1C2	1 <u>3</u>	201	2C2	2C3	۷	ш	9 0 0	52	<u>3</u> 5	102	103	2C0	2C1	5C2 5C3
			>		>	~		>								>																			
16	20	Vcc	4.5 \	* *	-	۸ c.c	" /	4.5 V "		3	* *		2	2 3	, , , , , , , , , , , , , , , , , , ,	5.5 V	3 3	*	3	2	2		*	ä	ä	3	3			3	и	2			
15	19	2G	0.8 V		0.0	2.0 V	2.0 V								-18 mA			0.5 V						=				Î	2.7.2				5.5 V		
14	18	A	0.8 V "	3 3				-18 mA								0.5 V			GND	5.5 V	GND	5.5 V	קוער קידע	GND	5.5 V	2.7 V				OND	5.5 V	GND	5.5 V	GND GND	o c.c GND
13	17	2C3													4 m 81 -										0.5 V										2.7 V
12	15	2C2												-18 mA										0.5 V											7.7 A
11	14	2C1											-18 mA										051	200										2.7 V	
10	13	2C0	2.0 V		0.0							-18 mA											V C.U										2.7 V		
6	12	2Υ	-1 mA	v 00		2.7 V	0.5 V																												
8	10	GND	" GND	3 3	я	n	3 3	z z	3 3	ä	3	: 3	¥	3 3	: 3	×	* *	z	×	¥	z	3 3	¥	ä	ц	n	3			×	и	z	3		ч
7	6	1	-1 mA	20 mA		2.7 V	0.5 V																												
9	8	1C0	2.0 V	0.8 V					-18 mA										0.5 V										2 4 0	2.1 V					
5	7	1C1							0											0.5 V										2.7 V					
4	5	1C2								-18 mA											0.5 V										2.7 V				
3	4	1C3									-18 mA											0.5 V										2.7 V			
2	3	В	0.8 V "	3 3				-18 mA			<u>``</u>						0.5 V		GND	GND	5.5 V			5.5 V	5.5 V		2.7 V			5.5 V	OND.		5.5 V	5.5 V	GND
-	2	1G	0.8 V (0.8 V	~~~	× 0.7	2.0 V	``				-18 mA						> 0.1		:					i i			2.7 V		>					
Cases E,F	X, 2 <u>5</u> /	Test no.	2				7 2 8	9 10		<u>v</u> 60			17	8 9	20	51							5 C	5 5	32	33					6	0t	7	5 5	54
										,	· ·									. 4	. 4							., (7	4	• •	
MIL-	Ś	mett	3006 3006				5									3009		3	×	3	2	3 3	3	ä	ä	3010	3			ä	a	3	3		-
	Symbol		Voн	Vol		IOFF1	lof F2	VIC								⊒										1 _{H1}									
	Subgroup		1 T _C = +25°C																																
	Ñ		TC	,																															

See footnotes at end of device type 08

MIL-M-38510/79D

Terminal conditions (pins not designated may be H \ge 2.0 V, or L \le 0.8 V, or open)

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	Unit		mA	39	3	-	-	-	ä	z	ä	ШA	n	×	39		я	37	ΡЦ	×											
mits		Max	1.0	ų	и	и	u	u	z	n	z	1.0	-	:	-100 4/	-100 4/	100	80	250	250											
Test limits		ЦМ													40	40															
	Measured	terminal	A	в	16	2G	1C0	1C1	1C2	1C3	2C0	2C1	2C2	2C3	1	2Y	Vcc	Vcc	17	2Y			See <u>2</u> /		F			-	-		
16	20	Vcc	5.5 V	z	×	×	×	a	×	×	¥	и	u	×	*	×	*	×	2	×			4.5 V	-	-			-	-	-	
15	19	2G				5.5 V					5.5 V	77			GND	GND	5.5 V	GND		GND			B <u>1</u> /	'n	-	-		=			
4	18	A	5.5 V				5.5 V	GND	5.5 V	GND	5.5 V	GND	5.5 V	GND	-			:	я				в	в	۷	A	в	в	۲	۲	
13	17	2C3												5.5 V			GND	GND			45 V.		A <u>1</u> /	Ш	۲	в	۲	В	в	۲	
12	15	2C2											5.5 V				GND	GND			(max) = 0.		A <u>1</u> /	в	۷	в	в	٨	٨	в	
1	14	2C1										5.5 V					GND	GND			VIL = 0.7 V, VOL(max) = 0.45 V.		A <u>1</u> /	ш	в	A	۷	в	۲	в	
10	13	2C0									5.5 V					5.5 V	GND	GND		5.5 V	VIL = 0.		B <u>1</u> /	٩	۷	ш	٨	ш	۷	В	
6	12	2Υ														GND				5.5 V	omitted.	nitted.	_	т	_	т	_	т	_	т	
80	10	GND	GND	¥	39	39	3	3	2	a	*	2	×	3	39	z	×	я	я	×	ests are	sts are or	GND	¥	39	¥	3	×	×	×	= -55°C.
7	6	1													GND				5.5 V		and V _{IC} t	nd Vic te	_	т	_	т	_	т	_	т	and T _C
9	80	1C0					5.5 V								5.5 V		GND	GND	5.5 V		+125°C	-55°C ar	B <u>1</u> /	۷	и	¥	×	ш	٩	В	= +125°C
сı	7	1C1						5.5 V									GND	GND			ept T _C =	ept T _C =	A <u>1</u> /	ш	в	٩	۲	ш	۷	ш	cept T _C
4	5	1C2							5.5 V								GND	GND			up 1, exc	up 1, exc	A <u>1</u> /	в	۷	в	в	A	۲	в	oup 7, e)
e	4	1C3								5.5 V							GND	GND			or subgro	or subgro	A <u>1</u> /	В	٨	в	٨	в	В	A	for subgi
2	3	В		5.5 V			5.5 V	5.5 V	GND	GND	5.5 V	5.5 V	GND	-	=			=	и	-	mits as fo	mits as fo	B <u>1/</u>			-	٨				limits as
-	2	1G			5.5 V		5.5 V	-							GND	GND	5.5 V	GND	GND		ns, and li	ns, and li	В <u>1</u> /	z		-		=			ons, and
Cases E.F	X, 2 <u>5</u> /	Test no.	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	l conditio	l conditio	63	64	65	66	67	68	69	70	al conditi
III	~	method	3010	:	:	:	:	×	2	×		7	-	:	3011	:	3005	3005			, termina	, termina	3014		:			-	:	×	termin
	Symbol S ⁻	<u> </u>	IH2									l _{IH2}			los		lcc0	lcc1	lcex		Same tests, terminal conditions, and limits as for subgroup 1, except T_C = +125°C and V _{IC} tests are omitted.	Same tests, terminal conditions, and limits as for subgroup 1, except T_C = -55°C and V _{IC} tests are omitted.	Truth	table	test						Same tests, terminal conditions, and limits as for subgroup 7, except T_C = +125°C and T_C
	Subgroup		1	T _C = +25°C								<u> </u>			<u> </u>			<u> </u>			2 S.	з з	7 <u>3</u> /	T _C = +25°C							8

See footnotes at end of device type 08

MIL-M-38510/79D

TABLE III. Group A inspection for device type 08 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or L ≤ 0.8 V, or open)

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	Unit		su	"	31	n	"	"	n	31	=	n	"	31	n	"	7	n	"	"	'n	ä
imits	ACAN	Max	11.0	3	39	77	3	"	77	39	=	77	3	39	n	3	39	39	20	n	×	×
Test limits	Ai.o	LIM	2.0	¥	39	¥	¥	39	3	39	n	3	¥	39	3	¥	39	3	77	¥	з	×
	Measured	terminai	1	F	÷	=	2Υ	-	-	=	1	-	÷	=	2Υ	F	÷	-	7	7	2Υ	2Υ
16	20	Vcc	5.0 V	39	n	и	39	77	n	19	n	n	39	n	н	39	n	n	77	33	и	я
15	19	2G					GND	:	-	-					GND	:	-	-			GND	GND
14	18	A	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	GND	2.7 V	z	GND	Z	GND
13	17	2C3								Z								Z				
12	15	2C2							z								z					GND
11	14	2C1						Z								Z					GND	
10	13	2C0					Z								Z						2.7 V	2.7 V
6	12	2Υ					OUT			=					OUT	:	-	=			OUT	OUT
8	10	GND	GND	z	×	×	z	×	×	39	'n	×	z	×	z	z	×	39	×	z	z	n
7	6	1	OUT	:		:					OUT		:	:					OUT	OUT		
9	8	1C0	z								z								2.7 V	2.7 V		
5	7	1C1		z								z							GND 2			
4	5	1C2			Z								z						0	GND		
3	4	1C3				Z								Z						0		
2	3	В	UN3	GND	2.7 V	۲V.	ND	UN3	7 V	2.7 V	UN S	UN5	. T V	2.7 V	ND	ND	7 V	7 V	GND	z	SND	Z
1	2	1G		:		•	0	0	N	7		=		N =	0	0	N	7	GND		0	
Cases E,F	X, 2 <u>5</u> /	Test no.	71 0	72	73	74	75	76	77	78	79 0	80	81	82	83	84	85	86	87 6	88	89	90
						2	2	2	2	2	2	æ	α	8	ω	α	Ø	ω	ß	ω	ω	රා
- MIL-	ol STD-	metr	3003	Fig. 10	39	39	2	39	3	39	=	3	:	39	ä	2	39	2	3	3	×	3
	Symb		tPHL1								tPLH1								tPHL2			
	Subgroup Symbol STD-883		6	T _C = +25°C																		

See footnotes at end of device type 08

Terminal conditions (pins not designated may be H \ge 2.0 V, or L \le 0.8 V, or open)

-	MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test limits	mits	
Subgroup Symbol STD-883		X, 2 <u>5</u> /	2	3	4	5	7	8	6	10	12	13	14	15	17	18	19	20	Measured			Unit
e	method	Test no.	1G	В	1C3	1C2	1C1	1C0	1	GND	2Υ	2C0	2C1	2C2	2C3	٨	2G	Vcc	terminal		Max	
Ř	3003	91	GND	GND			GND	2.7 V	OUT	GND						N		5.0 V	1Y	2.0	20	su
	Fig. 10	92	GND	z		GND		2.7 V	OUT	ä						GND			1			и
		93		GND						3	OUT	2.7 V	GND			z	GND		2Υ			н
		94		z						3	OUT	2.7 V		GND		GND	GND		2Υ			н
		95	z	GND			<u> </u>	2.7 V	OUT	22						:		=	1Y		23	
		96	я							*	OUT	2.7 V					z		2Υ		23	н
		97	я				<u> </u>	GND	OUT	я						:		-	1Y		24	
		98	з							3	OUT	GND				-	z		2Υ		24	
	"	66	y	"			<u> </u>	2.7 V	OUT	*						:		-	1Y	**	13.5	**
	n	100	я							3	OUT	2.7 V					Z		2Υ	×	13.5	н
	39	101	39	-			<u> </u>	GND	OUT	2						-		-	1Y	21	15.5	11
	3	102	з							3	OUT	GND				-	z		2Υ	×	15.5	'n
. <u>.</u>	ts and te	Same tests and terminal conditions as subgroup 9, with limits as follows: tpHL1 = 14.5 ns, tpLH1 = 14.5 ns, tpHL2 = 26 ns,	inditions a	as subgro	up 9, with	n limits as	follows:	tPHL1 =	14.5 ns,	tPLH1 = 1	4.5 ns,	tPHL2 = 2	26 ns, tp	LH2 = 26	tpLH2 = 26 ns, tzH = 30 ns,	= 30 ns,	t _{ZL} = 31 ns,	ns,				
	t _{HZ} = 18 ns, t _{LZ} = 20 ns.	= 20 ns.																				
÷.	s, termin	Same tests, terminal conditions, and limits as for subgroup 10, except $T_{\rm C}$ = -55°C.	ons, and	limits as f	for subgro	oup 10, ex	xcept T _C	= -55°C.														

Same tests, terminal

<u>1</u>/ A = 2.4 V; B = 0.4 V.

<u>2</u>/ H≥1.5 V; L≤1.5 V.

 $\underline{3}'$ Only a summary of attributes is required.

<u>4</u>/ For circuit B, IOS(max) = -110 mA.

Case 2 pins not designated are NC. 2/

MIL-M-38510/79D

TABLE III. Group A inspection for device type 08 – Continued. Terminal conditions (pins not designated may be $H \ge 2.0$ V, or $L \le 0.8$ V, or open)

5. PACKAGING

5.1 <u>Packaging requirements</u>. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When 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 it is not mandatory)

6.1 <u>Intended use.</u> Microcircuits conforming to this specification are intended for 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. Requirement for certificate of compliance, if applicable.
- e. Requirements for notification of change of product or process to acquiring
- 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 shall 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 <u>Qualification</u>. 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, 3990 E. Broad Street, Columbus, Ohio 43123-1199.

6.4 <u>Superseding information</u>. 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.

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

	Current flowing into an input terminal.
V _{IN} t _{zH}	Output enable time (of a three-state output) to high level. The time between the specified reference points on the input and output voltage waveforms with the three-state output changing from a high-impedance (off) state to the defined high level.
t _{ZL}	Output enable time (of a three-state output) to low level. The time between the specified reference points on the input and output voltage waveforms with the three-state output changing from a high-impedance (off) state to the defined low level.
t _{Hz}	Output disable time (of a three-state output) from high level. The time between the specified reference points on the input and output voltage waveforms with the three-state output changing from the defined high level impedance (off) state.
t _{LZ}	Output disable time (of a three-state output) from low level. The time between the specified reference points on the input and output voltage waveforms with the three state output changing from the defined low level to a high impedance (off) state.

6.6 <u>Logistic support.</u> Lead materials and finishes (see 3.4) 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 3.4). Longer length leads and lead forming shall 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.

Commercial type
54S151
54S153
54S157
54S158
54S251
54S257
54S258
54S253

6.8 <u>Manufacturers' designations</u>. Manufacturers' circuits included in this specification are designated as shown in table IV.

6.9 <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 extent of the changes.

				Circuits		
		А	В	С	D	E
Device type	Commercial Type	Texas Instruments	Signetics Corp.	Advanced Micro Devices Inc.	Fairchild Semiconductor	National Semiconductor
01	54S151	Х	х	Х	Х	Х
02	54S153	Х	Х	Х	Х	Х
03	54S157	Х	Х	Х	Х	Х
04	54S158	Х	Х	Х	Х	Х
05	54S251	Х	Х	Х	Х	
06	54S257	Х	х	Х	Х	
07	54S258	Х	х	Х	Х	
08	54S253		Х	Х	Х	

TABLE IV. Manufacturers' designations.

Custodians: Army – CR Navy - EC Air Force – 11 DLA-CC

Preparing activity: DLA - CC

(Project 5962-2005-007)

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 <u>http://assist.daps.dla.mil</u>.