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MIL-M-38510/79D 17 AUGUST 2005 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 For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.4).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 Device type. The device type is as follows:

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

Outline letter	Descriptive designator	<u>Terminals</u>	Package style				
E	GDIP1-T16, CDIP2-T16	16	Dual in line package				
F	GDFP2-F16, CDFP3-F16	16	Flat Package				
2	CQCC1-N20	20	Square chip				
Χ	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	0.5 V dc to +7.0 V dc
Input voltage range	1.2 V dc at -18 mA to +5.5 V dc
Storage temperature range	65°C to +150°C
Maximum power dissipation (P_D) $\underline{1}/:$	
Device types 01 and 02	385 mW
Device type 03	430 mW
Device type 04	336 mW
Device type 05	
Device type 06	545 mW
Device type 07	
Device type 08	550 mW
Lead temperature (soldering 10 seconds)	300°C
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 (V _{IL})	
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:

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.

 $[\]underline{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.

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

3. REQUIREMENTS

- 3.1 <u>Qualification</u>. 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 Truth table. 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 Case outlines. The case outlines shall be as specified in 1.2.3.
 - 3.4 Lead material and finish. The lead material and finish shall be in accordance with MIL-PRF-38535 (see 6.6).
- 3.5 <u>Electrical performance characteristics.</u> 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).

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

		Cond	ditions	Device	Lir	Units	
Test	Symbol		$_{\mathbb{C}} \le +125^{\circ} \mathbb{C}$ wise specified	type	Min	Max	Office
High level output voltage	V _{OH}	V _{CC} = 4.5 V; V _{IL} = 0.	8 V	01, 02	2.5		V
		$I_{OH} = -1.0 \text{ mA}$		03, 04			
		$@T_C = 125^{\circ}C, V_{IL} = 0$).7 V				
		V _{CC} = 4.5 V; V _{IL} = 0.8	8 V	05, 06	2.4		
		I _{OH} = -2.0 mA					
		@T _C = 125°C, V _{IL} = 0).7 V				
		$V_{CC} = 4.5 \text{ V}; V_{IL} = 0.6$		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°C		ALL		.45	V
Input clamp voltage	V _{IC}	V _{CC} = 4.5 V		ALL		-1.2	V
		$I_{IN} = -18 \text{ mA}, T_{C} = 2$	5°C				
Off state output current	I _{OFF1}	V _{CC} = 5.5 V		05, 06		50	μΑ
		V _O = 2.7 V		07, 08			
Off state output current	I _{OFF2}	V _{CC} = 5.5 V	V _{CC} = 5.5 V				μΑ
		V _O = 0.5 V	07, 08				
High level input current	I _{IH1}	$V_{CC} = 5.5 \text{ V}$ $V_{IN} = 2.7 \text{ V}$	All inputs	01, 02 05, 08		50	μΑ
			A and B inputs	03, 04			
			All inputs except S	06, 07			
			S and G inputs	03, 04		100	
			S input	06, 07			
High level input current	I _{IH2}	$V_{CC} = 5.5 V$ $V_{IN} = 5.5 V$	All inputs	All		1.0	mA
Low level input current	I _{IL}	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	

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

		Conditions	Device	Liı	Limits		
Test	Symbol	-55°C ≤ T _C ≤ +125°C Unless otherwise specified	type	Min	Max	Units	
Short circuit output current	los	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	I _{CCO}	V _{CC} = 5.5 V	05		85	mA	
		V _{IN} = 5.5 V	06		99		
			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	

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

		Conditions	Device	Lir	Units	
Test	Symbol	$-55^{\circ}\text{C} \le \text{T}_{\text{C}} \le +125^{\circ}\text{C}$ Unless otherwise specified	type	Min	Max	Office
From any D to W	t _{PHL5}	$V_{CC} = 5.0 \text{ V}$ $C_L = 50 \text{ pF}$	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	

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

		Conditions	Device	Lir	Units	
Test	Symbol	-55°C ≤ T _C ≤ +125°C	type	Min	Max	Ullits
From select to Y	t _{PLH1}	Unless otherwise specified $V_{CC} = 5.0 \text{ V}$ $C_{L} = 50 \text{ pF}$	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°C ≤ T _C ≤ +125°C Unless otherwise specified	type	Min	Max	Offics
From strobe to W	t _{LZ2}	V _{CC} = 5.0 V	05	2.0	22.0	ns
From select to Y	t _{PLH1}	$C_L = 50 \text{ pF}$ $R_L = 280 \Omega$	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	

 $[\]underline{1\prime}$ Not more than one output should be shorted at one time. $\underline{2\prime}$ For device type 06, I_{IL} minimum limit shall be -0.005 mA for circuit B.

TABLE II. Electrical test requirements.

ANI DDE COECE	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			

^{*}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 Qualification inspection. 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 qualification and conformance inspection. The following additional criteria shall apply:
 - a. The burn-in test duration, test condition, and test temperature, or approved alternatives shall be as specified in the device manufacturer's QM plan in accordance with MIL-PRF-38535. The burn-in test circuit shall be maintained under document control by the device manufacturer's Technology Review Board (TRB) in accordance with MIL-PRF-38535 and shall be made available to the acquiring or preparing activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1015 of MIL-STD-883.
 - b. Interim and final electrical test parameters shall be as specified in table II, except interim electrical parameters test prior to burn-in is optional at the discretion of the manufacturer.
 - c. Additional screening for space level product shall be as specified in MIL-PRF-38535.

- 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 Group C inspection. Group C inspection shall be in accordance with table IV of MIL-PRF-38535 and as follows:
 - a. End-point electrical parameters shall be as specified in table II herein.
 - b. The steady-state life test duration, test condition, and test temperature, or approved alternatives shall be as specified in the device manufacturer's QM plan in accordance with MIL-PRF-38535. The burn-in test circuit shall be maintained under document control by the device manufacturer's Technology Review Board (TRB) in accordance with MIL-PRF-38535 and shall be made available to the acquiring or preparing activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1005 of MIL-STD-883.
- 4.4.4 <u>Group D inspection.</u> Group D inspection shall be in accordance with table V of MIL-PRF-38535. End-point electrical parameters shall be as specified in table II herein.
 - 4.5 Methods of inspection. Methods of inspection shall be as specified 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.

	l number ise	Termina Device			al name type 02	Termina Device	al name type 03	Termina Device	al name type 04	Termina Device			al name type 06		Terminal name Device type 07		al name type 08
2, X	E, F	2, X	E, F	2, X	E, F	2, X	E, F	2, X	E, F	2, X	E, F	2, X	E, F	2, X	E, F	2, X	E, F
1	1	NC	D3	NC	1G	NC	S	NC	S	NC	D3	NC	S	NC	S	NC	1G
2	2	D3	D2	1G	В	S	1A	S	1A	D3	D2	S	1A	S	1A	1G	В
3	3	D2	D1	В	1C3	1A	1B	1A	1B	D2	D1	1A	1B	1A	1B	В	1C3
4	4	D1	D0	1C3	1C2	1B	1Y	1B	1Y	D1	D0	1B	1Y	1B	1Y	1C3	1C2
5	5	D0	Υ	1C2	1C1	1Y	2A	1Y	2A	D0	Υ	1Y	2A	1Y	2A	1C2	1C1
6	6	NC	W	NC	1C0	NC	2B	NC	2B	NC	W	NC	2B	NC	2B	NC	1C0
7	7	Y	ST	1C1	1Y	2A	2Y	2A	2Y	Υ	ST	2A	2Y	2A	2Y	1C1	1Y
8	8	W	GND	1C0	GND	2B	GND	2B	GND	W	GND	2B	GND	2B	GND	1C0	GND
9	9	ST	С	1Y	2Y	2Y	3Y	2Y	3Y	ST	С	2Y	3Y	2Y	3Y	1Y	2Y
10	10	GND	В	GND	2C0	GND	3B	GND	3B	GND	В	GND	3B	GND	3B	GND	2C0
11	11	NC	Α	NC	2C1	NC	3A	NC	3A	NC	Α	NC	3A	NC	3A	NC	2C1
12	12	С	D7	2Y	2C2	3Y	4Y	3Y	4Y	С	D7	3Y	4Y	3Y	4Y	2Y	2C2
13	13	В	D6	2C0	2C3	3B	4B	3B	4B	В	D6	3B	4B	3B	4B	2C0	2C3
14	14	Α	D5	2C1	Α	3A	4A	3A	4A	Α	D5	3A	4A	3A	4A	2C1	Α
15	15	D7	D4	2C2	2G	4Y	G	4Y	G	D7	D4	4Y	0E	4Y	0E	2C2	2G
16	16	NC	V _{CC}	NC	V _{cc}	NC	V _{cc}	NC	V _{CC}	NC	V _{cc}	NC	V _{CC}	NC	V _{cc}	NC	V _{cc}
17		D6		2C3		4B		4B		D6		4B		4B		2C3	
18		D5		Α		4A		4A		D5		4A		4A		Α	
19		D4		2G		G		G		D4		0E		0E		2G	
20		V _{CC}		V _{CC}		V _{CC}		V _{CC}		V _{CC}		V _{CC}		V _{CC}		V _{CC}	

FIGURE 1. <u>Terminal connections.</u>

Device types 01 and 05

	Inputs												Outputs			
	Select Strobe		Strobe		Data									Тур	e 05	
С	В	Α	S	D0	D1	D2	D3	D4	D5	D6	D7	Υ	W	Υ	W	
Х	Х	Χ	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	Χ	Х	Х	Х	Х	Χ	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	Χ	X	Х	Х	X	Χ	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	X	Х	Х	Х	Χ	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	Χ	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	X	Χ	X	X	L	X	Χ	L	Н	L	Н	
Н	L	Н	L	Х	Х	Χ	Х	Х	Н	Х	Χ	Η	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	Χ	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	Χ	Х	Х	Х	Н	Н	L	Н	L	

H = high logic level, L = low logic level, X = irrelevant,

Z = high impedance

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

Device type 02

Sele Inpu		Г	Data ir	nputs		Strobe	Outputs
В	Α	C0	C1	C2	СЗ	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	Η	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	Η	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

Device types 03 and 04

	Inputs			Outp	out Y
Strobe	Select	Α	В	Type 03	Type 04
Н	Х	Χ	Χ	L	Н
L	L	L	Χ	L	Н
L	L	Н	Χ	Н	L
L	Н	Χ	L	L	Н
L	Н	Х	Н	Н	L

H = high level, L = low level, X = irrelevant.

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

Device types 06 and 07

	Inputs			Outp	out Y
Output Control	Select	Α	В	Type 06	Type 07
Н	Х	Χ	Χ	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

H = high level, L = low level, X = irrelevant, Z = high impedance (off).

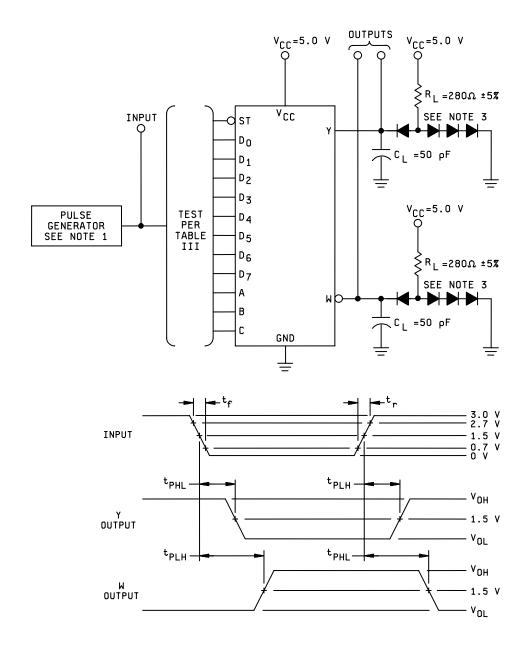
Function table

Device type 08

Sele Inpu		С	Data ir	nputs		Output control	Output
В	Α	C0	C1	C2	СЗ	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

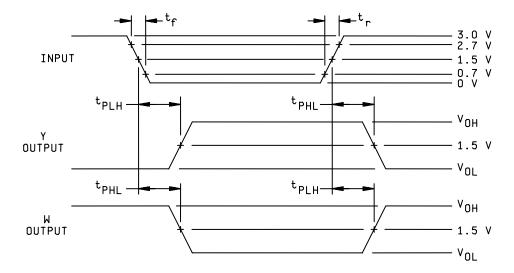
Address inputs A and B are common to both sections. H = high level, L = low level, X = irrelevant, Z = high impedance (off).

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

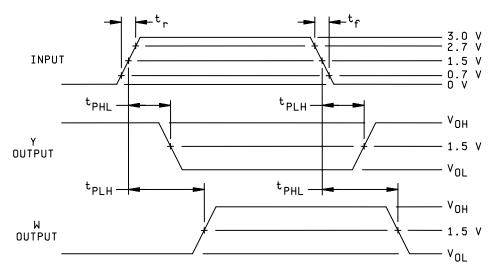


- 1. The input pulse has the following characteristics: t_f = $t_f \le 2.5$ ns, PRR ≤ 1 MHz, and $Z_{OUT} \approx 50 \ \Omega$.
- 2. C_L includes probe and jig capacitance.
- 3. All diodes are 1N3064 or equivalent.
- 4. Only the output under test needs to be loaded.

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

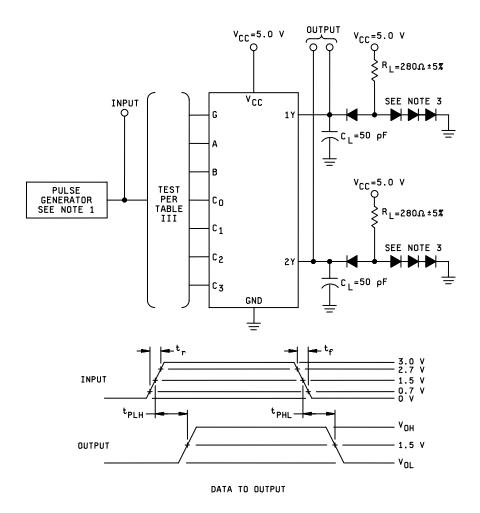


STROBE TO OUTPUT VOLTAGE WAVEFORMS - TYPE 01



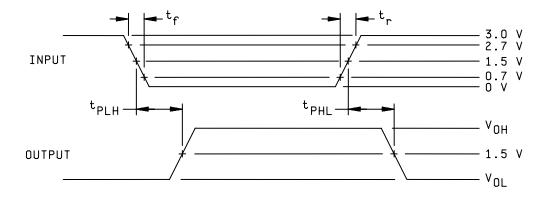
DATA TO OUTPUT VOLTAGE WAVEFORMS - TYPE 01

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



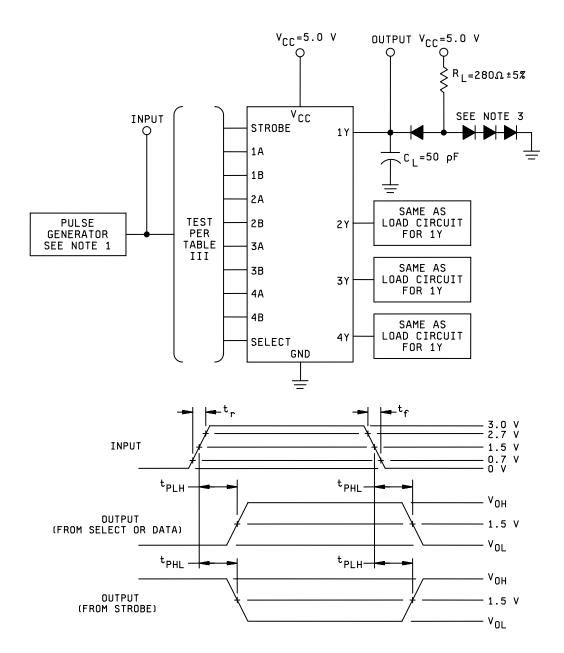
- 1. The input pulse has the following characteristics: t_f = $t_f \le 2.5$ ns, PRR ≤ 1 MHz, and $Z_{OUT} \approx 50 \Omega$.
- 2. C_L includes probe and jig capacitance.
- 3. All diodes are 1N3064 or equivalent.
- 4. Only the output under test needs to be loaded.

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



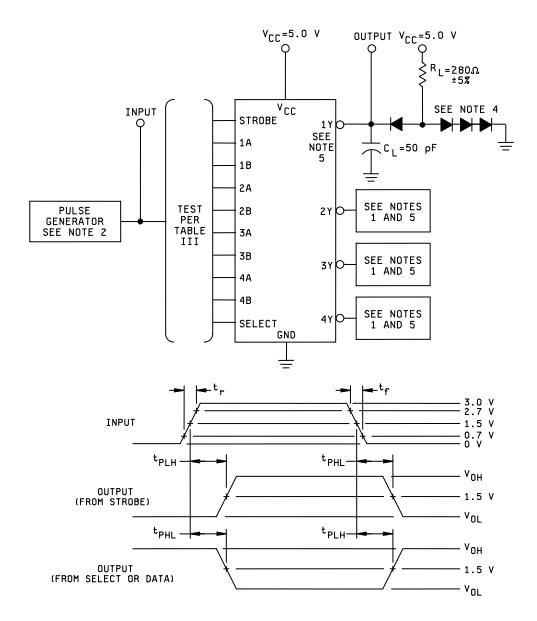
SELECT AND STROBE TO OUTPUT VOLTAGE WAVEFORMS - TYPE 02

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



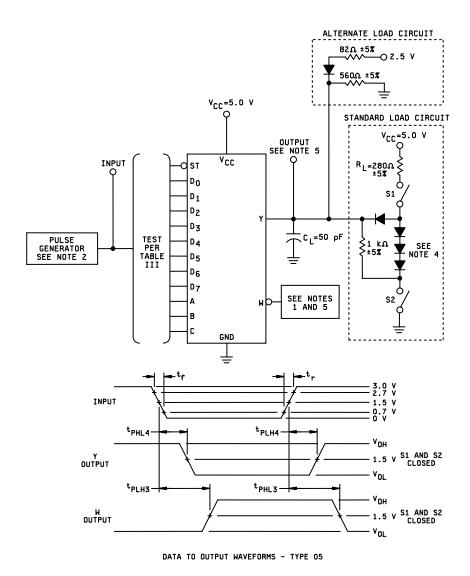
- 1. The input pulse has the following characteristics: PRR \leq 1 MHz, t_r = $t_f \leq$ 2.5 ns, and $Z_{OUT} \approx$ 50 Ω .
- 2. C_L includes probe and jig capacitance.
- 3. All diodes are 1N3064 or equivalent.
- 4. Load circuit is required on a given output only where table III indicates "OUT" on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

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



- 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.



- 1. Connect same load as shown for Y 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 7. Switching time test circuits and waveforms for device type 05.

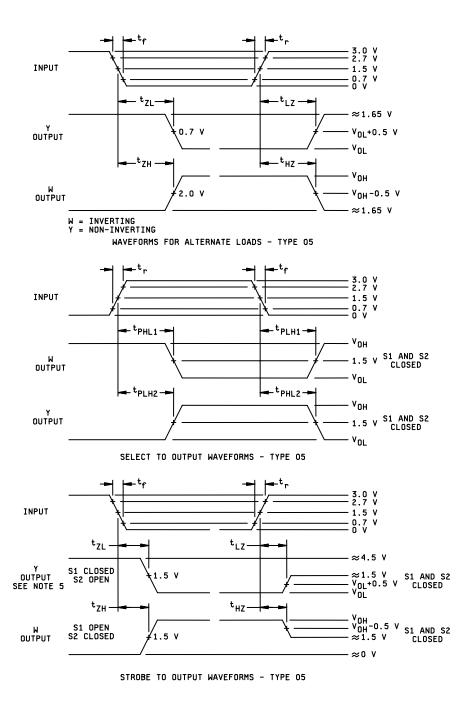
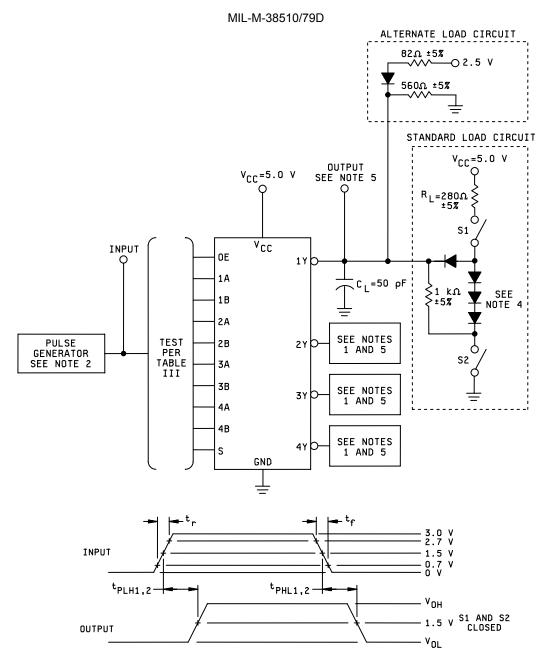
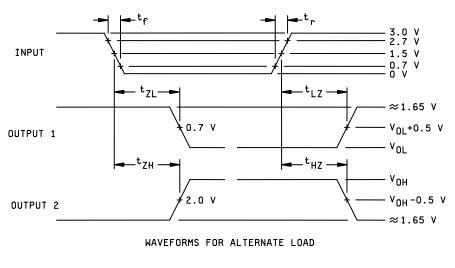


FIGURE 7. Switching time test circuits and waveforms for device type 05 - Continued.



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



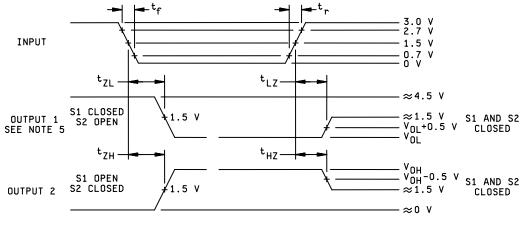
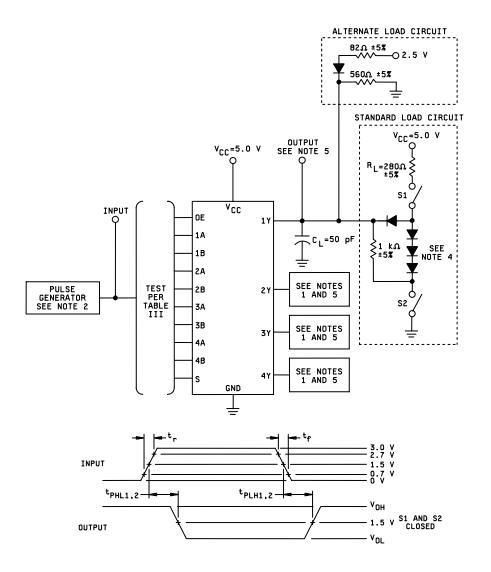


FIGURE 8. Switching time test circuits and waveforms for device type 06 - Continued.

WAVEFORMS FOR STANDARD LOAD



- 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.

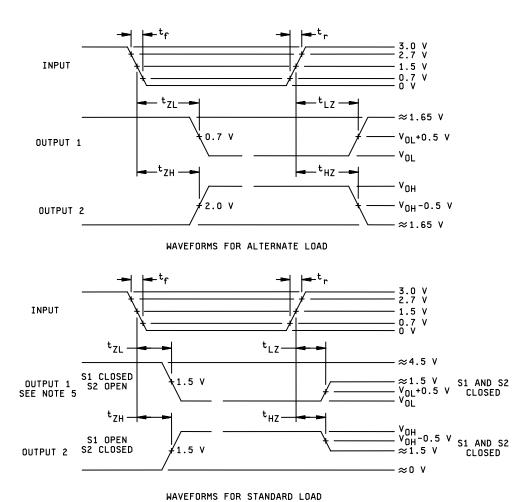
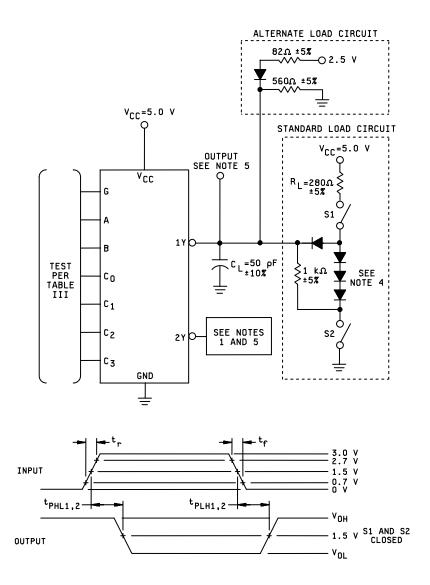


FIGURE 9. Switching time test circuits and waveforms for device type 07 - Continued.



- 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.

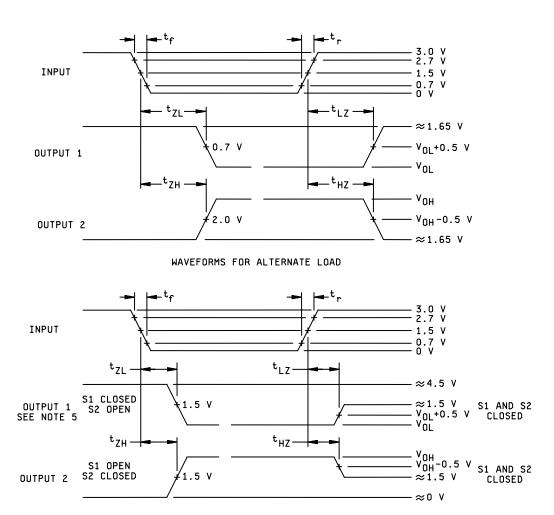


FIGURE 10. Switching time test circuits and waveforms for device type 08 - Continued.

WAVEFORMS FOR STANDARD LOAD

MIL-M-38510/79D

TABLE III. Group A inspection for device type 01 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883 method	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		metriod	Test no.	D3	D2	D1	D0	Υ	W	ST	GND	С	В	Α	D7	D6	D5	D4	Vcc	terrimai	IVIIII	IVIAX	
1	V _{OL}	3007	1				2.0 V		20 mA	0.8 V	GND	V 8.0	V 8.0	0.8 V					4.5 V	W		0.5	V
T _C = +25°C	V _{OL}	3007	2					20 mA		u		2.0 V	2.0 V	2.0 V	0.8 V				u	Υ		0.5	ш
	V _{OH}	3006 3006	3 4				2.0 V	1 1	-1 mA	ш	ш	2.0 V 0.8 V	2.0 V 0.8 V	2.0 V 0.8 V	0.8 V				"	W Y	2.5 2.5		"
	V _{OH}	3011	5				2.0 V	-1 mA	GND	GND	ш	5.5 V	5.5 V	5.5 V	GND				5.5 V	W	-40	-100 <u>1</u> /	mA
	l _{OS}	3011	6				5.5 V	GND	GND	GND	ш	GND	GND	GND	GND				3.5 V	Y	-40	-100 <u>1</u> /	"
	I _{IH1}	3010	7	2.7 V				0.15		5.5 V	ш	5.5 V	"	GND					u	D3		50	μA
	101	u	8		2.7 V					и	и	и	"	5.5 V					и	D2		и	"
		ш	9			2.7 V				и	u	ш	5.5 V	GND					ш	D1		ш	"
		u	10				2.7 V				"	ш	5.5 V	5.5 V					"	D0		ш	"
		"	11							2.7 V		2.7 V							"	ST C		"	"
		и	12 13								и	2.7 V	2.7 V						и	В		и	и
		u	14								"		Z., V	2.7 V					"	A		ш	"
		и	15							5.5 V	и	GND	GND	GND	2.7 V				и	D7		и	ű
		ш	16							и	u	u	GND	5.5 V		2.7 V			ш	D6		ш	"
		и	17							и	ш	и	5.5 V	GND			2.7 V		"	D5		и	"
		u	18	5.51/						и		5.5.1	5.5 V	5.5 V				2.7 V	ш	D4		"	
	I _{IH2}	u	19 20	5.5 V	5.5 V					"		5.5 V	GND GND	GND 5.5 V					"	D3 D2		1.0	mA "
		ш	21		5.5 V	5.5 V				и	"	"	5.5 V	GND					ш	D2		ш	ш
		ш	22			0.0 1	5.5 V			и	ш	ш	5.5 V	5.5 V					"	D0		ш	"
		"	23							u	"								"	ST		"	"
		u	24								44	5.5 V							ш	С		ш	"
		u	25										5.5 V	551/					"	В		u	"
		"	26 27							5.5 V	"	OND	OND	5.5 V	5.5 V				"	A D7		"	"
		и	28							3.5 V	и	GND "	GND GND	GND 5.5 V	5.5 V	5.5 V			и	D7 D6		и	и
		u	29							и	"	u	5.5 V	GND		0.0 1	5.5 V		"	D5		u	"
		ш	30							и	"	ш	"	5.5 V				5.5 V	ш	D4		44	"
	I _{IL1}	3009	31	0.5 V						GND	ш	ш	ш	5.5 V					ш	D3	-1	-2	"
		"	32		0.5 V					и	44	44	"	GND					и	D2	и	и	ш
		u e	33			0.5 V	0.511			u	"	u	GND	5.5 V						D1	u	"	"
		"	34				0.5 V						GND	GND					"	D0	"	"	"
		и	35 36							0.5 V		0.5 V							и	ST C	и	ш	"
		"	37								"	0.5 v	0.5 V						"	В	и	ш	"
		и	38								"			0.5 V					"	A	и	ш	"
		"	39							GND	"	5.5 V	5.5 V	5.5 V	0.5 V				"	D7	u	"	"
		ш	40							и	"	ш	5.5 V	GND		0.5 V			u	D6	ш	ш	"
		"	41							u	"	"	GND	5.5 V			0.5 V		"	D5	u	ш	"
		ű	42							и	ш	ш	ш	GND				0.5 V	"	D4	и	ee	"

See footnotes at end of device type 01.

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

			Cases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	MIL- STD-883	E,F X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	D3	D2	D1	D0	Y	W	ST	GND	C	В	Α	D7	D6	D5	D4	V _{CC}	terminal	Min	Max	
1	l	3005	43	GND	GND	GND		- '	VV	GND	GND	GND	GND	GND	GND	GND	GND	GND	5.5 V	.,		70	mA
T _C = +25°C	Icc	3005	44	GND	GND	GND	GND		5.5 V	"	"	5.5 V	5.5 V	5.5 V	GND	GND	GND	GND	5.5 V	V _{CC}		250	μА
(cont')	ICEX		45				5.5 V	5.5 V	3.5 V	ш	"	GND	GND	GND	GIND				5.5 V	Y		250	μA
	V _{IC}		46	-18 mA			3.5 V	3.5 V			и	GND	GND	GND					4.5 V	D3		-1.2	V
	VIC.		47	1011111	-18 mA						44								4.0 4	D2		"	u
			48			-18 mA					"								"	D1		"	ш
			49				-18 mA				"								"	D0		"	ш
			50							-18 mA	и								"	ST		"	и
			51								44	-18 mA							и	С		"	и
			52								ш		-18 mA						u	В		"	ш
			53								"			-18 mA					"	Α		"	ш
			54								и				-18 mA				и	D7		"	ш
			55								"					-18 mA			и	D6		"	и
			56								44						-18 mA		u	D5		"	и
			57								44							-18 mA	"	D4		"	и
2	Same te	sts, termi	nal conditi	ons, and	limits as	for subgr	roup 1, ex	xcept T _C	= +125°(C and V _{IC}	tests ar	e omitted	. V _{IL} = 0	0.7 V, V _O	L (max) =	= 0.45 V.							
3	Same te	sts, termi	nal conditi	ons, and	limits as	for subgr	roup 1, ex	xcept T _C	= -55°C	and V _{IC} t	ests are	omitted.											
7	Truth	3014	58	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	L	Н	A <u>2</u> /	GND	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	4.5 V	<u>3</u> /			
T _C = +25°C	table	ш	59	A	A	A	В	L	Н	В		В	В	В	A	A	A	A		-			
	test	и	60	В	В	В	Α	Н	L					В	В	В	В	В					
		и	61	Α	Α	В	Α	L	Н					Α	Α	Α	Α	Α					
		и	62	В	В	Α	В	Н	L					Α	В	В	В	В	"				
		и	63	Α	В	Α	Α	L	Н				Α	В	Α	Α	Α	Α	"				
		ш	64	В	Α	В	В	Н	L	"	"			В	В	В	В	В		"			
		ш	65	В	Α	Α	Α	L	Н					Α	Α	Α	Α	Α	"				
		ш	66	Α	В	В	В	Н	L					Α	В	В	В	В	"				
		и	67	Α	Α	Α	Α	L	Н			Α	В	В	Α	Α	Α	В	"	"			
		и	68	В	В	В	В	Н	L	"	"	"		В	В	В	В	Α	"	"			
		ш	69	Α	Α	Α	Α	L	Н	"	"	"		Α	Α	Α	В	Α	"	"			
		ш	70	В	В	В	В	Н	L	"	"			Α	В	В	Α	В	"	"			
		ш	71	Α	Α	Α	Α	L	Н	"	"	"	Α	В	Α	В	Α	Α	"	"			
		ш	72	В	В	В	В	Н	L	"	"	"		В	В	Α	В	В	"	"			
		**	73	Α	Α	Α	Α	L	Н	"	"	"		Α	В	Α	Α	Α	"	"			
		ш	74	В	В	В	В	Н	L	"	"	"		Α	Α	В	В	В	"	"			

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See footnotes at end of device type 01.

TABLE III. Group A inspection for device type 01 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	D3	D2	D1	D0	Υ	W	ST	GND	С	В	Α	D7	D6	D5	D4	V _{CC}	terminal	Min	Max	
8	Repeat	subgroup	7 at T _C = +	-125°C a	ınd -55°C).		L	ı	l		L		L	L	L			ı	•		ı	l
9	t _{PHL1}	3003	75			2.7 V	GND		OUT	GND	GND	GND	GND	IN					5.0 V	W	2.0	15.5	ns
T _C = +25°C		Fig. 4	76		2.7 V				"		"	GND	IN	GND					"	"		"	
		ш	77				"		"	"	"	IN	GND	GND				2.7 V	"	"	"	"	"
	t _{PLH1}	66	78			2.7 V	"		"	"	"	GND	GND	IN					"	"	"	17.0	
		4	79		2.7 V		"					GND	IN	GND					"				"
		u	80				"		- "	"	- "	IN	GND	GND				2.7 V	- "		-		"
	tPHL2		81		0.71/	2.7 V	l :	OUT "				GND	GND	IN						Y		20	
		и	82 83		2.7 V							GND IN	IN GND	GND GND				2.7 V					
	+	44	84			2.7 V						GND	GND	IN				2.7 V	"				
	t _{PLH2}	44	85		2.7 V	2.1 V						GND	IN	GND					"				
		ш	86									IN	GND	GND				2.7 V					
	t _{PHL3}	и	87				2.7 V		OUT	IN		GND							"	w		14.0	"
	t _{PLH3}	и	88						OUT											w		15.0	
	t _{PHL4}	ш	89				"	OUT	00.	"		,,		"						Y		20	"
	t _{PLH4}	ш	90				"	OUT		"		"		"					"	Y		18.5	"
	t _{PHL5}	ш	91				IN		OUT	GND										W		9.0	
	PHL5	44	92			IN			"	"				2.7 V								"	
		и	93		IN								2.7 V	GND									
		ш	94	IN									2.7 V	2.7 V									
		ш	95									2.7 V	GND	GND				IN	"	"		"	
		66	96						"		"		GND	2.7 V			IN			"	"	"	
		ш	97						"		"	"	2.7 V	GND		IN				"	"	"	
		66	98						"	"	"	"	2.7 V	2.7 V	IN				"	"	"	"	"
	t _{PLH5}	es	99				IN		u	44	u	GND	GND	GND					ш	u	и	ee	ш
		66	100			IN			"		"	"	GND	2.7 V					"	"	"	"	"
		66	101		IN				"	"	"	"	2.7 V	GND					"	- "	"	"	"
			102	IN								"	2.7 V	2.7 V							"	"	
			103									2.7 V	GND	GND				IN					
			104										GND	2.7 V		INI	IN						
			105 106										2.7 V 2.7 V	GND 2.7 V	IN	IN							
Coo footno		L			İ				İ				Z.1 V	2.1 V	IIN					1			

See footnotes at end of device type 01

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

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	D3	D2	D1	D0	Y	W	ST	GND	С	В	Α	D7	D6	D5	D4	Vcc	terminal	Min	Max	
9	t _{PHL6}	3003	107				IN	OUT		GND	GND	GND	GND	GND					5.0 V	Y	2.0	14.0	ns
T _C = +25°C	11120	Fig. 4	108			IN							GND	2.7 V						"			
		и	109		IN								2.7 V	GND						"			
		и	110	IN									2.7 V	2.7 V						"			
		и	111									2.7 V	GND	GND				IN	"	"			"
		и	112							"		"	GND	2.7 V			IN		"	"			
		и	113							"		"	2.7 V	GND		IN			"	"			
		и	114										2.7 V	2.7 V	IN					"			•
	tpLH6	и	115				IN			"		GND	GND	GND					"	"	"	"	
			116			IN							GND	2.7 V						"	•		"
			117		IN							"	2.7 V	GND						"			"
		и	118	IN				"		"		"	2.7 V	2.7 V						"			"
		и	119							"		2.7 V	GND	GND				IN	"	"	"		"
		и	120							"			GND	2.7 V			IN		"	"	"	•	"
		и	121									"	2.7 V	GND		IN			"	"	"		"
		и	122							"		"	2.7 V	2.7 V	IN				"	"	"		"
10	t _{PHL1}	и	123			2.7 V	GND		OUT		"	GND	GND	IN					"	W		20	"
T _C = +125°C		и	124		2.7 V		"		"	"	"	GND	IN	GND					"	"		"	"
		и	125				"		"	"	"	IN	GND	GND				2.7 V	"	"	"	"	"
	t _{PLH1}	и	126			2.7 V	"		"	"	"	GND	GND	IN					"	"	"	22	"
		и	127		2.7 V		"		"	"	"	GND	IN	GND					"	"	"	"	"
		и	128				"		"	"	"	IN	GND	GND				2.7 V	"	"	"	"	"
	t _{PHL2}	и	129			2.7 V	"	OUT			"	GND	GND	IN						Y		26	"
		"	130		2.7 V		"				"	GND	IN	GND					**				
			131				"	-			"	IN	GND	GND				2.7 V				"	"
	t _{PLH2}		132		0.71/	2.7 V						GND	GND	IN									" "
			133		2.7 V							GND	IN	GND				0.71/					"
		u u	134					-	01:-		- "	IN	GND "	GND "				2.7 V			- "		
	tPHL3		135				2.7 V		OUT	IN		GND								W		18	
	t _{PLH3}	и	136				"		OUT	"	"	"	"	"					"	W	"	19.5	"
	t _{PHL4}	и	137				"	OUT		"	"	"	"	"					"	Y	"	26	"
	t _{PLH4}	и	138				"	OUT					"	"						Y	"	24	"

See footnotes at end of device type 02

TABLE III. Group A inspection for device type 01 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test	imits	
Subgroup	Symbol	STD-883		2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	D3	D2	D1	D0	Υ	W	ST	GND	С	В	Α	D7	D6	D5	D4	V _{CC}	terminal	Min	Max	
10	t _{PHL5}	3003	139				IN		OUT	GND	GND	GND	GND	GND					5.0 V	W	2.0	11.5	ns
T _C = +125°C		Fig. 4	140			IN						"	GND	2.7 V						"			"
		и	141		IN							"	2.7 V	GND						"			"
		и	142	IN								"	2.7 V	2.7 V						"			"
		u	143									2.7 V	GND	GND				IN	"				"
		u	144									"	GND	2.7 V			IN		"				"
		и	145										2.7 V	GND		IN							"
		u	146										2.7 V	2.7 V	IN					"			
	t _{PLH5}	и	147				IN					GND	GND	GND					"	"			"
		"	148			IN			"			"	GND	2.7 V					"	"			"
		"	149		IN				"			"	2.7 V	GND					"	"			"
		и	150	IN									2.7 V	2.7 V						"			"
		"	151						"			2.7 V	GND	GND				IN	"	"			"
		"	152						"			"	GND	2.7 V			IN		"	"			"
		и	153									"	2.7 V	GND		IN			"	"			"
		ш	154									"	2.7 V	2.7 V	IN				"	"			"
	t _{PHL6}	и	155				IN	OUT				GND	GND	GND					"	Υ		18	"
			156			IN						"	GND	2.7 V					"	"			"
			157		IN							"	2.7 V	GND					"	"			"
		ш	158	IN				"				"	2.7 V	2.7 V					"	"			"
		ш	159					"				2.7 V	GND	GND				IN	"	"			"
		ш	160					"				"	GND	2.7 V			IN		"	"			"
		и	161					"				"	2.7 V	GND		IN			"	"			"
		и	162					"		"			2.7 V	2.7 V	IN				"	"	"	"	"
10	t _{PLH6}	и	163				IN					GND	GND	GND					"	"			"
T _C = +125°C		и	164			IN		"				"	GND	2.7 V					"	"		"	"
		и	165		IN			"			"	"	2.7 V	GND					"	"		"	"
		и	166	IN				"				"	2.7 V	2.7 V					"	"		"	"
		и	167					"				2.7 V	GND	GND				IN	"	"		"	"
		и	168					"			"	"	GND	2.7 V			IN		"	"		"	"
		и	169					"			"	"	2.7 V	GND		IN			"	"		"	"
		ш	170					"			"	"	2.7 V	2.7 V	IN				"	"		"	
11	Same to	ests, termi	nal conditi	ons, and	limits as	for subg	roup 10,	except T	C = -55°C	D													

 $[\]underline{1}$ / For circuit B, $I_{OS(max)} = -110$ mA.

<u>2</u>/ 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.

 $[\]underline{5}/$ Case 2 pins not designated are NC.

TABLE III. Group A inspection for device type 02 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883 method		2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
			Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	Α	2G	Vcc				
1	V _{OH}	3006	1	0.8 V	0.8 V				2.0 V	-1 mA	GND "						0.8 V		4.5 V	1Y	2.5		V "
T _C = +25°C	VoH	3006	2	0.014	0.8 V					00 4	"	-1 mA	2.0 V				0.8 V	0.8 V	"	2Y	2.5	0.5	"
	V _{OL}	3007 3007	3 4	2.0 V						20 mA	"	20 mA						2.0 V	"	1Y 2Y		0.5 0.5	
	V _{OL}	3007	5								ш	20 IIIA					-18 mA	2.0 V	44	A		-1.2	
	VIC		6		-18 mA						и						1011111		ш	В		"	и
			7						-18 mA		"								ш	1C0		"	
			8					-18 mA			44								ш	1C1		ш	и
			9				-18 mA				"								и	1C2		"	и
			10			-18 mA					"								"	1C3		"	ш
			11	-18 mA							44								44	1G		44	"
			12								"		-18 mA						ш	2C0		ш	и
			13								u			-18 mA					и	2C1		ш	"
			14								"				-18 mA	١			"	2C2		"	u
			15 16								4					-18 mA		-18 mA	"	2C3 2G		"	"
		3009	17								и						0.5 V	-10 IIIA	5.5 V	A	-1.0	-2.0	mA
	I _{IL}	3009	18		0.5 V						"						0.5 V		3.5 V	В	-1.0	-2.0	"
		"	19	0.5 V	0.0 1						"								ш	1G	"	"	
		и	20								"							0.5 V	44	2G	"	"	"
		"	21	GND	GND				0.5 V		"						GND		ш	1C0	"	"	"
		и	22	"	GND			0.5 V			"						5.5 V		"	1C1	"	"	"
		"	23		5.5 V		0.5 V				"						GND		"	1C2	"	"	"
		и	24	"	5.5 V	0.5 V					"						5.5 V		"	1C3	"	"	"
		и	25		GND						44		0.5 V				GND	GND	44	2C0	и	44	ш
		и	26		GND						44			0.5 V			5.5 V	"	ш	2C1	44	"	"
		u	27		5.5 V						u				0.5 V		GND		и	2C2	u	ш	"
			28		5.5 V						"					0.5 V	5.5 V	"	"	2C3	-		
	I _{IH1}	3010	29 30		2.7 V						"						2.7 V		"	A B		50	μA "
			31	2.7 V	2.1 V						44								и	1G		44	и
		и	32	2., V							"							2.7 V	ш	2G		"	ш
		u	33	5.5 V	5.5 V				2.7 V		"						5.5 V		"	1C0		"	"
		и	34	"	5.5 V			2.7 V			44						GND		ш	1C1		44	и
		и	35		GND		2.7 V				"						5.5 V		"	1C2		**	ш
		и	36	"	GND	2.7 V					44						GND		ш	1C3		"	ш
		и	37		5.5 V						"		2.7 V				5.5 V	5.5 V	u	2C0		"	и
		u	38		5.5 V						"			2.7 V			GND		"	2C1		**	u
		и	39		GND						"				2.7 V		5.5 V	"	u	2C2		"	44
		u	40		GND						ш					2.7 V	GND	"	ш	2C3	и	"	u

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 \geq 2.0 V, or L \leq 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 I	imits	
Subgroup	Symbol		X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	Α	2G	Vcc	terminal	Min	Max	
1	I _{IH2}	3010	41								GND						5.5 V		5.5 V	Α		1.0	mA
T _C = +25°C		"	42		5.5 V						и								ш	В		u	"
			43	5.5 V							"								"	1G		"	
			44								"							5.5 V	"	2G		"	
			45	5.5 V	5.5 V				5.5 V		"						5.5 V		"	1C0		u	
			46		5.5 V			5.5 V			"						GND		"	1C1		u	
			47		GND		5.5 V				"						5.5 V		"	1C2		u	"
		"	48		GND	5.5 V					44						GND		и	1C3		u	"
			49		5.5 V						ш		5.5 V				5.5 V	5.5 V	u	2C0		u	"
	I _{IH2}	"	50		5.5 V						и			5.5 V			GND	44	44	2C1		1.0	mA
		•	51		GND						ш				5.5 V		5.5 V		"	2C2		"	ш
		"	52		"						и					5.5 V	GND	"	и	2C3		"	ш
	los	3011	53	GND	"				5.5 V	GND	ш						"		"	1Y	-40	-100 <u>1</u> /	ш
		"	54	"	"						и	GND	5.5 V				"	GND	44	2Y	-40	-100 <u>1</u> /	"
	Icc	3005	55	"	"	GND	GND	GND	GND		и		GND	GND	GND	GND	"	GND	ш	V _{CC}		70	66
	I _{CEX}		56	GND					5.5 V	5.5 V	и						"		и	1Y		250	μΑ
			57		"						u	5.5 V	5.5 V				"	GND	u	2Y		250	μA
2	Same tes	sts, termin	al conditio	ns, and I	imits as f	or subgr	oup 1, ex	cept T _C	= +125°C	and V _{IC}	tests are	omitted	. V _{IL} = 0	0.7 V, V _O	L = 0.45	V.							
3	Same tes	sts, termin	al conditio	ns, and I	imits as f	or subgr	oup 1, ex	cept T _C	= -55°C a	and V _{IC} to	ests are o	mitted.											
7 <u>2</u> /	Truth	3014	58	A <u>3</u> /	B <u>3</u> /	A <u>3</u> /	A <u>3</u> /	A <u>3</u> /	A <u>3</u> /	L	GND	L	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	B <u>2</u> /	A <u>2</u> /	4.5 V	See <u>4</u> /			
T _C = +25°C	table		59	В		Α	Α	Α	В	L	"	L	В	Α	Α	Α		В		"			
	test		60			В	В	В	Α	Н	"	Н	Α	В	В	В				"			
			61			Α	Α	В	Α	L	"	L	Α	В	Α	Α	Α			"			
			62			В	В	Α	В	Н	"	Н	В	Α	В	В	Α						
			63	"	Α	Α	В	Α	Α	L	и	L	Α	Α	В	Α	В	"	"	"			
		"	64	"		В	Α	В	В	Н	и	Н	В	В	Α	В	В	"	"	"			
		"	65	"	"	В	Α	Α	Α	L	и	L	Α	Α	Α	В	Α	"	"	"			
		"	66	"	"	Α	В	В	В	Н	u	Н	В	В	В	Α	Α	"	"	"			
8	Same to	ests, termi	nal conditi	ions, and	limits as	for subg	roup 7, e	xcept T _C	; = +125°	C and -5	5°C.												

See footnotes at end of device type 02

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TABLE III. Group A inspection for device type 02 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	Α	2G	V _{CC}	terminal	Min	Max	
9	t _{PHL1}	3003	67	GND	GND				IN	OUT	GND						GND		5.0 V	1Y	2.0	11.0	ns
T _C = +25°C		Fig. 5	68	"	GND			IN			"						2.7 V		ш	"	"	"	и
		и	69		2.7 V		IN				"						GND		u	"	"	66	и
		и	70		2.7 V	IN				"	"						2.7 V		u	"	"	66	и
		66	71		GND						"	OUT	IN				GND	GND	и	2Y	"	**	и
		и	72		GND						"			IN			2.7 V		u	"	"	66	и
		и	73		2.7 V						"				IN		GND		u	"	"	66	и
		66	74		2.7 V						**					IN	2.7 V	"	ш	"	u	ш	и
	t _{PLH1}	"	75	GND	GND				IN	OUT	"						GND		и	1Y	"		
		и	76		GND			IN		"	"						2.7 V		u	"	"	66	и
			77		2.7 V		IN			"	"						GND		u	"	"	66	и
		и	78		2.7 V	IN				"	"						2.7 V		u	"	"	66	и
		и	79		GND						"	OUT	IN				GND	GND	u	2Y	"	66	и
		и	80		GND						"			IN			2.7 V		u	"	"	66	и
		и	81		2.7 V						"				IN		GND		u	"	"	"	u
		и	82		2.7 V						"					IN	2.7 V		u	"	"	"	u
	t _{PHL2}	и	83	GND	GND			GND	2.7 V	OUT	ш						IN		и	1Y	и	20	и
		44	84	GND	IN		GND		2.7 V	OUT	44						GND		и	1Y	ш	44	и
		44	85		GND						44	OUT	2.7 V	GND			IN	GND	и	2Y	ш	44	и
		44	86		IN						44	OUT	2.7 V		GND		GND	GND	ш	2Y	"	44	и
	t _{PLH2}	u	87	GND	GND			GND	2.7 V	OUT	GND						IN		и	1Y	"	44	и
		44	88	GND	IN		GND		2.7 V	OUT	"						GND		"	1Y	"		и
			89		GND						ш	OUT	2.7 V	GND			IN	GND		2Y	"	"	и
		"	90		IN						ш	OUT	2.7 V		GND		GND	GND	"	2Y		"	и
	t _{PHL3}	"	91	IN	GND				2.7 V	OUT	ш						"		"	1Y	"	15.5	
		"	92		"						44	OUT	2.7 V					IN	"	2Y		15.5	и
	t _{PLH3}	"	93	IN					2.7 V	OUT	ш						"		"	1Y	"	17.0	
		"	94		"						ш	OUT	2.7 V				"	IN	"	2Y	"	17.0	

See footnotes at end of device type 02

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

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured	Min	Max	Unit
		method	Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	Α	2G	V _{CC}	terminal	IVIII	IVIAX	
10	t _{PHL1}	3003	95	GND	GND				IN	OUT	GND						GND		5.0 V	1Y	2.0	14.5	ns
T _C = +125°C		Fig. 5	96		GND			IN			"						2.7 V			"			
			97		2.7 V		IN				"						GND						
		"	98		2.7 V	IN					"						2.7 V		"	"			"
		"	99		GND						"	OUT	IN				GND	GND	"	2Y			"
		"	100		GND						"	"		IN			2.7 V		"	"			"
		"	101		2.7 V						"	"			IN		GND		"	"			"
		ш	102		2.7 V						"					IN	2.7 V		"	"			
	t _{PLH1}	ш	103	GND	GND				IN	OUT	"						GND		"	1Y		14.5	"
		"	104		GND			IN									2.7 V		"				"
			105		2.7 V		IN				"						GND		"		u	и	и
		44	106	"	2.7 V	IN					"						2.7 V		"	"	ш	ш	44
		44	107		GND						"	OUT	IN				GND	GND	"	2Y	ш	ш	44
		44	108		GND						"			IN			2.7 V	"	"		и	ш	44
		44	109		2.7 V						"	"			IN		GND		"	"	ш	ш	44
		44	110		2.7 V						44					IN	2.7 V	"	"		и	и	"
	t _{PHL2}	ee	111	GND	GND			GND	2.7 V	OUT	"						IN		"	1Y	и	26	44
			112	GND	IN		GND		2.7 V	OUT	"						GND			1Y	u		
		44	113		GND						"	OUT	2.7 V	GND			IN	GND	"	2Y	и	ш	44
			114		IN						"	OUT	2.7 V		GND		GND	GND	"	2Y	u	и	и
	t _{PLH2}	ш	115	GND	GND			GND	2.7 V	OUT	ш						IN		"	1Y	и	26	ш
		ш	116	GND	IN		GND		2.7 V	OUT	"						GND			1Y	u	ш	ш
		ш	117		GND						и	OUT	2.7 V	GND			IN	GND		2Y	и	и	æ
		ш	118		IN						ш	OUT	2.7 V		GND		GND	GND		2Y	u	ш	ш
	t _{PHL3}	ш	119	IN	GND				2.7 V	OUT	ш						"	IN	"	1Y	u	21	ш
		ш	120								ш	OUT	2.7 V						"	2Y	и	21	ш
	t _{PLH3}	ш	121	IN					2.7 V	OUT	ш						"	IN	"	1Y	и	22	ш
		ш	122								"	OUT	2.7 V				"		"	2Y	u	22	ш

 $[\]underline{1}$ / For circuit B, $I_{OS(max)} = -110 \text{ mA}$

^{2/} Only a summary of attributes is required.

^{3/} A = 2.4 V; B = 0.4 V.

 $[\]underline{4}$ / H \geq 1.5 V; L \leq 1.5 V.

<u>5</u>/ Case 2 pins not designated are NC.

TABLE III. Group A inspection for device type 03 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	6	7	8	9	10	11	12	13	14	15	16		Test	imits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	V _{CC}	terminai	IVIIII	IVIAX	
1	VoH	3006	1	2.0 V		2.0 V	-1 mA				GND							0.8 V	4.5 V	1Y	2.5		V
T _C = +25°C		"	2	"					2.0 V	-1 mA	"							"	ш	2Y	"		ш
			3	"							ш	-1 mA	2.0 V					"	"	3Y			и
			4	"			00. 4				u				-1 mA	2.0 V		"	"	4Y		0.5	"
	V _{OL}	3007	5 6				20 mA				"							2.0 V	"	1Y 2Y		0.5	"
			7							20 mA	"	20 mA							"	3Y		44	,,
			8								и	20111A			20 mA				и	4Y		ш	и
	V _{IC}		9	-18 mA							"				20 1117 ("	S		-1.2	и
	V IC		10		-18 mA						44								u	1A		"	ш
			11			-18 mA					"								44	1B		ee	и
			12					-18 mA			"								"	2A		ш	44
			13						-18 mA		"								44	2B		ш	ш
			14								"		-18 mA						"	3B		66	66
			15								"			-18 mA					"	3A		ш	ш
			16								44					-18 mA			и	4B		ш	и
			17								и						-18 mA		"	4A		"	"
			18								u							-18 mA		G			
	I _{IL}	3009	19	5.5 V							4							0.5 V	5.5 V "	G S	-2 <u>6</u> /	-4 <u>6</u> /	mA "
		44	20 21	0.5 V GND	0.5 V						44							5.5 V GND	44	1A	-2 <u>6</u> / -1 <u>7</u> /	-4 <u>6</u> / -2 <u>7</u> /	44
		ш	22	5.5 V	0.5 V	0.5 V					"							"	"	1B	-1 <u>//</u>	-2 <u>11</u>	ш
		"	23	GND		0.5 V		0.5 V			"								"	2A			44
		ш	24	5.5 V				0.0 1	0.5 V		"								"	2B			ш
		44	25	5.5 V							44		0.5 V						44	3B	" "		ш
		ш	26	GND							"			0.5 V					"	3A	" "	" "	ш
		ш	27	5.5 V							и					0.5 V			и	4B			и
		ш	28	GND							"						0.5 V		"	4A			44
	I _{IH1}	3010	29	GND							"							2.7 V	44	G		100	μA
		"	30	2.7 V							"							GND	"	S		100	ш
		"	31		2.7 V						44							5.5 V	ш	1A		50	ш
		"	32			2.7 V					"							"	"	1B		"	ш
		"	33					2.7 V			"								"	2A		u	ш
			34						2.7 V		и		0.71/						и	2B		u	u
			35								4		2.7 V	2.7 V					"	3B			
		"	36 37								"			2.7 V		2.7 V			"	3A 4B			ш
		"	38								"					2./ V	2.7 V		"	4B 4A		ш	ш
	l		30								l	 		 			Z.1 V			44			l

TABLE III. Group A inspection for device type 03- Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	Vcc	terminal	Min	Max	
1	I _{IH2}	3010	39	GND							GND							5.5 V	5.5 V	G		1.0	mA
T _C = +25°C		и	40	5.5 V							44							GND	44	S		ш	и
		ш	41		5.5 V						ш							5.5 V	u	1A			
		ш	42			5.5 V					"							"	ш	1B		"	и
		"	43					5.5 V			44							"	44	2A		"	и
		"	44						5.5 V		44							"	44	2B		"	"
		"	45								"		5.5 V					"	"	3B		ш	"
		"	46								"			5.5 V				"	"	3A		ш	"
			47								44					5.5 V		ш	"	4B		ш	"
		"	48								44						5.5 V	44		4A		и	
	los	3011	49	5.5 V		5.5 V	GND				"							GND		1Y	-40	-100 <u>1</u> /	и
		3011	50	"					5.5 V	GND								GND		2Y	-40	-100 <u>1</u> /	
	los	3011	51	"							"	GND	5.5 V					GND	5.5 V "	3Y	-40	-100 <u>1</u> /	mA
		3011	52								"				GND	5.5 V		GND	"	4Y	-40	-100 <u>1</u> /	
	Icc	3005	53	"	GND	GND		GND	GND		"		GND	GND		GND	GND	5.5 V	"	Vcc		78	
	I _{CEX}		54			5.5 V	5.5 V		5.5.7	5.5.7	"							GND "	"	1Y		250	μA "
			55						5.5 V	5.5 V	44	5.5.7	5.51/							2Y			
			56 57									5.5 V	5.5 V		5.5 V	551/				3Y			
																5.5 V				4Y			
2	1	sts, termin											. V _{IL} = 0).7 V, V _O	L(max) = 0	0.45 V.							
3	Same tes	sts, termin	al condition	ons, and	limits as f	for subgr	oup 1, ex	cept T _C	= -55°C a	and V _{IC} to	ests are	omitted.											
7 <u>4</u> /	Truth	3014	58	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	L	A <u>2</u> /	A <u>2</u> /	L	GND	L	A <u>2</u> /	A <u>2</u> /	L	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	4.5 V	See <u>3</u> /			
$T_C = +25^{\circ}C$	table	"	59	"	Α	В	L				"							В	"	и			
	test	"	60	"	В	Α	Н				"							"	"	ш			
		"	61	В	В	Α	L				"							"	"	"			
			62	В	Α	В	Н				44							"	и	ш			
		"	63	Α				Α	В	L	44							"	44	ű			
		"	64	Α				В	Α	Н	44							"	44	u			
		"	65	В				В	Α	L	44							"	44	ű			
		"	66	В				Α	В	Н	44							"	и	ш			
		"	67	Α							44	L	В	Α				"	44	ш			
		ш	68	Α							44	Н	Α	В				"	44	ш			
		ш	69	В							"	L	Α	В				"	"	u			
		ш	70	В							"	Н	В	Α				"	"	ш			
		ш	71	Α							"				L	В	Α	"	"	ш			
		ű	72	Α							"				Н	Α	В	"	"	ш			
		"	73	В							"				L	Α	В	"	"	ш			
	1	"	74	В							"				Н	В	Α	"	"	"			

TABLE III. Group A inspection for device type 03 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test	imits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	ЗА	4Y	4B	4A	G	V _{CC}	terminal	Min	Max	
8 <u>4</u> /	Same te	sts, termi	nal conditi	ons, and	limits as	for subg	roup 7, e	xcept T _C	= +125°C	C and -55	s°C.												
9	t _{PHL1}	3003	75	IN	GND	2.7 V	OUT				GND							GND	5.0 V	1Y	2.0	14	ns
T _C = +25°C		Fig. 6	76	"				GND	2.7 V	OUT	и							и	и	2Y			"
		"	77	"							ш	OUT	2.7 V	GND				и	ш	3Y			"
		"	78	"							ee				OUT	2.7 V	GND	и	"	4Y			ш
	t _{PLH1}	"	79	"	GND	2.7 V	OUT				и							и	"	1Y		и	"
		"	80	"				GND	2.7 V	OUT	и							и	"	2Y		и	66
		ш	81	"							и	OUT	2.7 V	GND				и	44	3Y		и	"
		"	82	"							ш				OUT	2.7 V	GND	и	"	4Y		и	"
	t _{PHL2}	"	83	GND	IN	GND	OUT				и							и	"	1Y		9.0	и
		"	84					IN	GND	OUT	и							и	"	2Y		"	"
		"	85								и	OUT	GND	IN				и	"	3Y		"	"
		и	86	"							и				OUT	GND	IN	и	и	4Y			"
	t _{PLH2}	и	87	"	IN	GND	OUT				и							и	и	1Y		ш	"
		"	88	"				IN	GND	OUT	и							и	"	2Y			"
		"	89	"							и	OUT	GND	IN				и	"	3Y		и	"
			90	"							и				OUT	GND	IN	u	"	4Y		и	"
	t _{PHL3}	"	91	ш	2.7 V	GND	OUT				es							IN	5.0 V	1Y	и	14	"
		ш	92	"				2.7 V	GND	OUT	ш							"	"	2Y	и	и	"
		"	93	"							ee	OUT	GND	2.7 V				"	"	3Y	и	44	"
		"	94	33							и				OUT	GND	2.7 V	"	ш	4Y	и	и	ш
	t _{PLH3}	"	95	"	2.7 V	GND	OUT				ee							"	"	1Y	и	13.5	"
		"	96					2.7 V	GND	OUT	es								ш	2Y	u	и	"
		"	97								es	OUT	GND	2.7 V					"	3Y	u	и	"
		"	98	"							"				OUT	GND	2.7 V	"	"	4Y	и	и	ш

TABLE III. <u>Group A inspection for device type 03 - Continued.</u>Terminal conditions (pins not designated may be $H \ge 2.0 \text{ V}$, or $L \le 0.8 \text{ V}$, or open)</u>

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	imits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	Vcc	terminal	Min	Max	
10	t _{PHL1}	3003	99	IN	GND	2.7 V	OUT				GND							GND	5.0 V	1Y	2.0	18.5	ns
T _C = +125°C		Fig. 6	100					GND	2.7 V	OUT	и							"	ш	2Y	ш	"	"
			101								"	OUT	2.7 V	GND					"	3Y	44	"	"
			102								"				OUT	2.7 V	GND		"	4Y	44	"	"
	t _{PLH1}	"	103	"	GND	2.7 V	OUT				и							"	ш	1Y	ш	"	ш
			104					GND	2.7 V	OUT	"								"	2Y	44	"	"
		"	105								и	OUT	2.7 V	GND				"	"	3Y	ш	"	"
		"	106								"				OUT	2.7 V	GND		"	4Y	44	u	"
	t _{PHL2}	"	107	GND	IN	GND	OUT				"								"	1Y	44	12	ш
		ш	108					IN	GND	OUT	"								"	2Y	44	"	"
		ш	109								и	OUT	GND	IN				"	ш	3Y	ш	"	"
		ш	110								"				OUT	GND	IN		"	4Y	44	"	"
į	t _{PLH2}	ш	111	"	IN	GND	OUT				и							"	"	1Y	44	ш	и
		ш	112					IN	GND	OUT	"								"	2Y	44	"	"
		и	113								"	OUT	GND	IN					ш	3Y	"	и	и
			114												OUT	GND	IN		"	4Y	"	и	и
i	t _{PHL3}	"	115	"	2.7 V	GND	OUT											IN	"	1Y	ш	18.5	"
		"	116	"				2.7 V	GND	OUT								"	"	2Y	44	"	"
		"	117	"								OUT	GND	2.7 V				"	"	3Y	44	"	"
		"	118												OUT	GND	2.7 V		"	4Y	44	u	ш
	t _{PLH3}	"	119		2.7 V	GND	OUT											"	"	1Y	и	18	и
1		ш	120					2.7 V	GND	OUT	"							"	"	2Y	44	"	ш
1		"	121									OUT	GND	2.7 V				"	"	3Y	44	ш	ш
		"	122	"											OUT	GND	2.7 V	"	"	4Y	ш	ш	ш
11	Same to	ests, termi	nal conditi	ons, and	limits as	for subg	roup 10,	except To	c = -55°C														

 $[\]underline{1}$ / For circuit B, $I_{OS(max)} = -110$ mA.

<u>2</u>/ A = 2.4 V; B = 0.4 V.

^{3/} H \geq 1.5 V; L \leq 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.

<u>7</u>/ For circuit B, 0.1/ -2 mA.

TABLE III. <u>Group A inspection for device type 04</u> 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883 method	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		metriou	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	V_{CC}	termina			
1	V _{OH}	3006	1				-1 mA				GND							2.0 V	4.5 V	1Y	2.5		V
T _C = +25°C		"	2							-1 mA	44							"	"	2Y			"
			3								u	-1 mA							u	3Y			"
		2007	<u>4</u> 5	0.01/		2.0 V	00 4				"				-1 mA				"	4Y	- "	0.5	
	V _{OL}	3007	6	2.0 V		2.0 V	20 mA		2.0 V	20 mA	"							0.8 V	ш	1Y 2Y		0.5	"
			7						2.0 V	20 IIIA	и	20 mA	2.0 V						44	3Y		44	
			8	**							44	201117	2.0 0		20 mA	2.0 V			"	4Y		"	"
	V _{IC}		9	-18 mA							и								и	S		-1.2	и
	10		10		-18 mA						"								"	1A		"	"
			11			-18 mA					ш								ш	1B		"	ш
			12					-18 mA			44								"	2A		"	"
			13						-18 mA		ш								44	2B		"	"
			14								ш		-18 mA						44	3B		"	44
			15								и			-18 mA					u	3A		"	"
			16								u					-18 mA			"	4B			"
			17														-18 mA	40.4	"	4A			
		3009	18 19	5.5 V							и							-18 mA 0.5 V	5.5 V	G G	2.6/	4 6/	mA
	I₁∟	3009	20	0.5 V							"							5.5 V	3.5 V	S	-2 <u>6</u> / -2 <u>6</u> /	-4 <u>6</u> / -4 <u>6</u> /	"
		и	21	GND	0.5 V						и							GND	44	1A	-2 <u>0</u> / -1 <u>7</u> /	-4 <u>o</u> / -2 <u>7</u> /	64
		ш	22	5.5 V	0.0 1	0.5 V					и							"	"	1B		" "	44
		ш	23	GND				0.5 V			"								"	2A			"
		и	24	5.5 V					0.5 V		и								44	2B			66
		"	25	5.5 V							44		0.5 V						"	3B		" "	"
		es	26	GND							ш			0.5 V				"	44	3A			"
		ш	27	5.5 V							ш					0.5 V			44	4B			44
		ш	28	GND							es						0.5 V	"	и	4A			"
	I _{IH1}	3010	29	GND							u							2.7 V	u	G		100	μA "
			30	2.7 V	071/						"							GND	"	S		100	"
		"	31		2.7 V	2.7 V					"							5.5 V	44	1A		50	"
		ш	32 33			2.1 V		2.7 V			44								"	1B 2A		"	"
		и	33 34					2.7 V	2.7 V		ш								ш	2A 2B		44	44
		64	35						Z., v		44		2.7 V						ш	3B		**	"
		ш	36								44			2.7 V					"	3A		"	"
		ш	37								"					2.7 V			u	4B		"	"
		и	38								и						2.7 V		44	4A		"	44

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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)

	1				1	1	1	1	1	1	1		1			1	1	1	1				
		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	imits	
Subgroup	Symbol	STD-883 method	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		metriou	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	V _{CC}	terriiriai	IVIIII	WIGA	
1	I _{IH2}	3010	39	GND							GND							5.5 V	5.5 V	G		1.0	mA
T_C = +25°C		"	40	5.5 V							65							GND	"	S		u	ш
		44	41		5.5 V						и							5.5 V	и	1A		"	"
		"	42			5.5 V					44							44	44	1B		и	"
		"	43					5.5 V			44							"	44	2A		"	u
		"	44						5.5 V		44							44	44	2B		"	"
		"	45								44		5.5 V					44	"	3B		"	"
		"	46								44			5.5 V				44	"	3A		"	"
		"	47								и					5.5 V		44	"	4B		ш	"
		"	48								ш						5.5 V	и	ш	4A		и	ш
	Ios	3011	49				GND											"	"	1Y	-40	-100 <u>1</u> /	"
			50							GND									"	2Y			
			51								u	GND							"	3Y			"
			52								u				GND			"	"	4Y			
	Icc	3005	53	5.5 V	GND "	GND		GND	GND		u		GND	GND		GND	GND	- "	"	V _{CC}		61	
	ICEX		54				5.5 V			5.51/	"									1Y		250	μA
			55							5.5 V	"	5.5.7							"	2Y			
			56 57									5.5 V			5.5.7				"	3Y			
									-						5.5 V					4Y			
2	Same te	sts, termir	al condition	ons, and	limits as	for subgr	oup 1, ex	cept T _C	= +125°C	and V _{IC}	tests are	omitted	. V _{IL} = 0	0.7 V, V _O	L(max) =	0.45 V.							
3	Same te	sts, termir	al condition	ons, and	limits as	for subgr	oup 1, ex	cept T _C	= -55°C a	and V _{IC} to	ests are o	mitted.											
7	Truth	3014	58	B <u>2</u> /	A <u>2</u> /	B <u>2</u> /	L	A <u>2</u> /	B <u>2</u> /	L	GND	L	B <u>2</u> /	A <u>2</u> /	L	B <u>2</u> /	A <u>2</u> /	В	4.5 V	See <u>3</u> /			
T _C = +25°C	table	"	59	Α	В	Α	L				и							"	44	ű			
	test	"	60	Α	Α	В	Н				ш							"	"	ш			
		"	61	В	Α	В	L				ш							"	"	ш			
			62	В	В	Α	Н				44							"	"	"			
			63	Α				В	Α	L	44							"	ш	"			
			64	Α				Α	В	Н	44							"	ш	"			
			65	В				Α	В	L	44							"	ш	"			
			66	В				В	Α	Н	44							"	"	"			
		"	67	Α							"	L	Α	В				"	44	"			
		"	68	Α							"	Н	В	Α				"	44	"			
		"	69	В							44	L	В	Α				"	"	и			
		"	70	В							44	Н	Α	В				"	u	ш			
		"	71	Α							"				L	Α	В	"	"	"			
		"	72	Α							66				Н	В	Α	"	"	"			
		44	73	В							и				L	В	Α	"	и	ш			
		"	74	В							"				Н	Α	В	"	"	44			

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

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol		X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured	Min	Max	Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	V _{CC}	terminal	IVIII	IVIAX	
8 <u>4</u> /	Same to	ests, termi	nal conditi	ons, and	limits as	for subg	roup 7, e	xcept T _C	= +125°(C and -55	5°C.												
9	t _{PHL1}	3003	75	IN	GND	2.7 V	OUT				GND							GND	5.0 V	1Y	2.0	14	ns
T _C = +25°C		Fig. 6	76	"				GND	2.7 V	OUT	44							"	и	2Y		"	
		и	77	"							"	OUT	2.7 V	GND				"	u	3Y		"	ш
		"	78								ш				OUT	2.7 V	GND	u	и	4Y		"	66
	t _{PLH1}	и	79	"	GND	2.7 V	OUT				"							"	и	1Y		66	ш
		u	80	"				GND	2.7 V	OUT	"							"	"	2Y		"	66
		ш	81	"							ш	OUT	2.7 V	GND				"	u	3Y		ш	ш
		и	82	"							ш				OUT	2.7 V	GND	и	и	4Y		и	и
	t _{PHL2}	u	83	GND	IN	GND	OUT				"							"	"	1Y		8.0	66
		и	84	"				IN	GND	OUT	44							"	и	2Y		66	44
		и	85	"							44	OUT	GND	IN				"	и	3Y		66	44
		и	86	"							"				OUT	GND	IN	"	и	4Y	•	"	"
	t _{PLH2}	ш	87	"	IN	GND	OUT				"							"	u	1Y		44	44
		и	88	"				IN	GND	OUT	"							"	и	2Y		"	"
		и	89	"							"	OUT	GND	IN				u	"	3Y		44	4
		"	90	"							ш				OUT	GND	IN	и	и	4Y	"	ш	ш
	t _{PHL3}	ш	91	ш	2.7 V	GND	OUT				44							IN "	и	1Y	ш	14	44
		u	92	"				2.7 V	GND	OUT	"								"	2Y	u		66
			93								"	OUT	GND	2.7 V					"	3Y	u	"	ee
		"	94	99							u				OUT	GND	2.7 V		"	4Y		и	
	t _{PLH3}		95		2.7 V	GND	OUT				"								"	1Y	u	13.5	66
			96					2.7 V	GND	OUT	"								"	2Y	u	u	и
			97									OUT	GND	2.7 V	OUT.	ONE	0.71		".	3Y	u	u	u
			98								"				OUT	GND	2.7 V		"	4Y	"		
10	t _{PHL1}		99	IN "	GND	2.7 V	OUT	ON ID	0.71/	0.11	ш							GND "	"	1Y	u	18.5	u
T _C = +125°C			100					GND	2.7 V	OUT	"	OUT	0.71/	ONE						2Y	"		
			101 102								"	OUT	2.7 V	GND	OUT	2.7 V	GND			3Y 4Y	"	"	
			102			l		l		l					001	2.1 V	GIND		L	41			l

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)

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test I	imits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	V _{CC}	terminal	Min	Max	
10	t _{PLH1}	3003	103	IN	GND	2.7 V	OUT				GND							GND	5.0 V	1Y	2.0	18.5	ns
T _C = +125°C		Fig. 6	104					GND	2.7 V	OUT	ш							"	и	2Y	u	и	ш
		"	105								и	OUT	2.7 V	GND					и	3Y	"	"	"
			106								и				OUT	2.7 V	GND		u	4Y	"	"	и
	t _{PHL2}	"	107	GND	IN	GND	OUT				и								и	1Y	и	11	и
		ш	108					IN	GND	OUT	и								и	2Y	u	ш	и
		и	109								и	OUT	GND	IN					и	3Y	"	"	и
		ш	110								и				OUT	GND	IN		и	4Y	u	ш	и
	t _{PLH2}	и	111	"	IN	GND	OUT				и								u	1Y	и	ш	и
		"	112					IN	GND	OUT	ш								"	2Y	"	"	и
		ш	113								и	OUT	GND	IN					и	3Y	u	ш	и
		"	114												OUT	GND	IN			4Y	u	ш	и
	t _{PHL3}	"	115	"	2.7 V	GND	OUT											IN	"	1Y	и	18.5	и
			116					2.7 V	GND	OUT										2Y	"	"	и
			117									OUT	GND	2.7 V						3Y	"	"	и
			118												OUT	GND	2.7 V			4Y	"	u	и
	t _{PLH3}	"	119	"	2.7 V	GND	OUT											"	"	1Y	и	18	и
		ш	120					2.7 V	GND	OUT	u								"	2Y	"	u	и
			121									OUT	GND	2.7 V						3Y	"	u	и
			122												OUT	GND	2.7 V			4Y	"	u	и
11	Same to	ests, termi	nal conditi	ons, and	limits as	for subg	roup 10,	except To	c = -55°C	;.									•	•			

 $[\]underline{1}$ / For circuit B, $I_{OS(max)} = -110 \text{ mA}$.

- <u>2</u>/ A = 2.4 V; B = 0.4 V.
- 3/ H \geq 1.5 V; L \leq 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.

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TABLE III. Group A inspection for device type 05. 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883 method	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		metriod	Test no.	D3	D2	D1	D0	Y	W	ST	GND	С	В	Α	D7	D6	D5	D4	V _{CC}	terriiriai	IVIIII	IVIAX	
1	V _{OL}	3007	1				2.0 V		20 mA	0.8 V	GND	0.8 V	0.8 V	V 8.0					4.5 V	W		0.5	٧
T _C = +25°C		3007	2					20 mA		"	ш	2.0 V	2.0 V	2.0 V	0.8 V				и	Υ		0.5	ш
	VoH	3006	3						-2 mA	"	44	2.0 V	2.0 V	2.0 V	0.8 V				u	W	2.4		66
		3006	4				2.0 V	-2 mA		"	и	0.8 V	0.8 V	0.8 V					и	Y	2.4		ш
	I _{OFF1}		5						2.7 V	2.0 V	и								5.5 V	W		50	μA "
			6					2.7 V		"	и								и	Y		50	
	I _{OFF2}		7						0.5 V		u								"	W		-50	"
			8					0.5 V		-									"	Y		-50	
	los	3011	9					ONE	GND	GND	"	5.5 V	5.5 V	5.5 V	GND				"	W Y	-40	-100 <u>1</u> /	mA "
		3011	10				5.5 V	GND		GND	"	GND	GND "	GND					"		-40	-100 <u>1</u> /	
	I _{IH1}	3010	11	2.7 V	0.7.1/					5.5 V	"	5.5 V		GND						D3		50	μA
			12		2.7 V	2.7 V					"		5.5.7	5.5 V						D2		"	"
			13			2.7 V	2.7 V				44		5.5 V 5.5 V	GND					"	D1 D0		"	u
			14 15				2.7 V			2.7 V	и		5.5 V	5.5 V					4			4	и
			16							2.7 V	44	2.7 V							44	ST C		66	ш
			17								и	2.7 V	2.7 V							В			
		"	18								"		2.7 V	2.7 V					"	A		"	u
		"	19							5.5 V	"	GND	GND	GND	2.7 V				"	D7		"	
		44	20							3.3 V	44	UND "	GND	5.5 V	2.7 V	2.7 V			44	D6		44	и
		"	21								u		5.5 V	GND			2.7 V		ш	D5		"	ш
		44	22								"		5.5 V	5.5 V				2.7 V	и	D4		ш	и
	I _{IH2}	"	23	5.5 V						"	"	5.5 V	GND	GND					и	D3		1.0	mA
	·IIIZ	"	24		5.5 V						"		GND	5.5 V					"	D2		"	"
		"	25			5.5 V					"		5.5 V	GND					и	D1		и	и
		"	26				5.5 V				44		5.5 V	5.5 V					и	D0		66	и
		"	27							"	44								44	ST		66	44
		"	28								u	5.5 V							ш	С		"	ш
			29								u		5.5 V						ш	В		"	"
		"	30								u			5.5 V					ш	Α		"	ш
		"	31							5.5 V	u	GND	GND	GND	5.5 V				ш	D7		"	ш
		"	32							"	"		GND	5.5 V		5.5 V			"	D6		"	"
		"	33							"	"		5.5 V	GND			5.5 V		"	D5		"	"
		"	34								"			5.5 V				5.5 V	ш	D4		"	"

TABLE III. Group A inspection for device type 05 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test	imits	
Subgroup	Symbol	STD-883 method	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		method	Test no.	D3	D2	D1	D0	Υ	W	ST	GND	С	В	Α	D7	D6	D5	D4	Vcc	terriiriai		Max	
1	IIL	3009	35	0.5 V						GND	GND	GND	5.5 V	5.5 V					5.5 V	D3	-1	-2	mA
T _C = +25°C		и	36		0.5 V					"	u	"	"	GND					"	D2		44	44
		ш	37			0.5 V					и	"	GND	5.5 V					u	D1		"	ш
		u 	38				0.5 V				u	"	GND	GND					ш	D0			"
			39							0.5 V	"	0.51/							"	ST			"
			40									0.5 V	0.5 V						"	С			
		и	41 42								4		0.5 V	0.5 V					и	B A		"	"
			42							GND	ш	5.5 V	5.5 V	0.5 V 5.5 V	0.5 V				"	D7		"	"
			44							"	u	3.5 V	5.5 V	GND	0.5 V	0.5 V			u	D6		44	"
			45								и		GND	5.5 V		0.0 ¥	0.5 V		"	D5		"	
			46								и	"	GND	GND				0.5 V	u	D4		"	"
	Icco	3005	47	5.5 V	5.5 V	5.5 V	5.5 V			5.5 V	и	"	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	и	V _{CC}		85	"
	ICEX		48						5.5 V		ш	и	5.5 V	5.5 V	GND				и	W		250	μA
	JEA.		49				5.5 V	5.5 V		GND	и	GND	GND	GND					ű	Υ		250	μA
	V _{IC}		50	-18 mA							и								4.5 V	D3		-1.2	V
			51		-18 mA						"								"	D2			
			52			-18 mA													"	D1			
			53				-18 mA			40.4									"	D0			
			54 55							-18 mA		-18 mA								ST			
			56								u	-10 IIIA	-18 mA							C B			,,
			57								"		-101111	-18 mA						A			
			58								ш			-101117	-18 mA					D7			
			59								u				10 112 1	-18 mA				D6			"
			60								"						-18 mA			D5			
			61								ш							-18 mA	"	D4			"
2	Same tes	sts, termin	al condition	ons, and I	imits as t	for subgr	oup 1, ex	cept T _C	= +125°C	and V _{IC}	tests are	e omitted	. V _{IL} = 0	.7 V, V _O	_{L(max)} = ().45 V.							
3	Same tes	sts, termin	al condition	ns, and I	imits as t	for subgr	oup 1, ex	cept T _C	= -55°C a	and V _{IC} to	ests are o	omitted.											
7	Truth	3014	62	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	B <u>2</u> /	L	Н	B <u>2</u> /	GND	B <u>2</u> /	B <u>2</u> /	B <u>2</u> /	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	A <u>2</u> /	4.5 V	<u>3</u> /	-		
T _C = +25°C	table		63	В	В	В	Α	Н	L		ш	"	. "	В	В	В	В	В	"	ш			
	test		64	A	A	В	A	L	H		u			A	A	A	A	A	"	u			
			65	В	В	A	В	H	L					A	В	В	В	В	"				
			66 67	A B	В	A B	A	L H	Н	_ <u>.</u>	u	l	Α "	В	A B	A	A B	A B	"				
			67 68	В	A A	A	В	H L	L H		ш			B A	В A	B A	A A	В A	"	ш			
			68 69	A A	В	В	A B	H	L		и			A	В	В	В	В	и	и			
			70	A	A	A	A	L	Н		ш	Α	В	В	A	A	A	В	"	ш			
			71	В	В	В	В	Н	L		и	"	"	В	В	В	В	A	и	u			
		"	72	A	A	A	A	L	H			"	"	A	A	A	В	A					
			73	В	В	В	В	Н	L			"	"	A	В	В	A	В					
		"	74	Α	Α	Α	Α	L	Н	"	"	"	Α	В	Α	В	Α	Α	"	"			
		"	75	В	В	В	В	Н	L	"	"	"	"	В	В	Α	В	В		"			
		"	76	Α	Α	Α	Α	L	Н	"	"	"	"	Α	В	Α	Α	Α	"	"			
		"	77	В	В	В	В	Н	L	"	"	"	"	Α	Α	В	В	В	"	**			

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TABLE III. Group A inspection for device type 05 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883 method		2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		metriou	Test no.	D3	D2	D1	D0	Υ	W	ST	GND	С	В	Α	D7	D6	D5	D4	V _{CC}	tomina		Widx	
8	Repeat	subgroup	7 at TC =	+125°C a	and -55°C	D.																	
9	t _{PHL1}	3003	78			2.7 V	GND		OUT	GND	GND	GND	GND	IN					5.0 V	W	2.0	15.5	ns
T _C = +25°C		Fig. 8	79		2.7 V		"		"		и	GND	IN	GND					"	"			"
		и	80				"		- "		и	IN	GND	GND				2.7 V	"	"	"	"	"
	t _{PLH1}		81		0.71/	2.7 V					и	GND	GND	IN					"			17.0	ш
		"	82		2.7 V							GND	IN GND	GND				0.71/					"
		и	83 84			2.7 V	-	OUT			и	IN GND	GND	GND IN				2.7 V	u	Y		21.5	и
	t _{PHL2}	ш	85		2.7 V	2.7 V		001			u	GND	IN	GND					"	Y "		21.5	и
		ш	86		2.7 V						и	IN	GND	GND				2.7 V	"				ш
	t _{PLH2}	и	87			2.7 V					и	GND	GND	IN					u			20.0	и
	IPLH2	ш	88		2.7 V						и	GND	IN	GND					"			u	ш
		"	89								и	IN	GND	GND				2.7 V	"				
	t _{PHL3}	и	90				IN		OUT	"	и	GND	GND	GND					u	W		9.0	и
	4 1125	"	91			IN			"		u		GND	2.7 V					"				
			92		IN				"	"	"	"	2.7 V	GND									"
			93	IN					"			"	2.7 V	2.7 V						"		"	"
		ш	94						"	"	u	2.7 V	GND	GND				IN	"				"
			95						"		и	"	GND	2.7 V			IN		"				"
			96										2.7 V	GND		IN						"	"
		"	97						"	"	- "		2.7 V	2.7 V	IN					"	"	"	"
	t _{PLH3}		98				IN				u	GND	GND	GND									
			99		INI	IN				"	"		GND	2.7 V									
			100 101	IN	IN					u	u		2.7 V 2.7 V	GND 2.7 V					u				
			101	IIN						и	и	2.7 V	GND	GND				IN	"	"			
			102							ш	ш	2.7 V	GND	2.7 V			IN		u				ш
			103							и	и		2.7 V	GND		IN	",		"				
			105							и	и		2.7 V	2.7 V	IN								
	t _{PHI 4}		106				IN	OUT		и	и	GND	GND	GND					"	Y		14.0	"
	YF11.4	"	107			IN		"		и	и	"	GND	2.7 V					"			"	"
		"	108		IN					и	и	"	2.7 V	GND					"	"		"	"
			109	IN				"		и	и		2.7 V	2.7 V					"	"			
		"	110					"		и	и	2.7 V	GND	GND				IN	"	"		"	"
			111							и	и	"	GND	2.7 V			IN		"				"
			112							u	"		2.7 V	GND		IN			"	"			
			113							ű	ű		2.7 V	2.7 V	IN				. "	и		"	"

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

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	imits	
Subgroup	Symbol	STD-883		2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured	Min	Max	Unit
		method	Test no.	D3	D2	D1	D0	Υ	W	ST	GND	С	В	А	D7	D6	D5	D4	V _{CC}	terminal	IVIIII	IVIAX	
9	t _{PLH4}	3003	114				IN	OUT		GND	GND	GND	GND	GND					5.0 V	Υ	2.0	14.0	ns
T _C = +25°C		Fig. 8	115			IN		"		44	u		GND	2.7 V					"	ш		"	"
		"	116		IN			"		44	u		2.7 V	GND					"	ш		"	"
		"	117	IN						ш	"	"	2.7 V	2.7 V					"	ш			"
			118							u	"	2.7 V	GND	GND				IN	"	ш			"
			119							u	"		GND	2.7 V			IN		"	ű			"
		"	120					"		и	ш		2.7 V	GND		IN			"	u		"	
		"	121					"		и	и	"	2.7 V	2.7 V	IN				"	и		"	"
	tzн	"	122				GND		OUT	IN	"	GND	GND	GND					"	W	"	19.5	"
	t _{ZL}	"	123				2.7 V		"	ш	"	ш	и	66					"	"		21	"
	t _{HZ}		124				GND		"	ш	"	ш	ш	66					"	"		21	
	t_{LZ}	"	125				2.7 V		"	и	"	и	и	ш					"	"		17	"
	tzн	"	126				2.7 V	OUT		и	"	u	и	и					"	Υ	-	19.5	"
	t _{ZL}	ш	127				GND	"		и	u	и	и	ш					"	ш	"	21	"
	t _{HZ}	"	128				2.7 V	"		и	"	и	и	и					"			21	"
	t _{LZ}		129				GND	"		и	"	и	и	и					"			17	
10	t _{PHL1}	и	130			2.7 V	GND		OUT	GND	u	GND	GND	IN					44	W		20	и
T _C = +125°C	11121		131		2.7 V						u	GND	IN	GND					"				и
		ш	132								"	IN	GND	GND				2.7 V	44			и	и
	t _{PLH1}	ш	133			2.7 V			"		u	GND	GND	IN					u	"		22	66
		"	134		2.7 V						"	GND	IN	GND					"			"	ш
			135						"		"	IN	GND	GND				2.7 V	"	"		"	
	t _{PHL2}	ш	136			2.7 V		OUT		и	ш	GND	GND	IN					44	Υ	и	28	ш
		44	137		2.7 V			"		u	"	GND	IN	GND					"	"		"	"
		"	138					"		и	u	IN	GND	GND				2.7 V	"	"		"	
	t _{PLH2}		139			2.7 V		"		и	u	GND	GND	IN					"	"		26	
		"	140		2.7 V			"		и	ш	GND	IN	GND					u	"		"	
		"	141				GND			u	"	IN	GND	GND				2.7 V	"	"		"	ш

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

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		method	Test no.	D3	D2	D1	D0	Υ	W	ST	GND	С	В	Α	D7	D6	D5	D4	Vcc	terriiriai	IVIIII	IVIAX	
10	t _{PHL3}	3003	142				IN		OUT	GND	GND	GND	GND	GND					5.0 V	W	2.0	11.5	ns
T _C = +125°C		Fig. 8	143			IN			"	и	и	"	GND	2.7 V					"	"	"	"	"
			144		IN					u	u	"	2.7 V	GND						"			"
			145	IN						u	u		2.7 V	2.7 V									
			146 147							"	u	2.7 V	GND GND	GND			IN	IN					
			147							и	и		2.7 V	2.7 V GND		IN	IIN						
			149							ш	ш		2.7 V	2.7 V	IN	114							
	t _{PLH3}	"	150				IN		"	и	"	GND	GND	GND					"	"	"	"	"
	4FLH3		151			IN				и	и		GND	2.7 V						ш			
			152		IN					и	и		2.7 V	GND						"			
		"	153	IN					"	и	и	"	2.7 V	2.7 V					"	ш	"	"	"
		"	154						"	и	и	2.7 V	GND	GND				IN	"	ш	"	"	"
			155							u	u		GND	2.7 V			IN			"			
			156							"	"		2.7 V	GND		IN							
			157 158				IN	OUT		ш	и	GND	2.7 V GND	2.7 V GND	IN					Y		18	"
	t _{PHL4}		159			IN	IIN	"		и	и	"	GND	2.7 V						ı "		"	
			160		IN								2.7 V	GND									
			161	IN						и			2.7 V	2.7 V									
			162							и		2.7 V	GND	GND				IN	"	"			"
		"	163							u			GND	2.7 V			IN		"	"			"
		"	164							и			2.7 V	GND		IN			"	"			"
	ļ	ш	165					"		и	и	"	2.7 V	2.7 V	IN				"	ш	"	"	"
	t _{PLH4}		166				IN			и	"	GND	GND	GND					"		"		
			167		18.1	IN							GND	2.7 V									"
			168 169	IN	IN						и		2.7 V 2.7 V	GND 2.7 V					u				ш
		44	170	1111							и	2.7 V	GND	GND				IN	ш				и
		ш	171								и	"	GND	2.7 V			IN		44				и
		66	172								и		2.7 V	GND		IN			ш				ш
		"	173							"	"		2.7 V	2.7 V	IN				"				"
	tz _{H1}	"	174				GND		OUT	IN	"	GND	GND	GND					"	W	"	25.5	"
	t _{ZL1}		175				2.7 V		"				"	"					"	"	"	27.5	"
	t _{HZ2}	"	176				GND		"					"					"	"	"	24	"
	t _{LZ2}	"	177				2.7 V		"	"	"	"	"	"					"	"	"	22	"
	t _{ZH3}	"	178				2.7 V	OUT		"	"	"	"	"					"	Υ	"	25.5	"

TABLE III. Group A inspection for device type 05 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol		X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		method	Test no.	D3	D2	D1	D0	Υ	W	ST	GND	С	В	Α	D7	D6	D5	D4	Vcc	terminai	IVIIII	IVIAX	
10	t _{ZL3}	3003 Fig. 8	179				GND	OUT		IN	GND	GND	GND	GND					5.0 V	Y	2.0	27.5	ns
T _C = +125°C	t _{HZ4}	"	180				2.7 V			и	и		•	"					и	"		24	•
	t _{LZ4}	"	181				GND			и	и	"	"	"					"	"	"	22	"
11	Same to	ests, termi	nal conditi	ions, and	l limits as	for subg	roup 10,	except To	c = -55°C	; .													

 $[\]underline{1}$ / For circuit B, $I_{OS(max)} = -110 \text{ mA}$.

- <u>2</u>/ 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.

TABLE III. Group A inspection for device type 06 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883	X, 2 <u>7</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured		١	Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	0E	V _{CC}	terminal	Min	Max	
1	V _{OH}	3006	1	2.0 V		2.0 V	-2 mA				GND							0.8 V	4.5 V	1Y	2.4		V
T _C = +25°C			2						2.0 V	-2 mA	u								u	2Y			"
		"	3								и	-2 mA	2.0 V						и	3Y			44
		"	4	"							u				-2 mA	2.0 V			44	4Y			44
	V _{OL}	3007	5	0.8 V	0.8 V		20 mA				и								ш	1Y		0.5	"
		"	6					0.8 V		20 mA	ш								и	2Y		и	ш
		"	7	"							и	20 mA		0.8 V					ш	3Y		44	"
		"	8	"							и				20 mA		0.8 V		и	4Y		и	и
	loff1		9	GND	GND		2.7 V				"							2.0 V	5.5 V	1Y		50	μA "
			10					GND		2.7 V	u								u	2Y		u	и
			11	"							и	2.7 V		GND					u	3Y		ш	и
			12								u				2.7 V		GND	-	"	4Y			"
	I _{OFF2}		13	5.5 V		5.5 V	0.5 V		5.5.7	0.51/									"	1Y		-50	"
			14						5.5 V	0.5 V	"	0.51/							u	2Y		44	44
			15 16								"	0.5 V	5.5 V		0.5.1/	V			u	3Y 4Y		44	44
	-		17	5.5 V		5.5 V	5.5 V				"				0.5 V	5.5 V						250	
	ICEX		18	5.5 V		5.5 V	5.5 V		5.5 V	5.5 V	и							GND "	"	1Y 2Y		250	44
			19						5.5 V	5.5 V	"	5.5 V	5.5 V						,,	3Y			
			20								и	3.5 V	3.5 V		5.5 V	5.5 V			"	4Y			
	I	3009	21	0.5 V							ш				3.5 V	3.5 V			и	S	-2.0 <u>8/</u>	-4.0 <u>8/</u>	mA
	I₁∟	"	22	GND							"							0.5 V	u	0E	-1.0 <u>9/</u>	-2.0 <u>9/</u>	"
		и	23	GND	0.5 V						и							0.0 1	и	1A	".0 <u>07</u>	2.0 <u>01</u>	44
		u	24	5.5 V	0.0 1	0.5 V					"								"	1B	"	"	**
		u	25	GND		0.0 1		0.5 V			"								"	2A	"	"	**
		и	26	5.5 V					0.5 V		"								"	2B	"	"	"
		и	27	5.5 V							"		0.5 V						u	3B	u	и	ш
		и	28	GND							u			0.5 V					и	3A	ш	ш	44
			29	5.5 V							"					0.5 V			"	4B			
		ш	30	GND							u						0.5 V		u	4A			ш
	I _{IH1}	3010	31	2.7 V							ш								и	S		100	μA
	""	и	32	5.5 V							"							2.7 V	ш	0E		50	и
		и	33	5.5 V	2.7 V						"								"	1A		66	44
		и	34	GND		2.7 V					"								ш	1B		66	44
		ш	35	5.5 V				2.7 V			и								и	2A		66	44
		и	36	GND					2.7 V		и								и	2B		ш	44
		ш	37	GND							и		2.7 V						ш	3B		66	ш
		ш	38	5.5 V							и			2.7 V					ш	3A		66	44
		u	39	GND							"					2.7 V			"	4B			"
	<u> </u>	ш	40	5.5 V			<u> </u>		<u> </u>	<u> </u>	u						2.7 V		ш	4A		44	ш

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TABLE III. Group A inspection for device type 06 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test I	imits	1
Subgroup	Symbol	STD-883	X, 2 <u>7</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured	Min	Max	Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	0E	V _{CC}	terminal	IVIII	IVIAX	İ
1	I _{IH2}	3010	41	5.5 V							GND								5.5 V	S		1.0	mA
T _C = +25°C		ш	42	5.5 V							"							5.5 V	ш	0E		и	и
		"	43	5.5 V	5.5 V						u								"	1A		44	u
		"	44	GND		5.5 V					"								66	1B		и	
		"	45	5.5 V				5.5 V			"								66	2A		и	"
		"	46	GND					5.5 V		"								ш	2B		"	
		"	47	GND							44		5.5 V						44	3B		44	"
		"	48	5.5 V							44			5.5 V					"	3A		u	"
		"	49	GND							и					5.5 V			ш	4B		"	и
		"	50	5.5 V							"						5.5 V		"	4A		"	"
	los	3011	51	и		5.5 V	GND				44							GND	66	1Y	-40	-100 <u>1</u> /	и
		"	52						5.5 V	GND	и								"	2Y	•	"	u
			53	,,							"	GND	5.5 V							3Y			u
		2005	54 55	"	GND	551/		OND			u		5.5.1	GND	GND	5.5 V 5.5 V	GND	-	"	4Y		68	
	Іссн	3005			ļ	5.5 V		GND	5.5 V		и		5.5 V						44	V _{CC}			ш
	ICCL	"	56	GND GND	GND	GND GND		GND GND	GND GND		u		GND	GND GND		GND GND	GND GND	5.5 V	ű	V _{CC}		93	,
	Icco	-	57		GND	GND		GND	GND		и		GND	GND		GND	GND	5.5 V		V _{CC}		99	
	VIC		58 59	-18 mA	-18 mA														4.5 V	S		-1.2	V "
			60		-10 IIIA	-18 mA					"								"	1A 1B		"	ш
			61			-10 IIIA		-18 mA			44								"	2A		и	
			62					-10111	-18 mA		"								ш	2B		и	ш
			63						10 115 ("		-18 mA						ш	3B			и
			64								u		101117	-18 mA					44	3A		ш	и
			65								ш					-18 mA			44	4B		и	"
			66								и						-18 mA		44	4A		ш	"
			67								"							-18 mA	"	0E		"	"
2	Same tes	sts termin	al condition	ns and I	imits as f	for subar	oup 1 ex	cent To :	= +125°C	and Vic	tests are	omitted	V11 = 0) 7 V Voi	(may) =	0 45 V	ı		1	1	1		
													. VIL - C	v, voi	L(IIIax)	J. 10 V.							
3	Same tes	sts, termin	al condition	ns, and I	imits as f	ror subgro	oup 1, ex	cept I _C :	= -55°C a	ind V _{IC} to	ests are c	mitted.											

TABLE III. Group A inspection for device type 06 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol		X, 2 <u>7</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	0E	V _{CC}	terminal	Min	Max	
7	Truth	3014	68	A <u>2</u> /	A <u>2</u> /	B <u>2</u> /	L				GND							B <u>2</u> /	4.5 V	See <u>3</u> /		•	
T _C = +25°C	table		69	Α	В	Α	Н				44							"	ш	"			
	test	и	70	В	В	Α	L				66							44	44	"			
		ш	71	В	Α	В	Н				44							"	"	u			
		и	72	Α				Α	В	L	44							44	44	и			
		и	73	Α				В	Α	Н	44							44	44	и			
		ш	74	В				В	Α	L	44							"	"	u			
		и	75	В				Α	В	н	"							44	44	"			
		и	76	Α							44	L	В	Α				44	44	и			
			77	Α							"	Н	Α	В				44	44	"			
		и	78	В							44	L	Α	В				44	44	и			
			79	В							и	Н	В	Α				ш	44	"			
		и	80	Α							44				L	В	Α	44	44	и			
		и	81	Α							и				н	Α	В	ш	44	"			
		и	82	В							и				L	Α	В	ш	44	"			
		ш	83	В							44				н	В	Α	44	"	"			
8	Same to	ests, termi	nal conditi	ons, and	limits as	for subg	roup 7, e	xcept TC	= +125°(2 and -55	°C.				•		•						
9	t _{PHL1}	3003	84	IN	GND	2.7 V	OUT				GND							GND	5.0 V	1Y	2.0	17	ns
T _C = +25°C		Fig. 9	85					GND	2.7 V	OUT	"								44	2Y			u
			86								и	OUT	2.7 V	GND					44	3Y		"	и
			87								u				OUT	2.7 V	GND	"	ш	4Y		"	ш
	t _{PLH1}		88	IN	GND	2.7 V	OUT				ш							"	44	1Y	ш	"	"
		"	89					GND	2.7 V	OUT	66								"	2Y	"	ш	u
			90	"							ш	OUT	2.7 V	GND				"	44	3Y	и	ш	"
		"	91								66				OUT	2.7 V	GND	"	44	4Y	"	ш	æ

TABLE III. Group A inspection for device type 06 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883	X, 2 <u>7</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	0E	V _{CC}	terminal	Min	Max	
9	t _{PHL2}	3003	92	GND	IN	GND	OUT				GND							GND	5.0 V	1Y	2.0	8.0	ns
T _C = +25°C		Fig. 9	93					IN	GND	OUT	ш								"	2Y	"	"	u
			94								ш	OUT	GND	IN					"	3Y	"	"	u
		"	95								44				OUT	GND	IN		и	4Y	"	"	и
•	t _{PLH2}	"	96		IN	GND	OUT				u							"	и	1Y	"	9.0	и
		"	97	"				IN	GND	OUT	44								и	2Y	44	66	и
		"	98	"							66	OUT	GND	IN				"	u	3Y	и	"	и
		"	99	"							u				OUT	GND	IN	"	и	4Y	ű	и	и
	t_{ZH}	"	100	2.7 V		2.7 V	OUT				и							IN		1Y	ш	21.5	"
		"	101	"					2.7 V	OUT	44							"	44	2Y	44		ш
		"	102	"							и	OUT	2.7 V					"	"	3Y	"	"	"
,		"	103	"							ű				OUT	2.7 V		"	u	4Y	"	"	и
	tzL	"	104	GND "	GND		OUT				и							"	u	1Y	"	23	" "
			105					GND		OUT	и								и	2Y	ш	"	и
			106								"	OUT		GND					"	3Y	"	"	u
		u	107			0.71/	OUT				"				OUT		GND	"		4Y	"		и
	t _{HZ} <u>5</u> /	ш	108 109	2.7 V		2.7 V	OUT		2.7 V	OUT	"									1Y 2Y	"	11.5	и
		ш	110						2.7 V	001	ш	OUT	2.7 V						"		"	"	ш
		ш	111								44	001	2.7 V		OUT	2.7 V			44	3Y 4Y	"	"	и
	t _{LZ}		112	GND	GND		OUT				44				001	2.7 V			и	1Y	и	17	
	LZ	ш	113	"	OND		001	GND		OUT	ш								"	2Y	"	"	и
			114					OND		001	44	OUT		GND					и	3Y	"		
		ш	115								и				OUT		GND	"	"	4Y	u		и
10	t _{PHL1}	ш	116	IN	GND	2.7 V	OUT				u						-	GND	"	1Y	"	22	и
T _C = +125°C	TILI	ш	117	"				GND	2.7 V	OUT	u							"	ш	2Y	u	и	и
		ш	118	"							и	OUT	2.7 V	GND				"	"	3Y	u	ш	и
		ш	119								"				OUT	2.7 V	GND		ш	4Y	"	"	и
	t _{PLH1}	ш	120	"	GND	2.7 V	OUT				и							"	u	1Y	ű	и	и
		"	121	"				GND	2.7 V	OUT	и							"	и	2Y	u	"	и
		ш	122	"							ш	OUT	2.7 V	GND				"	44	3Y	u	"	
		"	123								"				OUT	2.7 V	GND	"		4Y	ű	"	

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TABLE III. Group A inspection for device type 06 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test I	imits	
Subgroup	Symbol	STD-883	X, 2 <u>7</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	0E	V _{CC}	terminal	Min	Max	
10	t _{PHL2}	3003	124	GND	IN	GND	OUT				GND							GND	5.0 V	1Y	2.0	11	ns
T _C = +125°C		Fig. 9	125	"				IN	GND	OUT	"								ш	2Y		"	u
		"	126								44	OUT	GND	IN					44	3Y			"
ļ		"	127								44				OUT	GND	IN		44	4Y		"	ш
	t _{PLH2}	"	128	"	IN	GND	OUT				ш								и	1Y	и	12	"
			129					IN	GND	OUT	"								ш	2Y	u	"	и
		"	130	"							"	OUT	GND	IN					ш	3Y	ш	u	"
			131								"				OUT	GND	IN		ш	4Y	u	"	и
i	t _{ZH}	"	132	2.7 V		2.7 V	OUT				и							IN	"	1Y	и	28	
			133						2.7 V	OUT	"								ш	2Y	u	"	и
			134								"	OUT	2.7 V						и	3Y	"	и	и
			135								"				OUT	2.7 V			и	4Y	"	и	"
İ	tzL	"	136	GND	GND		OUT				"								и	1Y	u	30	"
			137					GND		OUT	44								u	2Y	и	44	ш
			138								"	OUT		GND					и	3Y	u	и	и
			139								"				OUT		GND		и	4Y	u	и	и
	t _{HZ} 6/	"	140	2.7 V		2.7 V	OUT				"								"	1Y	u	15	"
		"	141						2.7 V	OUT	44								u	2Y	и	"	и
		"	142								44	OUT	2.7 V						"	3Y	и	"	"
ļ		"	143	"							44				OUT	2.7 V		IN	44	4Y	и	"	ee
	t _{LZ}	"	144	GND	GND		OUT				ш							"	и	1Y	и	22	"
1		ш	145					GND		OUT	u							"	и	2Y	и	"	и
1		и	146								44	OUT		GND					и	3Y	и	ш	и
		и	147								u				OUT		GND		а	4Y	и	и	ш
11	Same to	ests, termi	nal conditi	ions, and	limits as	for subg	roup 10,	except To	c = -55°C	;.												-	

- $\underline{1}$ / For circuit B, $I_{OS(max)} = -110$ mA.
- <u>2</u>/ A = 2.4 V; B = 0.4 V.
- 3/ H \geq 1.5 V; L \leq 1.5 V.
- 4/ Only a summary of attributes is required.
- $\underline{5}/$ t_{HZ} maximum limit for circuit C is 22 ns.
- $\underline{6}/$ t_{HZ} maximum limit for circuit C is 24 ns.
- 7/ Case 2 pins not designated are NC.
- $\underline{8}/~~l_{\rm IL}$ limits for circuit B shall be -0.005 mA min / -0.1 mA max.
- $\underline{9}/~~I_{IL}$ limits for circuit B shall be -0.005 mA min / -0.05 mA max.

TABLE III. Group A inspection for 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	6	7	8	9	10	11	12	13	14	15	16		Test	imits	
Subgroup	Symbol	STD-883 method	X, 2 <u>7</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		metriou	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	0E	V _{CC}	terriiriai		· · · · · ·	
1	VoH	3006	1	2.0 V		0.8 V	-2.0 mA				GND							0.8 V	4.5 V	1Y	2.4		V
T _C = +25°C			2	"					0.8 V	-2.0 mA	u								"	2Y			"
			3 4	,,							"	-2.0 mA	0.8 V		-2.0 mA	0.8 V			"	3Y 4Y			
	V _{OL}	3007	5	0.8 V	2.0 V		20 mA				44				-2.0 IIIA	U.6 V			u	1Y		0.5	
	VOL	"	6	0.0 V	2.0 V		20 11174	2.0 V		20 mA	ш								ш	2Y		"	"
			7	"						20 1117 (ш	20 mA		2.0 V					ш	3Y		64	
			8	"							ш				20 mA		2.0 V		"	4Y		66	ш
	I _{OFF1}		9	GND	5.5 V		2.7 V				и							2.0 V	5.5 V	1Y		50	μΑ
			10	"				5.5 V		2.7 V	и								и	2Y		ш	44
			11	"							u	2.7 V		5.5 V				"	"	3Y		и	ш
			12 13			GND	0.5 V				"				2.7 V		5.5 V	- "	"	4Y			"
	loff2		14	5.5 V		GND	0.5 V		GND	0.5 V	44								"	1Y 2Y		-50 "	"
			15						GIVD	0.5 V	ш	0.5 V	GND						и	3Y		ш	"
			16								44	0.0 1	0.15		0.5 V	GND			"	4Y		и	"
	I _{CEX}		17	5.5 V		GND	5.5 V				ш							GND	"	1Y		250	"
			18	"					GND	5.5 V	44								"	2Y			"
			19	"							ш	5.5 V	GND					"	"	3Y			"
			20	"							u				5.5 V	GND		"	"	4Y		"	"
	Iμ	3009	21 22	0.5 V GND							"							0.5 V	"	S 0E	-2.0 -1.0	-4.0 -2.0	mA "
		ш	23	GND	0.5 V						и							0.5 V	и	1A	-1.0	-2.0	ш
		"	24	5.5 V	0.0 1	0.5 V					ш								"	1B	и	ш	"
		"	25	GND				0.5 V			44								"	2A	"	и	"
		"	26	5.5 V					0.5 V		"								u	2B	u	ш	ш
		ш	27	5.5 V							и		0.5 V						44	3B	и	ш	ш
		"	28	GND							ш			0.5 V					ш	3A	и	ш	"
			29	5.5 V							и					0.5 V	0.511		"	4B			"
	<u> </u>		30 31	GND 2.7 V							u			1			0.5 V		"	4A S		100	
	l _{IH1}	3010	31 32	2.7 V 5.5 V							"							2.7 V	"	S 0E		100 50	μA "
		"	33	5.5 V	2.7 V						44							Z., v	"	1A		"	"
		ш	34	GND		2.7 V					"								44	1B		ш	44
		"	35	5.5 V				2.7 V			44								"	2A		ee	"
		"	36	GND					2.7 V		"								"	2B		44	ш
		"	37	GND							44		2.7 V						"	3B		66	"
		"	38	5.5 V							ш			2.7 V					ш	3A		ш	"
		"	39	GND							"					2.7 V			"	4B		"	"
			40	5.5 V													2.7 V			4A			

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

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883	X, 2 <u>7</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured	Min		Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	0E	V _{CC}	terminal	Min	Max	
1	I _{IH2}	3010	41	5.5 V							GND								5.5 V	S		1.0	mA
T _C = +25°C		"	42	5.5 V							"							5.5 V	u	0E		"	"
			43	5.5 V	5.5 V						"								и	1A		"	ш
			44	GND		5.5 V													"	1B		4	
			45	5.5 V				5.5 V			"								"	2A			
			46	GND					5.5 V		"									2B			
			47	GND							"		5.5 V	5.5 V					"	3B 3A			
			48 49	5.5 V GND							ш			5.5 V		5.5 V			и	3A 4B			ш
			50	5.5 V												3.5 V	5.5 V			4A			
ŀ	Ios	3011	51	5.5 V		GND	GND				"						0.0 1	GND	и	1Y	-40	-100 <u>1</u> /	и
	105		52	"					GND	GND	ш							"	ш	2Y		"	ш
			53								"	GND	GND						u	3Y			"
			54	29							ш				GND	GND			ű	4Y			"
	I _{CCH}	3005	55	GND	GND	GND		GND	GND		ш		GND	GND		GND	GND		и	V _{CC}		56	
	I _{CCL}		56	5.5 V	GND	5.5 V		GND	5.5 V		и		5.5 V	GND		5.5 V	GND	"	и	V _{CC}		81	"
	Icco		57	GND	GND	GND		GND	GND		и		GND	GND		GND	GND	5.5 V	и	V _{CC}		87	"
Ì	V _{IC}		58	-18 mA							и								4.5 V	S		-1.2	V
	.0		59		-18 mA						"									1A			
			60			-18 mA					44								u	1B		66	"
			61					-18 mA			"								u	2A		"	"
			62						-18 mA		"								и	2B		66	"
			63								"		-18 mA						u	3B		"	ш
			64								"			-18 mA					"	3A			
			65								"					-18 mA	40.4			4B			
			66 67														-18 mA	-18 mA		4A			
								l						l		l	l	-10 IIIA		0E			
2	Same tes	sts, termin	al conditio	ns, and I	imits as f	or subgro	oup 1, ex	cept T _C :	= +125°C	and V _{IC}	tests are	omitted	. V _{IL} = 0).7 V, V _O	L(max) =	0.45 V.							
3	Same tes	sts, termin	al conditio	ns, and I	imits as f	or subgro	oup 1, ex	cept T _C :	= -55°C a	ind V _{IC} te	ests are c	mitted.											

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

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883		2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
	.,	method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	0E	V _{CC}	terminal	Min	Max	
7 <u>4</u> /	Truth	3014	68	A <u>2</u> /	A <u>2</u> /	B <u>2</u> /	Н	2,,	20		GND	- 01	0.5	0,1		75	47.0	B <u>2</u> /	4.5 V	See <u>3</u> /			
T _C = +25°C	table	"	69	A 2	В	A	L				"							" <u>"</u>	"	"			
10 - 125 0	test	и	70	В	В	A	Н				u							44	u	u			
		u	71	В	Α	В	L				и							"	"	ш			
		и	72	Α				Α	В	Н	и							44	и	и			
		и	73	Α				В	Α	L	и							"	ű	"			
		u	74	В				В	Α	Н	u							ш	u	ш			
		и	75	В				Α	В	L	и							44	u	"			
		и	76	Α							ш	Н	В	Α				"	u	ee			
		"	77	Α							и	L	Α	В				"	u	"			
		и	78	В							и	Н	Α	В				44	u	u			
		"	79	В							ш	L	В	Α				"	и	ш			
		u	80	Α							и				Н	В	Α	"	u	u			
		и	81	Α							и				L	Α	В	"	и	ш			
		u u	82	В											Н	A	В	"					
			83	В											L	В	Α	"		"			
8 <u>4</u> /	Same to		nal conditi					xcept T _C	= +125°(C and T _C			1	1		1	1	1		T	1	1	1
9	t _{PHL1}	3003	84	IN "	GND	2.7 V	OUT				GND "							GND	5.0 V	1Y	2.0	14	ns "
T _C = +25°C		Fig. 10	85					GND	2.7 V	OUT										2Y			
			86									OUT	2.7 V	GND	OUT	071/				3Y			
			87	"	OND	071/	OUT								OUT	2.7 V	GND	- "		4Y		- "	
	t _{PLH1}		88 89		GND	2.7 V	OUT	GND	2.7 V	OUT										1Y 2Y			
			90					GND	2.7 V	001		OUT	2.7 V	GND						3Y			
		"	90								и	001	2.7 V	GND	OUT	2.7 V	GND			4Y			
}	tour	и	92	GND	IN	GND	OUT				и				001	Z.1 V	GIND	и	и	1Y	и	8.0	и
	tPHL2	и	93	"	",	0.10		IN	GND	OUT	ш								u	2Y		"	и
			94					"'	3.15		и	OUT	GND	IN					"	3Y			"
			95								и				OUT	GND	IN		и	4Y			"
	tPLH2	"	96	и	IN	GND	OUT				и							"	и	1Y	и	"	"
	N LIIZ		97					IN	GND	OUT	и								u	2Y	и	"	ш
		"	98								и	OUT	GND	IN				"	и	3Y	"	"	"
		"	99								ш				OUT	GND	IN		ű	4Y	u	"	и

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

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	limits	
Subgroup	Symbol	STD-883	X, 2 <u>7</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Min	Max	Unit
		method	Test no.	s	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	0E	V _{CC}	terriiriai	IVIIII	IVIGA	
9	tzн	3003	100	2.7 V		GND	OUT				GND							IN	5.0 V	1Y	2.0	21.5	ns
T _C = +25°C		Fig. 10	101	"					GND	OUT	и							"	"	2Y	u	"	"
		"	102	"							ш	OUT	GND					"	и	3Y	и	44	"
		"	103	"							ш				OUT	GND		"	"	4Y	и	и	и
	t _{ZL}	"	104	GND "	2.7 V		OUT				u								u	1Y	и	23	ш
			105					2.7 V		OUT		OUT		0.71/						2Y	"		"
			106								u	OUT		2.7 V	OUT		271/			3Y 4Y	и		"
	.		107 108	2.7 V		GND	OUT				и				001		2.7 V	и		1Y	и	11.5	,,
	t _{HZ} <u>5</u> /		109	2.7 V		GND	001		GND	OUT	и								"	2Y	и	"	44
			110						OND	001	ш	OUT	GND							3Y	ш		
			111								и				OUT	GND			u	4Y	и		64
	t _{LZ}	"	112	GND	2.7 V		OUT				ш							"	и	1Y	и	17	"
	LL	44	113					2.7 V		OUT	и								u	2Y	и		66
		ш	114	"							es	OUT		2.7 V				"	ш	3Y	44	66	"
		ш	115								и				OUT		2.7 V		"	4Y	и	и	44
10	t _{PHL1}	ш	116	IN	GND	2.7 V	OUT				ш							GND	и	1Y	ш	18.5	ш
T _C = +125°C		44	117	"				GND	2.7 V	OUT	ш								ш	2Y	и	44	"
		44	118	"							es	OUT	2.7 V	GND				"	"	3Y	44	66	"
		ш	119	"							ee				OUT	2.7 V	GND	"	и	4Y	ш	и	и
	tPLH1	"	120	"	GND	2.7 V	OUT	ONE	0.71/	OUT	и								"	1Y	u		"
			121 122					GND	2.7 V	OUT	и	OUT	2.7 V	GND						2Y	"		
		ш	123								44	001	2.7 V	GND	OUT	2.7 V	GND		и	3Y 4Y	44		"
	toure	ш	124	GND	IN	GND	OUT				и				001	2.7 V	GIND	66	"	1Y	и	10	"
	tPHL2	"	125	"		OND	001	IN	GND	OUT	и								"	2Y	и	"	"
		44	126								44	OUT	GND	IN					и	3Y	44	66	"
		44	127								ш				OUT	GND	IN		u	4Y	ш	66	"
	t _{PLH2}	ш	128	"	IN	GND	OUT				и								и	1Y	и	ш	66
		66	129					IN	GND	OUT	ш								"	2Y	u	"	"
		ш	130								и	OUT	GND	IN				•	"	3Y	и	"	"
		"	131	"							"				OUT	GND	IN		"	4Y	ee	"	"
	t _{ZH}	ш	132	2.7 V		GND	OUT				и							IN	"	1Y	и	28	"
		44	133	66					GND		es							44	ш	2Y	44	и	ш
		"	134	ш							u	OUT	GND					44	"	3Y	u	u	"
		"	135	и							ű				OUT	GND		и	"	4Y	ď	и	

TABLE III. Group A inspection for device type 07 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test I	imits	
Subgroup	Symbol	STD-883	X, 2 <u>7</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured	1.47		Unit
		method	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	0E	V _{CC}	terminal	Min	Max	
10	tzL	3003	136	GND	2.7 V		OUT				GND							IN	5.0 V	1Y	2.0	30	ns
T _C = +125°C		Fig. 10	137					2.7 V		OUT	"								"	2Y	"	"	"
		"	138								44	OUT		2.7 V					"	3Y	"	**	"
		"	139	"							u				OUT		2.7 V		ш	4Y	u	ш	"
	t _{HZ} 6/	"	140	2.7 V		GND	OUT				ш								"	1Y	"	15	"
			141						GND	OUT	"								"	2Y	"		"
		"	142								"	OUT	GND							3Y	u		"
			143	"							u				OUT	GND		u	"	4Y	u	"	44
	t _{LZ}	"	144	GND	2.7 V		OUT				"								u	1Y	ш	22	
		и	145					2.7 V		OUT	"								"	2Y	"		"
		ш	146								"	OUT		2.7 V					ш	3Y	"	"	"
		ш	147								"				OUT		2.7 V		es	4Y	"	ш	ш
11	Same to	ests, termi	nal conditi	ons, and	limits as	for subg	roup 10,	except To	c = -55°C	; .													

- $\underline{1}$ / For circuit B, $I_{OS(max)} = -110 \text{ mA}$.
- <u>2</u>/ 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.
- $\underline{5}/~~t_{\text{HZ}}$ maximum limit for circuit C is 22 ns.
- $\underline{6}/$ t_{HZ} maximum limit for circuit C is 24 ns.
- 7/ Case 2 pins not designated are NC.

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

1 T _C = +25°C	VoH VoL loff1 loff2 Vic	3006 3006 3007 3007	X, 2 5/ Test no. 1 2 3 4 5 6 7 8 9 10 11 12	2 1G 0.8 V 0.8 V 2.0 V	3 B 0.8 V "	4 1C3	5 1C2	7 1C1	8 1C0 2.0 V 0.8 V	9 1Y -1 mA 20 mA	GND GND	12 2Y -1 mA	13 2C0 2.0 V	14 2C1	15 2C2	17 2C3	18 A 0.8 V	19 2G 0.8 V	20 V _{CC} 4.5 V	Measured terminal 1Y 2Y	Min 2.4 2.4	Max 0.5	Unit V
T _C = +25°C	V _{OL}	3006 3007	1 2 3 4 5 6 7 8 9 10	0.8 V 0.8 V 2.0 V	0.8 V "	1C3	102	101	2.0 V	-1 mA 20 mA	GND "			2C1	2C2	2C3				2Y		0.5	ш
T _C = +25°C	V _{OL}	3006 3007	2 3 4 5 6 7 8 9 10	0.8 V 2.0 V	а					20 mA	и	-1 mA	2.0 V				0.8 V "	0.8 V	4.5 V "	2Y		0.5	ш
I ₁	I _{OFF2}	3007	3 4 5 6 7 8 9 10	2.0 V	a				0.8 V			-1 mA	2.0 V					0.8 V			2.4	0.5	
I ₀	I _{OFF2}		4 5 6 7 8 9 10 11	2.0 V	a				0.6 V								u		ш	437			
I,	I _{OFF2}	3007	5 6 7 8 9 10 11									20 mA	0.8 V				"	0.8 V	"	1Y 2Y		0.5	и
I,	I _{OFF2}		6 7 8 9 10 11							2.7 V	ш	2011174	0.0 V					0.0 V	5.5 V	1Y		50	μA
			8 9 10 11	2.0 V						2.7 4	ш	2.7 V						2.0 V	"	2Y		50	,
			9 10 11							0.5 V	и								ш	1Y		-50	"
	V _{IC}		10 11								"	0.5 V						2.0 V	ű	2Y		-50	66
			11								"						-18 mA		4.5 V	Α		-1.2	V
					-18 mA						"								и	В		"	u
								40. 4	-18 mA		"								"	1C0			"
							40 4	-18 mA											"	1C1		"	
			13 14			-18 mA	-18 mA				"								"	1C2 1C3		"	ш
			15	10 m/		-10 IIIA					44								44			"	и
			16	-18 mA							44		-18 mA						44	1G 2C0		"	и
			17								44		-10 IIIA	-18 mA					44	2C0 2C1		"	и
			17								44			-10 IIIA	-18 mA				44	2C1 2C2		"	и
			19								"				-10 IIIA	-18 mA			"			"	
			20								"					-10 IIIA		-18 mA	u	2C3 2G		"	и
	I _{IL}	3009	21								и						0.5 V	10 110 1	5.5 V	A	-1.0	-2.0	mA
	'IL	ш	22		0.5 V						"								"	В	u	u	и
		"	23	0.5 V							"								"	1G	"	u	и
		ш	24								"							0.5 V	"	2G	"	"	и
		ш	25	GND	GND				0.5 V		и						GND		44	1C0	"	"	и
		"	26		GND			0.5 V			"						5.5 V		"	1C1	"	u	и
		"	27		5.5 V		0.5 V				"						GND		"	1C2	"	"	и
		u	28	"	5.5 V	0.5 V					"						5.5 V		"	1C3	"	"	и
		u	29		GND						"		0.5 V				GND	GND	44	2C0	"	"	"
		"	30		GND						"			0.5 V			5.5 V	"	"	2C1	"	u	"
		u	31		5.5 V						"				0.5 V		GND	"	"	2C2	"	"	"
		66	32		5.5 V						и					0.5 V	5.5 V	"	ш	2C3	и	и	и
	I _{IH1}	3010	33								u						2.7 V		"	Α		50	μA
		"	34		2.7 V						4								"	В		u	u
			35	2.7 V							"								"	1G			"
		"	36						0 = : :		4							2.7 V	"	2G		u	u
		"	37	5.5 V	5.5 V			0.71/	2.7 V		u						5.5 V		"	1C0		"	u
		"	38	"	5.5 V		0.71/	2.7 V			"						GND		"	1C1			
		"	39	"	GND	071/	2.7 V				"						5.5 V		"	1C2			
			40	_	GND	2.7 V					"		0.714				GND	F F \ /	"	1C3			
			41		5.5 V						"		2.7 V	0.71/			5.5 V	5.5 V	"	2C0			"
			42		5.5 V									2.7 V	271/		GND			2C1		"	44
			43 44		GND GND										2.7 V	2.7 V	5.5 V GND		"	2C2 2C3		"	

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

		MIL-	Cases E.F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test	imits	
Subgroup	Symbol	STD-883		2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	Α	2G	V _{CC}	terminal	Min	Max	
1	I _{IH2}	3010	45								GND						5.5 V		5.5 V	Α		1.0	mA
T _C = +25°C			46		5.5 V						"								ш	В		ш	и
			47	5.5 V							44								44	1G		44	и
			48								44							5.5 V	44	2G		44	
		"	49	5.5 V	5.5 V				5.5 V		"						5.5 V		"	1C0		ш	
		ш	50		5.5 V			5.5 V			"						GND		"	1C1		ш	
		и	51		GND		5.5 V				"						5.5 V		и	1C2		ш	ш
		ш	52		GND	5.5 V					44						GND		44	1C3		44	и
			53		5.5 V						"		5.5 V				5.5 V	5.5 V	u	2C0		ш	и
	I _{IH2}	ш	54		5.5 V						44			5.5 V			GND	ш	"	2C1		1.0	mA
		"	55		GND						44				5.5 V		5.5 V		ш	2C2		"	и
		"	56								"					5.5 V	GND		и	2C3		"	и
	los	3011	57	GND					5.5 V	GND	44							GND	u	1Y	-40	-100 <u>4</u> /	и
		"	58	GND	"						u	GND	5.5 V				"	GND	и	2Y	-40	-100 <u>4</u> /	"
	I _{CC0}	3005	59	5.5 V		GND	GND	GND	GND		ш		GND	GND	GND	GND	"	5.5 V	"	Vcc		100	и
	Icc1	3005	60	GND	"	GND	GND	GND	GND		ш		GND	GND	GND	GND	"	GND	"	V _{CC}		80	и
	I _{CEX}		61	GND					5.5 V	5.5 V	u								"	1Y		250	μA
			62									5.5 V	5.5 V					GND	ű	2Y		250	
2	Same tes	sts, termin	al condition	ns, and I	imits as f	for subgr	oup 1, ex	cept T _C :	= +125°C	and V _{IC}	tests are	omitted	$V_{IL} = 0$).7 V, V _{OI}	L(max) =	0.45 V.							
3	Same tes	sts, termin	al condition	ns, and I	imits as f	for subgr	oup 1, ex	cept T _C :	= -55°C a	and V _{IC} to	ests are o	mitted.											
7 <u>3</u> /	Truth	3014	63	B <u>1</u> /	B <u>1/</u>	A <u>1</u> /	A <u>1</u> /	A <u>1</u> /	B <u>1</u> /	L	GND	L	B <u>1</u> /	A <u>1</u> /	A <u>1</u> /	A <u>1</u> /	В	B <u>1</u> /	4.5 V	See <u>2</u> /			
T _C = +25°C	table		64	ш		В	В	В	Α	Н	44	Н	Α	В	В	В	В	и	"	"			
	test	"	65			Α	Α	В	и	L	44	L	Α	В	Α	Α	Α		"	"			
		"	66			В	В	Α	u	Н	и	Н	В	Α	В	В	Α	"	"	"			
		"	67	"	Α	Α	В	Α	u	L	"	L	Α	Α	В	Α	В	"		"			ļ
		"	68	"	"	В	Α	В	В	Н	u	Н	В	В	Α	В	В	"	"	"			
		"	69	"	"	В	Α	Α	Α	L	u	L	Α	Α	Α	В	Α	"	"	"			
		ш	70	"	"	Α	В	В	В	Н	ш	Н	В	В	В	Α	Α	"	"	"			
8	Same to	ests, termi	inal condit	ions, and	limits as	for subg	roup 7, e	xcept T _C	= +125°	C and To	; = -55°C												

		MIL-	Cases E,F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Test I	imits	
Subgroup	Symbol	STD-883	X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	Α	2G	V _{CC}	terminal	Min	Max	
9	t _{PHL1}	3003	71	GND	GND				IN	OUT	GND						GND		5.0 V	1Y	2.0	11.0	ns
T _C = +25°C		Fig. 10	72		GND			IN			"						2.7 V		"	"	и	и	ш
		"	73		2.7 V		IN				"						GND		"		и	и	ш
		"	74		2.7 V	IN					"						2.7 V		"	"	и	и	ш
		"	75		GND						"	OUT	IN				GND	GND	и	2Y	ш	u	u
		ш	76		GND						"			IN			2.7 V		"	"	u	"	и
		"	77		2.7 V						"				IN		GND		и	"	ш	u	u
		"	78		2.7 V						"					IN	2.7 V		и	"	ш	u	u
	t _{PLH1}	"	79	GND	GND				IN	OUT	44						GND		и	1Y	и		"
		"	80		GND			IN			"						2.7 V		"	"	и	и	ш
		"	81		2.7 V		IN				"						GND		u	"	и	и	ш
		ш	82		2.7 V	IN					"						2.7 V		"	"	u	"	и
		"	83		GND						"	OUT	IN				GND	GND	"	2Y	и	и	ш
		"	84		GND						"			IN			2.7 V		"	"	и	и	ш
		ш	85		2.7 V						"				IN		GND		"	"	u	"	и
		ш	86		2.7 V						"					IN	2.7 V		"	"	u	"	и
	t _{PHL2}	ш	87	GND	GND			GND	2.7 V	OUT	ш						IN		"	1Y	и	20	ш
		ш	88	GND	IN		GND		2.7 V	OUT	"						GND		и	1Y	u	ш	и
		"	89		GND						u	OUT	2.7 V	GND			IN	GND	"	2Y	u	ш	ш
		"	90		IN						u	OUT	2.7 V		GND		GND	GND	44	2Y	и	ш	и

TABLE III. Group A inspection for device type 08 – Continued. 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	6	7	8	9	10	11	12	13	14	15	16		Test I	imits	
Subgroup	Symbol		X, 2 <u>5</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured			Unit
		method	Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	Α	2G	V _{CC}	terminal	Min	Max	
9	t _{PLH2}	3003	91	GND	GND			GND	2.7 V	OUT	GND						IN		5.0 V	1Y	2.0	20	ns
T _C = +25°C		Fig. 10	92	GND	IN		GND		2.7 V	OUT	и						GND			1Y		"	u
			93		GND						"	OUT	2.7 V	GND			IN	GND	"	2Y			"
			94		IN						"	OUT	2.7 V		GND		GND	GND	"	2Y	"	"	"
	tzн	"	95	IN	GND				2.7 V	OUT	44								"	1Y	"	23	"
			96	66							"	OUT	2.7 V					IN	"	2Y		23	"
	t _{ZL}		97	ш	"				GND	OUT	и						"		"	1Y	"	24	"
			98	66	"						"	OUT	GND					IN	"	2Y		24	"
	t _{HZ}	и	99	66	44				2.7 V	OUT	"						"		"	1Y	"	13.5	"
		и	100	ш	"						u	OUT	2.7 V				"	IN	"	2Y	u	13.5	ш
	t _{LZ}	и	101	66	"				GND	OUT	и						"		"	1Y	u	15.5	и
		u	102	66							u	OUT	GND					IN		2Y	"	15.5	44
10 T _C = +125°C		tests and 8 ns, t _{LZ}	terminal co = 20 ns.	onditions	as subgr	oup 9, w	ith limits	as follow	s: tpHL1	= 14.5 ns	s, tPLH1	= 14.5 ns	, tPHL2:	= 26 ns,	tpLH2 = 2	26 ns, tz	H = 30 ns	s, t _{ZL} = 3	31 ns,				
11	Same to	ests, term	inal condit	tions, and	d limits as	s for subg	group 10,	except T	C = -55°	C.													

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

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:

GND	Electrical ground (common terminal) Current flowing into an input terminal. Voltage level at an input terminal. 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.

Device type	Commercial type
01	54S151
02	54S153
03	54S157
04	54S158
05	54S251
06	54S257
07	54S258
08	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.

TABLE IV. Manufacturers' designations.

				Circuits		
	0	А	В	С	D	Е
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	

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

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