INCH-POUND MIL-M-38510/309E <u>10 April 2003</u> SUPERSEDING MIL-M-38510/309D 21 June 1985

### MILITARY SPECIFICATION

# MICROCIRCUITS, DIGITAL, BIPOLAR, LOW-POWER SCHOTTKY TTL, DATA SELECTOR/MULTIPLEXER WITH THREE-STATE OUTPUTS, MONOLITHIC SILICON

#### Inactive for new design after 18 April 1997.

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

#### 1. SCOPE

1.1 <u>Scope.</u> This specification covers the detail requirements for monolithic silicon, low-power Schottky TTL, data selector/multiplexer (three-state) logic microcircuits. Two product assurance classes and a choice of case outlines and lead finishes are provided for each type and are reflected in the complete part number. For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.3).

1.2 Part number. The part number should be in accordance with MIL-PRF-38535, and as specified herein.

1.2.1 <u>Device types.</u> The device types should be as follows:

Device type	<u>Circuit</u>
01	Eight-input data selector/multiplexer, with enable
02	Dual, four-input data selector/multiplexer, with enable
03, 04	Quad, two-input data selector/multiplexer, with enable
05	Eight-input data selector/multiplexer, 3-state outputs with enable
06, 07	Quad, two-input data selector/multiplexer, 3-state outputs with enable
08	Dual, four-input data selector/multiplexer, 3-state outputs with enable
09	Cascadable, quad, two-input data selector/multiplexer, with storage

1.2.2 Device class. The device class should be the product assurance level as defined in MIL-PRF-38535.

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

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

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Defense Supply Center Columbus, ATTN: DSCC-VAS, P. O. Box 3990, Columbus, OH 43216-5000, by using the self addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

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FSC 5962

#### 1.3 Absolute maximum ratings.

	Supply voltage range Input voltage range Storage temperature range Maximum power dissipation (P <sub>D</sub> ) <u>1</u> /	-1.5 V at -18 mA to 7.0 V
	Device type 01, 02	55 mW
	Device type 03	
	Device type 04	
	Device type 05	
	Device type 06, 07	
	Device type 08	
	Device type 09	
	Lead temperature (soldering, 10 seconds)	300°C
	Thermal resistance, junction to case $(\theta_{JC})$ :	
	Cases E, F, X, and 2	(See MIL-STD-1835)
	Junction temperature (T <sub>J</sub> ) <u>2</u> /	
1.4	Recommended operating conditions.	
1.4		4.5 V dc minimum to 5.5 V dc
1.4	Recommended operating conditions. Supply voltage (V <sub>CC</sub> )	4.5 V dc minimum to 5.5 V dc maximum
1.4	Supply voltage (V <sub>CC</sub> )	maximum
1.4		maximum 2.0 V
1.4	Supply voltage (V <sub>CC</sub> ) Minimum high level input voltage (V <sub>IH</sub> ) Maximum low level input voltage (V <sub>IL</sub> ) Normalized fanout (each output) $\underline{3}/$	maximum 2.0 V 0.7 V
1.4	Supply voltage (V <sub>CC</sub> ) Minimum high level input voltage (V <sub>IH</sub> ) Maximum low level input voltage (V <sub>IL</sub> ) Normalized fanout (each output) $\underline{3}/$	maximum 2.0 V 0.7 V
1.4	Supply voltage (V <sub>CC</sub> ) Minimum high level input voltage (V <sub>IH</sub> ) Maximum low level input voltage (V <sub>IL</sub> )	maximum 2.0 V 0.7 V 10 maximum
1.4	Supply voltage (V <sub>CC</sub> ) Minimum high level input voltage (V <sub>IH</sub> ) Maximum low level input voltage (V <sub>IL</sub> ) Normalized fanout (each output) <u>3</u> / Low logic level	maximum 2.0 V 0.7 V 10 maximum 20 maximum
1.4	Supply voltage (V <sub>CC</sub> )         Minimum high level input voltage (V <sub>IH</sub> )         Maximum low level input voltage (V <sub>IL</sub> )         Normalized fanout (each output) <u>3</u> /         Low logic level         High logic level	maximum 2.0 V 0.7 V 10 maximum 20 maximum -55° to +125°C
1.4	$\label{eq:supply} \begin{array}{l} \mbox{Supply voltage } (V_{CC}) &  \\ \mbox{Minimum high level input voltage } (V_{IH}) &  \\ \mbox{Maximum low level input voltage } (V_{IL}) &  \\ \mbox{Normalized fanout (each output) } \underline{3} / & \mbox{Low logic level } \\ \mbox{Low logic level } &  \\ \mbox{High logic level } &  \\ \mbox{Case operating temperature range } (T_C) &  \\ \mbox{Setup time } t_{(SETUP)} \mbox{ type } 09 \mbox{ data to clock } \\  \\ \mbox{Setup time } t_{(SETUP)} \mbox{ type } 09 \mbox{ word select to clock } \\  \end{array}$	maximum 2.0 V 0.7 V 10 maximum 20 maximum -55° to +125°C 15 ns 25 ns
1.4	$\label{eq:supply} \begin{array}{l} \mbox{Supply voltage (V_{CC})} \\ \mbox{Minimum high level input voltage (V_{IH})} \\ \mbox{Maximum low level input voltage (V_{IL})} \\ \mbox{Maximum low level input voltage (V_{IL})} \\ \mbox{Normalized fanout (each output) } \underline{3} \\ \mbox{Low logic level} \\ \mbox{High logic level} \\ \mbox{High logic level} \\ \mbox{Case operating temperature range (T_C)} \\ \mbox{Setup time } t_{(SETUP)} \mbox{type 09 data to clock} \\ \mbox{Setup time } t_{(HOLD)} \mbox{type 09 data to clock} \\ \mbox{Hold time } t_{(HOLD)} \mbox{type 09 data to clock} \\ \mbox{Low logic level} \\ L$	maximum 2.0 V 0.7 V 10 maximum 20 maximum -55° to +125°C 15 ns 25 ns 5 ns
1.4	$\label{eq:supply} \begin{array}{l} \mbox{Supply voltage } (V_{CC}) &  \\ \mbox{Minimum high level input voltage } (V_{IH}) &  \\ \mbox{Maximum low level input voltage } (V_{IL}) &  \\ \mbox{Normalized fanout (each output) } \underline{3} / & \mbox{Low logic level } \\ \mbox{Low logic level } &  \\ \mbox{High logic level } &  \\ \mbox{Case operating temperature range } (T_C) &  \\ \mbox{Setup time } t_{(SETUP)} \mbox{ type } 09 \mbox{ data to clock } \\  \\ \mbox{Setup time } t_{(SETUP)} \mbox{ type } 09 \mbox{ word select to clock } \\  \end{array}$	maximum 2.0 V 0.7 V 10 maximum 20 maximum -55° to +125°C 15 ns 25 ns 5 ns

Clock pulse width tP(CLOCK) type 09 high or low ...... 20 ns

 $<sup>\</sup>overline{\underline{1/}}$  Must withstand the added P<sub>D</sub> due to short-circuit test (e.g., I<sub>OS</sub>).  $\underline{2/}$  Maximum junction temperature shall not be exceeded except for allowable short duration burn-in screening conditions in accordance with MIL-PRF-38535.

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

#### 2. APPLICABLE DOCUMENTS

#### 2.1 Government documents.

2.1.1 Specifications and Standards. The following specifications and standards form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Departments of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

#### **SPECIFICATION**

#### DEPARTMENT OF DEFENSE

MIL-PRF-38535 -Integrated Circuits (Microcircuits) Manufacturing, General Specification for.

#### **STANDARDS**

DEPARTMENT OF DEFENSE

MIL-STD-883	-	Test Method Standard for Microelectronics.
MIL-STD-1835	-	Interface Standard Electronic Component Case Outlines

(Unless otherwise indicated, copies of the above specifications and standards are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

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

#### 3. REQUIREMENTS

3.1 Qualification. Microcircuits furnished under this specification shall be products that are manufactured by a manufacturer authorized by the qualifying activity for listing on the applicable qualified manufacturers list before contract award (see 4.3 and 6.4).

3.2 Item requirements. 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 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-PRF-38535 and herein.

3.3.1 Terminal connections. The terminal connections shall be as specified on figure 1.

3.3.2 Logic diagrams. The logic diagrams shall be specified on figure 2.

3.3.3 <u>Truth tables.</u> The truth tables shall be as specified on figure 3.

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

3.3.5 Case outlines. The case outlines shall be as specified in 1.2.3.

3.4 Lead material and finish. The lead material and finish shall be in accordance with MIL-PRF-38535 (see 6.6).

3.5 <u>Electrical performance characteristics</u>. The electrical performance characteristics are as specified in table I, and apply over the full recommended case operating temperature range, unless otherwise specified.

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.

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).

4. VERIFICATION

4.1 <u>Sampling and inspection</u>. Sampling and inspection procedures shall be in accordance with MIL-PRF-38535 or as modified in the device manufacturer's Quality Management (QM) plan. The modification in the QM plan shall not effect the form, fit, or function as described herein.

4.2 <u>Screening</u>. Screening shall be in accordance with MIL-PRF-38535 and shall be conducted on all devices prior to qualification and quality conformance inspection. The following additional criteria shall apply:

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

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

4.4 <u>Technology Conformance inspection (TCI)</u>. Technology conformance inspection shall be in accordance with MIL-PRF-38535 and herein for groups A, B, C, and D inspections (see 4.4.1 through 4.4.4).

4.4.1 Group A inspection. 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 MIL-PRF-38535.

Test	Symbol	I Conditions		Device	Limits		Unit
			$T_C \le +125^{\circ}C$ erwise specified	types	Min	Max	
High level output voltage	V <sub>OH</sub>	V <sub>IL</sub> = 0.7 V V <sub>CC</sub> = 4.5 V	I <sub>OH</sub> =4 mA	01, 02, 03, 04, 09	2.5		V
		V <sub>IH</sub> = 2.0 V	I <sub>OH</sub> = -1.0 mA	05, 06, 07, 08	2.4		V
Low level output voltage	V <sub>OL1</sub>	V <sub>CC</sub> = 4.5 V	I <sub>OL</sub> = 4.0 mA	01, 02, 03, 04, 05, 08, 09		0.40	V
			I <sub>OL</sub> = 12 mA	06, 07		0.40	V
Input clamp voltage	V <sub>IC</sub>	$V_{CC} = 4.5 \text{ V}, I_{IN} =$ $T_{C} = +25^{\circ}\text{C}$	18 mA,	All		-1.5	V
Low level input current at data inputs	I <sub>IL1</sub>	$V_{\rm CC} = 5.5 \text{ V}, \text{ V}_{\rm IN}$	= 0.4 V	01, 05	0	72	mA
Low level input current at select or strobe	I <sub>IL2</sub>			01, 05	0	40	mA
Low level input current at A, B, or C	I <sub>IL3</sub>	1		01, 05	0	40	mA
Low level input current	I <sub>IL1</sub>			02, 08	0	40	mA
·				09	03	40	
Low level input current at A, B, or C	I <sub>IL1</sub>			03, 04	0	44	mA
Low level input current at select or strobe	I <sub>IL2</sub>			03, 04	0	88	mA
Low level input current at A, B, or output control	I <sub>IL1</sub>			06, 07	0	44	mA
Low level input current	I <sub>IL2</sub>			06	0	88	mA
at select				07	0	80	
High level input current	I <sub>IH1</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN}$	= 2.7 V	01, 02, 05, 08, 09		20	μΑ
	I <sub>IH2</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN}$	= 7.0 V	01, 02, 05, 08		100	μΑ
	I <sub>IH2</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN} = 5.5 \text{ V}$		09		100	μΑ
High level input current at A or B	I <sub>IH1</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN} = 2.7 \text{ V}$ $V_{CC} = 5.5 \text{ V}, \text{ V}_{IN} = 7.0 \text{ V}$		03, 04		20	μA
	I <sub>IH2</sub>					100	μA
High level input current at strobe or select	I <sub>IH3</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN} = 2.7 \text{ V}$		03, 04		40	μA
	I <sub>IH4</sub>	$V_{CC}$ = 5.5 V, $V_{IN}$	= 7.0 V			200	μA
High level input current at A, B, or output control	I <sub>IH1</sub>	$V_{CC}$ = 5.5 V, $V_{IN}$	= 2.7 V	06, 07		20	μΑ
	I <sub>IH2</sub>	$V_{CC}$ = 5.5 V, $V_{IN}$	= 7.0 V	1		100	μA

Test	Symbol	Conc	litions	Device	Lir	nits	Unit
	$-55^{\circ}C \le T_{C} \le +125^{\circ}C$ unless otherwise specified		types	Min	Max		
High level input current at select	I <sub>IH3</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN} = 3$	2.7 V	06, 07		40	μA
	I <sub>IH4</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN} = 7$	7.0 V			200	μΑ
Off-state output current high level voltage applied	I <sub>OZH</sub>	$V_{CC} = 5.5 V, V_{O} = 2$	2.7 V	05, 06, 07, 08		20	μΑ
Off-state output current low level voltage applied	I <sub>OZL</sub>	$V_{\rm CC} = 5.5 \text{ V}, \text{ V}_{\rm O} = 0$	).4 V	05, 06, 07, 08		-20	μΑ
Short circuit output current	I <sub>OS</sub>	V <sub>CC</sub> = 5.5 V, <u>1</u> / V <sub>OUT</sub> = GND		01,02,03, 04, 09	-15	-100	mA
				05,06,07, 08	-15	-130	
Supply current	I <sub>CC1</sub>	$V_{CC} = 5.5 V$	V <sub>IN</sub> (data) = 5.5 V	01		10	mA
			V <sub>IN</sub> (data) = GND	02		10	
				09		21	
	I <sub>CC1</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN}(\text{data})$	03		16	mA	
	I <sub>CC1</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN}(\text{data})$	04		8	mA	
	I <sub>CC1</sub>	$V_{CC} = 5.5 V, V_{IN}(da)$ $V_{IN}(strobe) = GND$	05		10	mA	
	I <sub>CC2</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN}(\text{dat})$ $V_{IN}(\text{strobe}) = 5.5 \text{ V}$	05		12	mA	
	I <sub>CC1</sub>			06		12	mA
		V <sub>IN</sub> (output control)	07		15		
	I <sub>CC2</sub>	· · · · ·	$c_{C} = 5.5 \text{ V}, \text{ V}_{IN}(\text{data}) = \text{GND}$			18	mA
			$V_{IN}(output control) = GND$			9	
	I <sub>CC3</sub>	$V_{CC} = 5.5 V,$ $V_{IN}(output control)$	06, 07		19	mA	
	I <sub>CC1</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN}(\text{dat})$ $V_{IN}(\text{output control})$	ata) = GND	08		12	mA
	I <sub>CC2</sub>	$V_{CC} = 5.5 \text{ V}, \text{ V}_{IN}(\text{dat})$ $V_{IN}(\text{output control})$	ata) = GND	08		14	mA
Propagation delay time,	t <sub>PLH1</sub>	$V_{CC} = 5.0 \text{ V}, \text{ C}_{L} = 5.0 \text{ V}$		01	3	56	ns
low to high level output		$R_L = See figure 5.$	- F	02	3	30	
from data input to Y				03	3	29	
· · · · · · · · · · · ·				04	3	26	
				05	3	50	
				06, 07	3	35	
				09	3	43	
				08	3	45	

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

 $\underline{1}$  / Not more than one output should be shorted at one time.

Test	Symbol	Conditions	Device	Lir	nits	Unit
		$-55^{\circ}C \le T_C \le +125^{\circ}C$	types	Min	Max	
		unless otherwise specified				
Propagation delay time,	t <sub>PHL1</sub>	$V_{CC}$ = 5.0 V, $C_{L}$ = 50 pF ±10%	01, 02	3	47	ns
high to low level output		$R_L$ = See figure 5.	03	3	29	
from data input to Y			04	3	26	
			05	3	50	
			06, 07	3	35	
			09	3	48	
		_	08	3	38	
Propagation delay time,	t <sub>PLH2</sub>		01	3	39	ns
low to high level output from data to W			05	3	30	
Propagation delay time,	t <sub>PHL2</sub>		01	3	38	ns
high to low level output	-1 1162		03	3	30	
from data to W				Ū		
Propagation delay time,	t <sub>PLH3</sub>		01	3	71	ns
low to high level output	1 Ento		02	3	44	
from strobe to Y			03	3	38	
			04	3	33	
Propagation delay time,	t <sub>PHL3</sub>	1	01, 02	3	56	ns
high to low level output			03	3	39	
from strobe to Y			04	3	35	
Propagation delay time,	t <sub>PLH4</sub>	]	01	3	44	ns
low to high level output						
from strobe to W						
Propagation delay time,	t <sub>PHL4</sub>		01	3	53	ns
high to low level output						
from strobe to W						
Propagation delay time,	t <sub>PLH5</sub>		01	3	72	ns
high to low level output			02	3	51	
from select to Y			03	3	42	
			04	3	38	
			05, 08	3	75	
		4	06, 07	3	39	
Propagation delay time,	t <sub>PHL5</sub>		01	3	53	ns
high to low level output			02	3	65	
from select to Y			03	3	48	
			04	3	44	
			05	3	75	
			06, 07	3	39	
			08	3	56	

# TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions	Device	Lin	nits	Unit
		$-55^{\circ}C \leq T_C \leq +125^{\circ}C$ unless otherwise specified	types	Min	Max	
Propagation delay time,	t <sub>PLH6</sub>	$V_{CC} = 5.0 \text{ V}, \text{ C}_{L} = 50 \text{ pF} \pm 10\%$	01	3	42	ns
low to high level output		$R_L$ = See figure 5.	05	3	57	
from select to W						
Propagation delay time,	t <sub>PHL6</sub>		01	3	56	ns
high to low level output			05	3	57	
from select to W		_				
Enable time to high level	t <sub>PZH1</sub>		05	3	75	ns
output from strobe to Y						
Enable time to high level	t <sub>PZH2</sub>		05	3	48	ns
output from strobe to W						
Enable time to high level	t <sub>PZH3</sub>		06, 07	3	53	ns
output from output			08	3	69	
control to Y						
Enable time to low level	t <sub>PZL1</sub>		05	3	68	ns
output from strobe to Y						
Enable time to low level	t <sub>PZL2</sub>		05	3	68	ns
output from strobe to W						
Enable time to low level	t <sub>PZL3</sub>		06, 07	3	53	ns
output from output			08	3	42	
control to Y						
Disable time from high	t <sub>PHZ1</sub>	$V_{CC}$ = 5.0 V, $C_L$ = 15 pF minimum	05	3	75	ns
level output, from		$R_L$ = See figure 5.				
strobe to Y		-				
Disable time from high	t <sub>PHZ2</sub>		05	3	90	ns
level output, from						
strobe to W		-				
Disable time from high	t <sub>PHZ3</sub>		06, 07	3	53	ns
level output, from output			08	3	69	
control to Y		-				
Disable time from low	t <sub>PLZ1</sub>		05	3	45	ns
level output, from						
strobe to Y		-				
Disable time from low	t <sub>PLZ2</sub>		05	3	45	ns
level output, from						
strobe to W		4				
Disable time from low	t <sub>PLZ3</sub>		06, 07	3	45	ns
level output, from output			08	3	48	
control to Y						

# TABLE I. Electrical performance characteristics - Continued.

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

#### TABLE II. Electrical test requirements.

\*PDA applies to subgroup 1.

4.4.3 <u>Group C inspection</u>. Group C inspection shall be in accordance with table IV of MIL-PRF-38535 and as follows:

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

4.4.4 <u>Group D inspection</u>. Group D inspection shall be in accordance with table V of MIL-PRF-38535. End-point electrical parameters shall be as specified in table II herein.

4.5 <u>Methods of inspection</u>. Methods of inspection shall be specified and as follows:

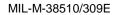
4.5.1 <u>Voltage and current.</u> All voltages given are referenced to the microcircuit ground terminal. Currents given are conventional and positive when flowing into the referenced terminal.

		Terminal symbolTerminal symbolTerminal symboldevice type 01device type 02device type 03			al symbol type 04	Terminal symbol device type 05				
Terminal	Case	Case	Case	Case	Case	Case	Case	Case	Case	Case
number	X, 2	E, F	X, 2	E, F	X, 2	E, F	X, 2	E, F	X, 2	E, F
1	NC	D3	NC	1G	NC	S	NC	S	NC	D3
2	D3	D2	IG	В	S	1A	S	1A	D3	D2
3	D2	D1	В	1C3	1A	1B	1A	1B	D2	D1
4	D1	D0	1C3	1C2	1B	1Y	1B	1Y	D1	D0
5	D0	Y	1C2	1C1	1Y	2A	1Y	2A	D0	Y
6	NC	W	NC	1C0	NC	2B	NC	2B	NC	W
7	Y	S	1C1	1Y	2A	2Y	2A	2Y	Y	S
8	W	GND	1C0	GND	2B	GND	2B	GND	W	GND
9	S	С	1Y	2Y	2Y	3Y	2Y	3Y	S	С
10	GND	В	GND	2C0	GND	3B	GND	3B	GND	В
11	NC	А	NC	2C1	NC	ЗA	NC	ЗA	NC	А
12	С	D7	2Y	2C2	3Y	4Y	3Y	4Y	С	D7
13	В	D6	2C0	2C3	3B	4B	3B	4B	В	D6
14	А	D5	2C1	А	ЗA	4A	ЗA	4A	А	D5
15	D7	D4	2C2	2G	4Y	G	4Y	G	D7	D4
16	NC	Vcc	NC	Vcc	NC	Vcc	NC	Vcc	NC	Vcc
17	D6		2C3		4B		4B		D6	
18	D5		А		4A		4A		D5	
19	D4		2G		G	]	G		D4	
20	$V_{CC}$		V <sub>cc</sub>		V <sub>cc</sub>		V <sub>CC</sub>		V <sub>CC</sub>	

FIGURE 1. Terminal connections.

	Termina	nal symbol Terminal symbol		Termina	al symbol	Terminal symbol		
	device	type 06	device	type 07	device type 08		device type 09	
Terminal	Case	Case	Case	Case	Case	Case	Case	Case
number	X, 2	E, F	X, 2	E, F	X, 2	E, F	X, 2	E, F
1	NC	S	NC	S	NC	1G	NC	B2
2	S	1A	S	1A	1G	В	B2	A2
3	1A	1B	1A	1B	В	1C3	A2	A1
4	1B	1Y	1B	1Y	1C3	1C2	A1	B1
5	1Y	2A	1Y	2A	1C2	1C1	B1	C2
6	NC	2B	NC	2B	NC	1C0	NC	D2
7	2A	2Y	2A	2Y	1C1	1Y	C2	D1
8	2B	GND	2B	GND	1C0	GND	D2	GND
9	2Y	3Y	2Y	3Y	1Y	2Y	D1	C1
10	GND	3B	GND	3B	GND	2C0	GND	WS
11	NC	ЗA	NC	ЗA	NC	2C1	NC	CP
12	3Y	4Y	3Y	4Y	2Y	2C2	C1	QD
13	3B	4B	3B	4B	2C0	2C3	WS	QC
14	ЗA	4A	ЗA	4A	2C1	А	CP	QB
15	4Y	G	4Y	G	2C2	2G	QD	QA
16	NC	V <sub>cc</sub>	NC	V <sub>cc</sub>	NC	V <sub>CC</sub>	NC	V <sub>cc</sub>
17	4B		4B		2C3		QC	
18	4A		4A		Α		QB	
19	G		G		2G		QA	
20	Vcc		Vcc		V <sub>CC</sub>		V <sub>CC</sub>	

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



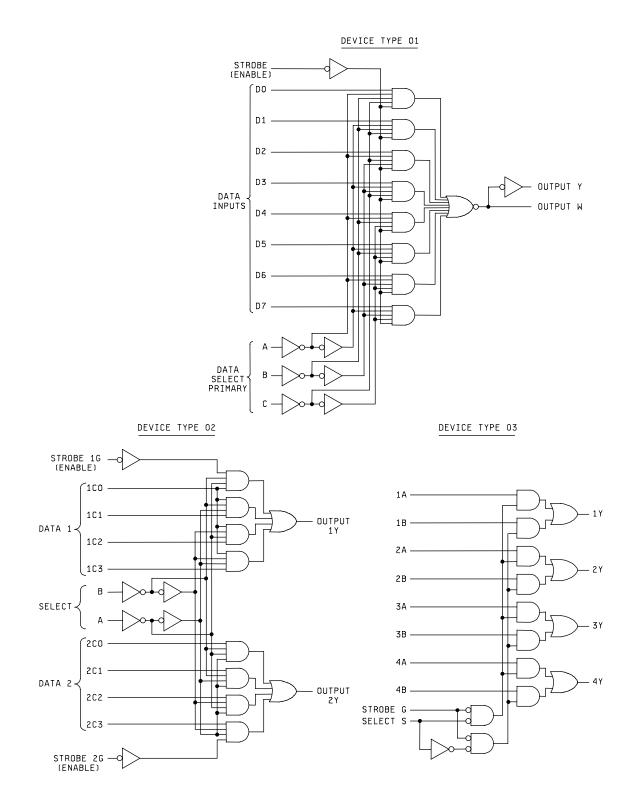
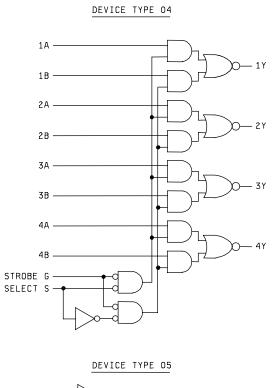


FIGURE 2. Logic diagrams.



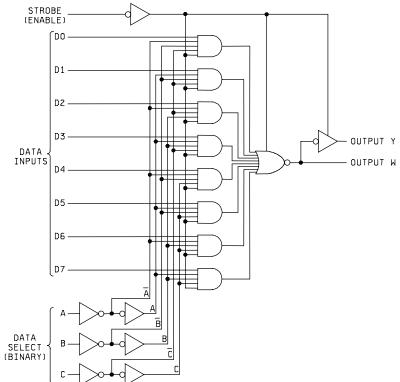


FIGURE 2. Logic diagrams - Continued.

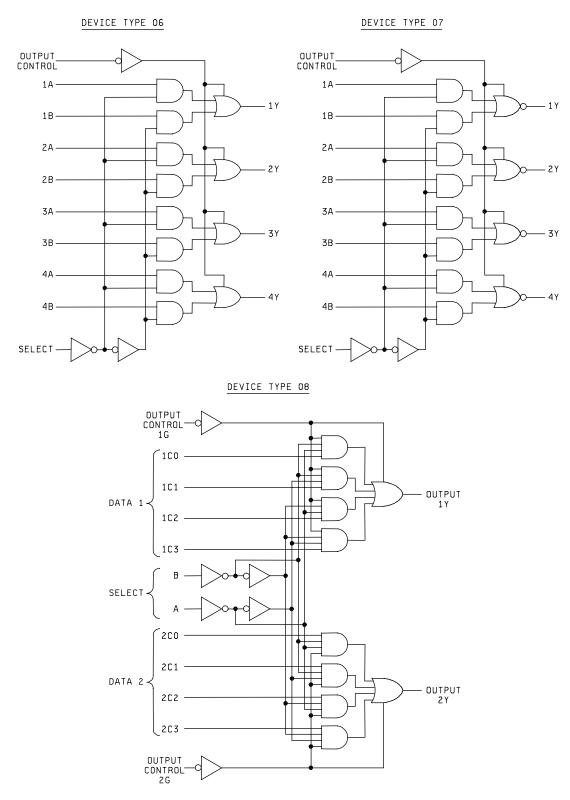
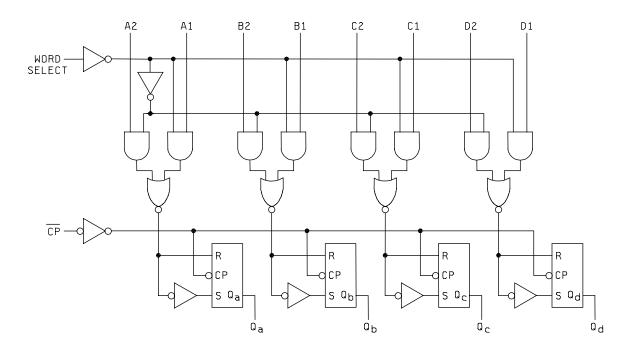


FIGURE 2. Logic diagrams - Continued.



# DEVICE TYPE 09

FIGURE 2. Logic diagrams - Continued.

	Device type 01											
	IN	IPUTS		OUT	PUTS							
5	SELECT		STROBE									
С	В	Α	S	Y	W							
Х	Х	Х	Н	L	Н							
L	L	L	L	D0	$\overline{D0}$							
L	L	Н	L	D1	D1							
L	Н	L	L	D2	$\overline{D2}$							
L	Н	Н	L	D3	D3							
Н	L	L	L	D4	$\overline{D4}$							
Н	L	Н	L	D5	D5							
Н	Н	L	L	D6	$\overline{D6}$							
Н	Н	Н	L	D7	D7							

 $\label{eq:H} \begin{array}{l} H = high \ level, \ L = low \ level, \ X = irrelevant. \\ D0, \ D1 \ \ldots \ D7 = the \ level \ of \ the \ D \ respective \ input. \end{array}$ 

Device	type	02

	ECT UTS	I	ΟΑΤΑ Ι	NPUTS	8	STROBE	OUTPUT
В	А	C0	C1	C2	C3	G	Y
Х	Х	Х	Х	Х	Х	Н	L
L	L	L	Х	Х	Х	L	L
L	L	Н	Х	Х	Х	L	Н
L	Н	Х	L	Х	Х	L	L
L	Н	Х	Н	Х	Х	L	Н
Н	L	Х	Х	L	Х	L	L
Н	L	Х	Х	Н	Х	Ĺ	Н
Н	Н	Х	Х	Х	L	L	L
Н	Н	ХХ		Х	Н	L	Н

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

	Device types 03 and 04												
	INPUTS			OUT	PUT Y								
STROBE	SELECT	Α	В	TYPE 03	TYPE 04								
Н	Х	Х	Х	L	Н								
L	L	L	Х	L	Н								
L	L	Н	Х	Н	L								
Ĺ	Н	Х	L	Ĺ	Н								
L	Н	Х	Н	Н	L								

Device types 03 and 04

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

FIGURE 3. Truth tables.

	IN	IPUTS		OUTP	UTS
	SELECT		STROBE		
С	В	А	S	Y	W
Х	Х	Х	Н	Z	Z
L	L	L	L	D0	$\overline{D0}$
L	L	Н	L	D1	D1
L	Н	L	L	D2	$\overline{D2}$
L	Н	Н	L	D3	$\overline{D3}$
Н	L	L	L	D4	D4
Н	L	Н	L	D5	D5
Н	Н	L	L	D6	$\overline{D6}$
Н	Н	Н	L	D7	D7

## Device type 05

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

D0, D1....D7 = the level of the respective D input.

	INPUTS	6		OUTF	Y TU
OUTPUT				TYPE	TYPE
CONTROL	SELECT	А	В	06	07
Н	Х	Х	Х	Z	Z
L	L	L	Х	L	Н
L	L	н	Х	н	L
L	Н	Х	L	L	Н
L	Н	Х	Н	Н	L

## Device types 06 and 07

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

FIGURE 3. Truth tables - Continued.

# Device type 08

	ECT	[	DATA I	NPUTS	6	OUTPUT	OUTPUT
INP	UTS					CONTROL	
В	А	C0	C1	C2	C3	G	Y
Х	Х	Х	Х	Х	Х	Н	Z
L	L	L	Х	Х	Х	L	L
L	L	Н	Х	Х	Х	L	Н
L	Н	Х	L	Х	Х	L	L
L	Н	Х	Н	Х	Х	L	Н
Н	L	Х	Х	L	Х	L	L
Н	L	Х	Х	Н	Х	L	Н
Н	Н	Х	Х	Х	L	L	L
н	Н	Х	Х	Х	н	L	Н

Address inputs A and B are common to both sections.

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

Z = high impedance (off).

INPL	JTS	OUTPUTS					
WORD							
SELECT	CLOCK	Q <sub>A</sub>	Q <sub>B</sub>	Qc	$Q_D$		
L	$\downarrow$	a1	b1	c1	d1		
Н	$\downarrow$	a2	b2	c2	d2		
Х	Н	Q <sub>A0</sub>	Q <sub>B0</sub>	Q <sub>C0</sub>	$Q_{D0}$		

Device type 09

H = high level (steady state)

L = low level (steady state)

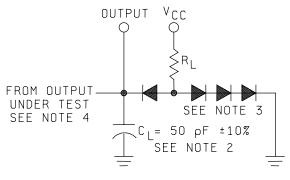
X = irrelevant (any input, including transitions)

 $\downarrow$  = transition from high to low level

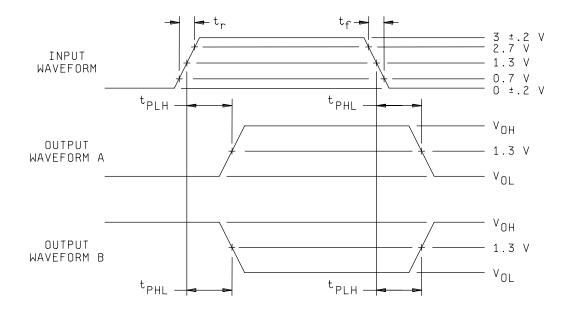
a1, a2, etc. = the level of steady state input at A1, A2, etc.  $Q_{A0}$ ,  $Q_{B0}$ , etc. = the level of  $Q_A$ ,  $Q_B$  etc, entered on the

most recent  $\downarrow$  transition of the clock input.

FIGURE 3. Truth tables - Continued.



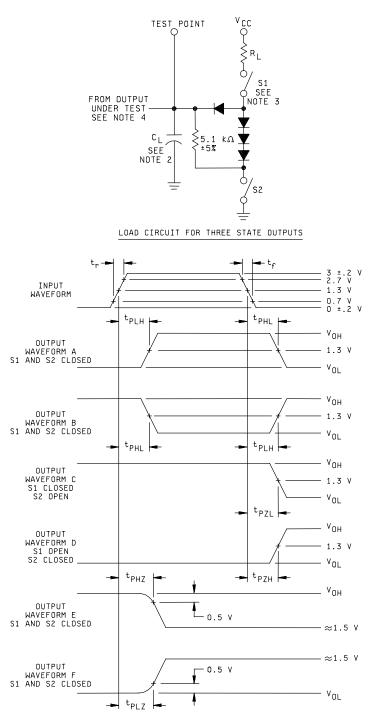
LOAD FOR OUTPUT UNDER TEST



#### NOTES:

- 1. Input pulse characteristics: PRR  $\leq$  1.0 MHz,  $t_r \leq$  15 ns,  $t_f \leq$  6 ns.
- 2.  $C_L = 50 \text{ pF} \pm 10\%$  including probe and jig capacitance.
- 3.  $R_L = 2.0 \text{ k}\Omega \pm 5\%$ . All diodes are 1N3064 or 1N916.
- 4. Load circuit on a given output is only required where the specific test in table III indicates "OUT" on that output.

FIGURE 4. Switching test for device types 01, 02, 03, and 04.



#### NOTES:

- 1. Input pulse characteristics: PRR  $\leq$  1.0 MHz,  $t_r \leq$  15 ns,  $t_f \leq$  6 ns.
- 2.  $C_L = 50 \text{ pF} \pm 10\%$  for  $t_{PLH}$ ,  $t_{PHL}$ ,  $t_{PZL}$ , and  $t_{PZH}$  tests;  $C_L = 15 \text{ pF}$  minimum for  $t_{PHZ}$ , and  $t_{PLZ}$  tests.  $C_L$  includes probe and jig capacitance.
- 3. All diodes are 1N3064 or 1N916. R<sub>L</sub> = 2.0 k $\Omega$  ±5% for device types 05 and 08, and R<sub>L</sub> = 680 $\Omega$  ±5% for device types 06 and 07.
- 4. Load circuit on a given output is only required where the specific test in table III indicates "OUT" on that output.

FIGURE 4. Switching test for device types 05, 06, 07, 08 - Continued.

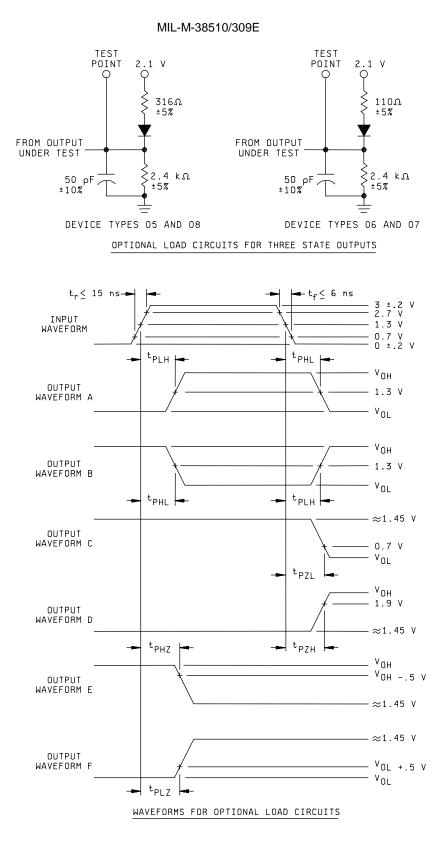
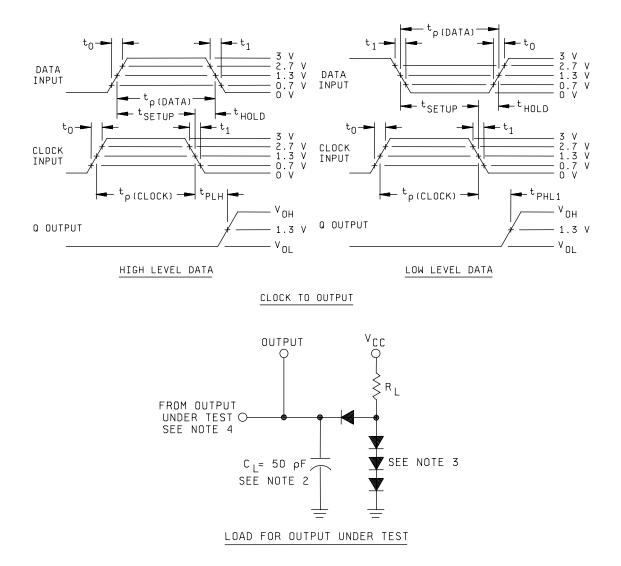


FIGURE 4. Switching test for device types 05, 06, 07, 08 - Continued.



NOTES:

- 1. Input pulse characteristics: PRR  $\leq$  1.0 MHz, t<sub>0</sub>  $\leq$  15 ns, t<sub>1</sub>  $\leq$  6 ns, t<sub>P</sub>(data) = 20 ns, t<sub>P</sub>(clock) = 20 ns, t<sub>SETUP</sub> = 15 ns, and t<sub>HOLD</sub> = 5 ns.
- 2.  $C_L = 50 \text{ pF} \pm 10\%$  including probe and jig capacitance.
- 3.  $R_L = 2.0 \text{ k}\Omega \pm 5\%$ . All diodes are 1N3064 or equivalent.
- 4. Load circuit on a given output is only required where the specific test in table III indicates "OUT" on that output.

FIGURE 4. Switching test for device type 09 - Continued.

			13							"				-18 mA			Т
			14							"					-18 mA		Т
			15							"						-18 mA	T
			16							"							T
Ī	I <sub>IL1</sub>	3009	17	0.4 V	5.5 V	5.5 V	5.5 V		GND	"	GND	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	Т
			18	5.5 V	0.4 V	5.5 V	-		"		"	5.5 V	GND		"	"	Т
			19	"	5.5 V	0.4 V	-		"		"	GND	5.5 V		"	"	Т
			20	"	"	5.5 V	0.4 V		"		"	GND	GND		"	"	Т
			21	"	"	"	5.5 V		"	"	5.5 V	5.5 V	5.5 V	0.4 V	"	"	Т
			22	"	"	"			"	"	"	5.5 V	GND	5.5 V	0.4 V	"	Т
			23	"	"	"			"	"	"	GND	5.5 V		5.5 V	0.4 V	Т
			24	"	"	"	"		"	"	"	GND	GND		5.5 V	5.5 V	Т
Ī	I <sub>IL2</sub>	"	25						0.4 V	"							Т
Ī	I <sub>IL3</sub>	"	26							"	0.4 V						T
	-		27							"		0.4 V					T
			28							"			0.4 V				T
Ī	I <sub>IH1</sub>	3010	29	2.7 V	GND	GND	GND		5.5 V	"	5.5 V	GND	GND	GND	GND	GND	T
			30	GND	2.7 V	GND	-		"			GND	5.5 V		"	"	T
			31	"	GND	2.7 V	-		"	"		5.5 V	GND	"	"	"	T
			32	"	GND	GND	2.7 V		"			5.5 V	5.5 V		"	"	Т
			33						2.7 V	"							Т
			34							"	2.7 V						T
			35							"		2.7 V					T
			36							"			2.7 V				Т
		"	37	GND	GND	GND	GND		5.5 V	"	GND	GND	GND	2.7 V	GND	GND	Τ
		"	38	"	"	"			"	"		GND	5.5 V	GND	2.7 V	GND	Т
		"	39	"	"	"			"	"		5.5 V	GND		GND	2.7 V	Т
			40	"	=	=	-		"	"		5.5 V	5.5 V	-		GND	Ι
ſ	I <sub>IH2</sub>	"	41	7.0 V	"	"			"	"	5.5 V	GND	GND				Τ
			42	GND	7.0 V		-		"	"		GND	5.5 V	"	"	"	Т
		"	43	"	GND	7.0 V				"		5.5 V	GND			"	Т
			44	"	GND	GND	7.0 V		"		"	5.5 V	5.5 V		"	"	Т
			45						7.0 V	"							Т
		"	46							"	7.0 V						Т
		"	47							"		7.0 V					Т
			48							"			7.0 V				T
		"	49	GND	GND	GND	GND		5.5 V	"	GND	GND	GND	7.0 V	GND	GND	Τ
			50	"	"	"			"	"		GND	5.5 V	GND	7.0 V	GND	Γ
			51	"	=	=	=		"	"	"	5.5 V	GND	"	GND	7.0 V	Ι
		"	52		-	-			"	"		5.5 V	5.5 V	"	"	GND	Ι

TABLE III. Group A inspection for device type 01.Terminal conditions (pins not designated may be high  $\geq$  2.0 V; low  $\leq$  0.7 V; or open).

9

12

С

2.0 V

0.7 V

0.7 V

2.0 V

-18 mA

8

10

GND

GND

10

13

В

2.0 V 0.7 V 0.7 V

2.0 V

-18 mA

11

14

A 2.0 V

0.7 V 0.7 V

2.0 V

-18 mA

12

15

D7

2.0 V

, 14

18

D5

2.0 V

13

17

D6

2.0 V

15

19

D4

2.0 V

-18 mA 5.5 V

0.4 V

GND

GND

2.7 V GND

GND

7.0 V

16

20

V<sub>CC</sub> 4.5 V

....

.

"

"

.

.

" 5.5 V

"

"

"

.

"

.

7

9

S 2.0 V

0.7 V

0.7 V

2.0 V

-18 mA

Cases E, F

Cases <u>1</u>/ 2, X

Test no.

1

2

3

4

5

6

8

9

10

11

12

MIL-STD-883 method

3006

3006 3007 3007

Subgroup

1

Tc = 25°C

Symbo

V<sub>OH</sub>

V<sub>OL</sub>

VIC

2

3

D2

2.0 V "

-18 mA

1

2

D3

2.0 V "

-18 mA

3

4

D1

2.0 V

-18 mA

4

5

D0

2.0 V

-18 mA

5

7

Υ

-.4 mA

4.0 mA

6

8

W

-.4 mA

4.0 mA

		MIL-STD-	E, F		2	Ŭ	-	0	Ŭ		Ū	0	10		12				10
Subgroup	Symbol	883	Cases 1/	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
Cubgroup	Cymbol	method	2, X	-	Ū	-	Ŭ	,	Ŭ	0	10	12	10	14	10		10	10	20
			Test no.	D3	D2	D1	D0	Y	W	S	GND	С	В	А	D7	D6	D5	D4	V <sub>cc</sub>
1	los	3011	53	GND	GND	GND	5.5 V	GND	**	GND	"	GND	GND	GND	GND	GND	GND	GND	5.5 V
Tc = 25°C	105	3011	54	GND	GND	GND	GND	OND	GND	5.5 V		GND	GND	GND	GND	GND	GND	GND	"
10 - 20 0	I <sub>CC1</sub>	3005	55	5.5 V	5.5 V	5.5 V	5.5 V		0.10	5.5 V		5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	"
2			al conditions					125°C an	d Vic tests		ed.								
3			al conditions																
7	Func-	3014	56	В	В	В	B	L	Н	Α	GND	В	В	В	В	В	В	В	5.0 V
Tc = 25°C	tional	"	57	А	А	A	Α		"	"	-	В	В	В	Α	Α	Α	Α	
	tests	"	58	А	А	Α	Α	"	"	"	-	Α	А	A	Α	Α	Α	A	"
		"	59	В	В	В	В	"	"	"				"	В	В	В	В	"
		"	60	"	"	"	"	"	"	"				"	A	A	A	A	
		"	61	"	"	"		Н	L	В			-	"		В	В	В	"
		"	62	"	"	"	"	L	Н	A				В		A			"
			63	"	"			Н	L	В			-	В					
			64		"			L	Н	A			B	A			A		
			65		"			Н	L	B				A					
			66					L	Н	A				В				A	
			67					H L	L	B A		В	^	B A					
			68 69	A "	"	"	"	H	L	B		В "	A "	A					
		"	70	"	A	"	"	L	H	A				B					
		"	70	"	-	"	"	H	L	B	"			B					
		"	72	"	"	Α	"	L	H	A			В	A	"				
		"	73	"	"	"	"	H	L	В	"		"	A					
		"	74	"	"	"	А	L	Ĥ	Ā	"	"	-	B	"			"	"
		"	75	"	"	"	Α	Н	L	В	"			В				"	
8	Repeat	subgroup 7	tests at T <sub>c</sub> :	= +125°C a	and T <sub>c</sub> = -	55°C.													
9	t <sub>PLH1</sub>	3003	76				IN	OUT		GND	GND	GND	GND	GND					5.0 V
Tc = 25°C		Fig. 4	77			IN				"			GND	5.0 V					
			78		IN			"		"			5.0 V	GND					"
			79	IN				-		"	-		5.0 V	5.0 V					"
			80							"		5.0 V	GND	GND				IN	"
			81										GND	5.0 V			IN		
			82										5.0 V 5.0 V	GND	INI	IN			
	t	"	83 84				IN					GND	5.0 V GND	5.0 V GND	IN				
	t <sub>PHL1</sub>	"	85			IN	IIN			"		GND "	GND	5.0 V					
		"	86		IN			"		"	"		5.0 V	GND					"
		"	87	IN				"		"	"		5.0 V	5.0 V					"
			88					"		"	"	5.0 V	GND	GND				IN	"
		"	89			1		"		"	"	"	GND	5.0 V			IN		"
		"	90			1		"	1	"	"		5.0 V	GND		IN			"
		"	91					"		"			5.0 V	5.0 V	IN				"
	t <sub>PLH2</sub>	"	92				IN		OUT	"	"	GND	GND	GND					
1		"	93			IN			"	"	"		GND	5.0 V					"
1		"	94		IN				"	"	-	-	5.0 V	GND					"
		"	95	IN					"	"	"		5.0 V	5.0 V					
			96						"	"		5.0 V	GND	GND				IN	"
			97							"			GND	5.0 V			IN		
			98										5.0 V	GND	INI	IN			
L			99										5.0 V	5.0 V	IN				

TABLE III. Group A inspection for device type 01Continued.Terminal conditions (pins not designated may be high  $\geq 2.0 \text{ V}$ ; low  $\leq 0.7 \text{ V}$ ; or open).Cases12345678910111213141516Cases12345678910111213141516

24

Γ

See footnotes at end of device types 01.

Subgroup         MIL-STD- method         E, F         Mathematical and and anothematical anothematical based         Cases J/ 2, X         2         3         4         5         7         8         9         10         12         13         14         15         17         18         19         20           9         Testo.         D3         D2         D1         D0         Y         W         S         GND         C         B         A         D7         D6         D5         D4         V <sub>C</sub> 9         Tc = 25*C         Fig. 4         100         IN         OUT         GND         GND         GND         GND         GND         GND         GND         GND         GND         IA								2111111Car	oonantio		1101 00	Jighatot	amay	o nign ≞	<b>_</b> , .		1,010	/011/1		
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			MIL-STD-		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Subgroup	Symbol			2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				Test no.	D3	D2	D1	D0	Y	W	S	GND	С	В	Α	D7	D6	D5	D4	V <sub>CC</sub>
1C = 25*C       rig. 4       101	9	t <sub>PHL2</sub>	3003					IN		OUT	GND	GND	GND	GND	GND					5.0 V
Image: Normal base in the image: Normal base in	Tc = 25°C		Fig. 4	101			IN			"	"	"		GND	5.0 V					"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			"	102		IN				"	"	"		5.0 V	GND					"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			"	103	IN					"	"	"	"	5.0 V	5.0 V					"
Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal conditions as for subgroup 9, except T <sub>c</sub> = +125°C and for following limits:         Image: Normal condition as tor subgroup 9, except T <sub>c</sub> = +125°C and for followi			"	104						"	"	"	5.0 V	GND	GND				IN	"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			"	105						"	"	"		GND	5.0 V			IN		"
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				106						"	"	"		5.0 V	GND		IN			
Image: bit is in the image: bit is bit is in the image: bit is				107						"	"	"		5.0 V	5.0 V	IN				
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		t <sub>PLH3</sub>	"	108	5.0 V	5.0 V	5.0 V	5.0 V	OUT		IN	"	GND	GND	GND	5.0 V	5.0 V	5.0 V	5.0 V	"
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		t <sub>PHL3</sub>	"	109	5.0 V	5.0 V	5.0 V	5.0 V	OUT		"	"	GND	GND	GND		5.0 V	5.0 V	5.0 V	"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		t <sub>PLH4</sub>	"	110	GND	GND	GND	GND		OUT	"	"	5.0 V	5.0 V	5.0 V		GND	GND	GND	"
$\frac{1}{10} + \frac{1}{10} + \frac{1}{110} + \frac{1}{10} + \frac{1}{10}$		t <sub>PHL4</sub>	"	111	GND	GND	GND	"		OUT	"	"	5.0 V	5.0 V	5.0 V		GND	GND	GND	"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		t <sub>PLH5</sub>	"	112			5.0 V	"	OUT		GND	"	GND	GND	IN					"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				113		5.0 V		"			"	"	GND	IN	GND					"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				114				"			"	"	IN	GND	GND				5.0 V	"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		t <sub>PHL5</sub>	"	115			GND	5.0 V			"	"	GND	GND	IN					"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				116		GND		"			"	"	GND	IN	GND					"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				117				"			"	"	IN	GND	GND				GND	"
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		t <sub>PLH6</sub>	"	118			GND	"		OUT	"	"	GND	GND	IN					"
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				119		GND		"		"	"	"	GND	IN	GND					"
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				120				"		"	"	"	IN	GND	GND				GND	"
"         123         "         "         "         "         IN         GND         GND         5.0 V         "           10         Same tests and terminal conditions as for subgroup 9, except T <sub>C</sub> = +125°C and for following limits: tp <sub>LH3</sub> = 3 to 56 ns; tp <sub>HL1</sub> = 3 to 47 ns; tp <sub>LL2</sub> = 3 to 38 ns; tp <sub>LH3</sub> = 3 to 71 ns; tp <sub>HL3</sub> = 3 to 56 ns; tp <sub>LH4</sub> = 3 to 44 ns; tp <sub>HL4</sub> = 3 to 53 ns; tp <sub>LH3</sub> = 3 to 72 ns; tp <sub>HL5</sub> = 3 to 53 ns; tp <sub>LH4</sub> = 3 to 44 ns; tp <sub>HL4</sub> = 3 to 56 ns.         5.0 V         "		t <sub>PHL6</sub>	"	121			5.0 V	GND		"	"	"	GND	GND	IN					"
10       Same tests and terminal conditions as for subgroup 9, except T <sub>C</sub> = +125°C and for following limits:         t <sub>PLH</sub> = 3 to 56 ns; t <sub>PHL1</sub> = 3 to 47 ns; t <sub>PLH2</sub> = 3 to 39 ns; t <sub>PHL2</sub> = 3 to 38 ns;         t <sub>PLH3</sub> = 3 to 71 ns; t <sub>PHL3</sub> = 3 to 56 ns; t <sub>PLH4</sub> = 3 to 44 ns; t <sub>PHL4</sub> = 3 to 53 ns;         t <sub>PLH5</sub> = 3 to 72 ns; t <sub>PHL5</sub> = 3 to 56 ns; t <sub>PLH6</sub> = 3 to 42 ns; t <sub>PHL6</sub> = 3 to 56 ns.				122		5.0 V		"		"	"	"	GND	IN	GND					"
$ t_{\text{PLH1}} = 3 \text{ to } 56 \text{ ns}; t_{\text{PHL1}} = 3 \text{ to } 47 \text{ ns}; t_{\text{PLH2}} = 3 \text{ to } 39 \text{ ns}; t_{\text{PHL2}} = 3 \text{ to } 38 \text{ ns}; t_{\text{PLH3}} = 3 \text{ to } 71 \text{ ns}; t_{\text{PHL3}} = 3 \text{ to } 56 \text{ ns}; t_{\text{PLH4}} = 3 \text{ to } 44 \text{ ns}; t_{\text{PHL4}} = 3 \text{ to } 53 \text{ ns}; t_{\text{PLH5}} = 3 \text{ to } 72 \text{ ns}; t_{\text{PHL5}} = 3 \text{ to } 53 \text{ ns}; t_{\text{PLH6}} = 3 \text{ to } 56 \text{ ns}. $		1		123				"		"	"		IN	GND	GND				5.0 V	"
II joame tests, terminal conditions and limits as for subgroup 10, except 1 <sub>C</sub> = -55°C.		t <sub>PLH1</sub> = 5 t <sub>PLH3</sub> = 5 t <sub>PLH5</sub> = 5	3 to 56 ns; t 3 to 71 ns; t <u>3 to 72 ns; t</u>	PHL1 = 3 to 4 PHL3 = 3 to 5 PHL5 = 3 to 5	7 ns; t <sub>PLH2</sub> 6 ns; t <sub>PLH4</sub> 3 ns; t <sub>PLH6</sub>	= 3 to 39 = 3 to 44 = 3 to 42	ns; t <sub>PHL2</sub> = ns; t <sub>PHL4</sub> = ns; t <sub>PHL6</sub> =	3 to 38 ns 3 to 53 ns 3 to 56 ns	;	following	limits:									
	11	Same te	sts, termina	i conditions	and limits	as for sub	group 10,	except I <sub>C</sub>	= -55°C.											

# TABLE III.Group A inspection for device type 01- Continued.Terminal conditions (pins not designated may be high $\geq$ 2.0 V; low $\leq$ 0.7 V; or open).

1/ Case X and 2 pins not referenced are NC.

 $\underline{2}$ / I<sub>IL</sub> limits shall be as follows:

		Min/Max limits (mA) for circuit											
Test	A	В	С	D	E	F	G						
I <sub>IL1</sub>	16/40	12/36	16/40	03/30	002/150	105/345	0/15						
I <sub>IL2 &amp;</sub>	12/36	12/36	16/40	03/30	002/150	16/40	0/15						
I <sub>IL3</sub>					10/34								

 $\underline{3}/~$  Inputs:  $~A \geq 2.5~V$  minimum,  $B \leq 0.4~V$  maximum.

Outputs:  $H \ge 1.5 V$ ,  $L \le 1.5 V$ .

		MIL-STD-	E, F		2	5	7	5	0	,	0	5	10		12	10	14	15	10
Subgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
			Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	A	2G	V <sub>CC</sub>
1	V <sub>OH</sub>	3006	1	0.7 V	0.7 V				2.0 V	4 mA	GND						0.7 V		4.5 V
Tc = 25°C		3006	2		0.7 V						"	4 mA	2.0 V				0.7 V	0.7 V	
	V <sub>OL</sub>	3007	3	2.0 V						4 mA									
		3007	4									4 mA						2.0 V	
	VIC		5	-18 mA							"								
			6		-18 mA														"
			7			-18 mA													
			8				-18 mA	10 1											
			9					-18 mA	40										
			10 11						-18 mA				-18 mA						
			11										-18 MA	-18 mA					
			12											-10 IIIA	-18 mA				
			13								"				-10 IIIA	-18 mA			
			14								"					-101114	-18 mA		
			16					1			"					1	10 mA	-18 mA	
	I <sub>IL1</sub>	3009	17	0.4 V	GND						"						GND	GND	5.5 V
		"	18	GND	0.4 V						"						GND	"	"
			19	"	5.5 V	0.4 V	5.5 V	5.5 V	5.5 V				5.5 V	5.5 V	5.5 V	5.5 V	5.5 V		"
			20	"	5.5 V	5.5 V	0.4 V	5.5 V	"				"	"	"	"	GND		"
			21	"	GND	"	5.5 V	0.4 V	"		"			"	"		5.5 V		
			22	"	-	"	"	5.5 V	0.4 V				-	"	"		GND	-	"
			23	"		"	"	"	5.5 V		"		0.4 V	"		"	GND		"
			24	"	-	"	"	"	"				5.5 V	0.4 V	-	"	5.5 V	-	"
		"	25	"	5.5 V	"	"	"					=	5.5 V	0.4 V		GND	-	"
			26	"	5.5 V	"	"	"	"		"		"	5.5 V	5.5 V	0.4 V	5.5 V		"
		"	27	"	GND						"						0.4 V		"
		"	28	"	GND												GND	0.4 V	"
	I <sub>IH1</sub>	3010	29	2.7 V	GND												5.5 V	5.5 V	"
			30	GND	2.7 V												5.5 V		
			31	5.5 V	GND	2.7 V	GND	GND	GND				GND	GND	GND	GND	GND		
			32		GND	GND	2.7 V	GND									5.5 V		
			33 34		5.5 V		GND	2.7 V GND	2.7 V								GND		
			34	"		"	"	GND "	GND				2.7 V				5.5 V 5.5 V		"
			36	"		"	"	"	GND "		"		GND	2.7 V			GND		
			30	"	GND	"	"	"	"		"		GND "	GND	2.7 V		5.5 V		"
			38	"	GND	"	"	"	"		"			GND	GND	2.7 V	GND		"
		"	39	"	5.5 V			1			"				0.10	2.7 V	2.7 V	GND	"
		"	40	"	5.5 V						"						GND	2.7 V	"
	I <sub>IH2</sub>	"	41	7.0 V	GND	1	1		1		"			1			5.5 V	5.5 V	"
		"	42	GND	7.0 V	1	1		1		"			1			5.5 V	"	"
		"	43	5.5 V	GND	7.0 V	GND	GND	GND		"		GND	GND	GND	GND	GND		"
		"	44	"	GND	GND	7.0 V	GND	"					"			5.5 V		"
		"	45	"	5.5 V	"	GND	7.0 V	"		"		=	"	"	"	GND		
		"	46	"	"	"	"	GND	7.0 V		"			"	"		5.5 V		"
		"	47	"	"	"	"	"	GND		"		7.0 V				5.5 V		"
		"	48	"	-	"	"	"			"		GND	7.0 V			GND	-	
		"	49	"	GND	"	"	"	"		"			GND	7.0 V	"	5.5 V		"
		"	50	"	GND	"	"		"		"		-	GND	GND	7.0 V	GND		"
			51	"	5.5 V						"						7.0 V	GND	"
			52		5.5 V	01/2	01/2	01/2		0115			E E \ /	01/2	01/2	0115	GND	7.0 V	
	Ios	3011	53	GND	GND	GND	GND	GND	5.5 V	GND		01/2	5.5 V	GND	GND	GND		GND	
		3011	54			"	"		5.5 V			GND	5.5 V					-	"
1	I <sub>CC1</sub>	3005	55						GND	1			GND						

TABLE III. Group A inspection for device type 02.Terminal conditions (pins not designated may be high  $\geq 2.0$  V; low  $\leq 0.7$  V; or open).4567891011121314

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See footnotes at end of device type 02.

Cases E, F

MIL-STD-

2

1

3

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Subgroup	Symbol		Cases <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
Gubgroup	Gymbol	method	2, X		-				_	-					-		_	-	
			Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	A	2G	V <sub>CC</sub>
2			al conditions																
3			al conditions									<b>.</b>				· · ·			
7	Func- tional	3014	56 57	A	A B	AB	A B	AB	A B	L	GND	L	AB	AB	AB	AB	AB	A	5.0 V
Tc = 25°C			57		В "	в "	в "	в =					A	В	D =	в =	В	<u> </u>	
	tests		59	В		"	"		A	Н	"	н	A					В	
			59 60	 "		"	"	"	B				B					B	
			61	"		А	A	A	В "	L "	"	"	D "	Α	А	А			
		"	62	Α	"	"	"	"	"	"	"			"	"	"	А	А	
		"	63	B	"	"	"	"	"	н	"	н		"			"	B	
		"	64	B		"	"	В		1	"	L		В				B	
		"	65	Ā	Α	"	"	"	"	Ē	"	L		"			В	Ā	
		"	66	В	"	"	"	"	"	н	"	н	"	"	-			В	
		"	67	B	"	"	В	"	"	L	"	L		"	В		"	B	
		"	68	Α	"	-	-		"	L	"	L	-	"	-	-	Α	A	
		"	69	В	"	"	"	"	"	Н	"	Н	"	"	-	-		В	
		"	70	В	"	В	"	"	-	L		L	-		-	В	-	В	
8	Repeat	t subgroup 7	7 tests at T <sub>C</sub>	= +125°C		).													
9	t <sub>PLH1</sub>	3003	71	GND	GND				IN	OUT	GND						GND	GND	5.0 V
Tc = 25°C		Fig. 4	72	"	GND			IN		-	"						5.0 V		
		"	73	-	5.0 V		IN			-	"						GND		
		"	74	"	5.0 V	IN				"	"						5.0 V		
			75		GND							OUT	IN				GND	L	
			76		GND									IN	INI		5.0 V	<u>⊢                                     </u>	
			77 78		5.0 V 5.0 V										IN	IN	GND 5.0 V		
1	t <sub>PHL1</sub>	"	78	"	GND				IN	OUT	"					IIN	GND		
	PHL1		80		GND			IN	IIN	"							5.0 V		
		"	81	"	5.0 V		IN	IIN		"	"						GND		
		"	82	"	5.0 V	IN				"	"						5.0 V		
1		"	83	"	GND						"	OUT	IN				GND	"	
		"	84	"	GND						"			IN			5.0 V	"	
		"	85	"	5.0 V						"				IN		GND	"	
1		"	86	"	5.0 V						"					IN	5.0 V		
i i	t <sub>PLH3</sub>	"	87	IN	GND				5.0 V	OUT	"						GND		
		"	88		"						"	OUT	5.0 V					IN	
ł	t <sub>PHL3</sub>		89	IN	"				5.0 V	OUT		<u></u>	=	<u> </u>			"		
			90	OND		OND	5.0.1/			OUT		OUT	5.0 V		5.0.1/	OND		IN	
	t <sub>PLH5</sub>		91	GND	5.0 V	GND GND	5.0 V 5.0 V			OUT		OUT			5.0 V 5.0 V	GND GND	IN IN	GND	
			92 93		5.0 V IN	5.0 V	5.U V	GND	<u> </u>	OUT	"	001		GND	5.U V	5.0 V	5.0 V		
			93		IN	5.0 V 5.0 V		UND "		001	"	OUT		"		5.0 V 5.0 V	5.0 V 5.0 V	"	
	t <sub>PHL5</sub>	"	94 95		GND	5.0 V		"	5.0 V	OUT	"	001	5.0 V	"		5.0 V	5.0 v IN	"	
	PHL5	"	95	"	GND			"	3.0 V	001	"	OUT	J.U V "	"			IN		
		"	97	"	IN		GND		"	OUT	"		"		GND		GND	"	
		"	98	"	IN		GND		"		"	OUT	"		GND		GND	"	
10	Same	tests and	terminal co	onditions		haroup C		$T_{0} = +12$	25°C and	for follow	vina limit				0.10	t	0.10		
-			s; $t_{PHL1} = 3$							101 10100	mig min	0.							
ł			s, $t_{PHL1} = 3$ s; $t_{PHL5} = 3$			10 44 18	, «PHL3 =	0.0000	i <b>0</b> ,										
11	PLH5 -		o, ippl condi	tiona ana	Llimito co	for out	10	ovoort -		<u>^</u>									
	Same	iesis, tern	ninal condi	uons and	a innits as		jioup 10,	except	ı <sub>C</sub> = -55°	6									

 TABLE III. Group A inspection for device type 02 - Continued.

 Terminal conditions (pins not designated may be high  $\ge 2.0$  V; low  $\le 0.7$  V; or open).

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See footnotes at end of device type 02.

# TABLE III. Group A inspection for device type 02 - Continued.

 $\underline{1}/$  Case X and 2 pins not referenced are NC.  $\underline{2}/$   $I_{IL}$  limits are as follows:

			Min/Ma	x limits (mA) f	or circuits		
Test	А	В	С	D	E	F	G
I <sub>IL1</sub>	Tests 17 and 28 001/15	12/36	12/36	03/30	Tests 17 and 28 016/40	12/36	0/15
	tests 18 through 27				tests 18 and 27		
	12/36				12/36		
					Tests 19 through 26		
					16/40		

 $\label{eq:linear} \begin{array}{ll} \underline{2} / & \mbox{Inputs:} & \mbox{A} \geq 2.5 \mbox{ V}; \mbox{ B} \leq 0.4 \mbox{ V}. \\ & \mbox{Outputs:} & \mbox{H} \geq 1.5 \mbox{ V}; \mbox{ L} \leq 1.5 \mbox{ V} \end{array}$ 

			_, .																
Subgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
			Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	ЗA	4Y	4B	4A	G	V <sub>CC</sub>
1	V <sub>OH</sub>	3006	1	2.0 V		2.0 V	4 mA	25	20	21	GND	51	30	34	41	4D	47	0.7 V	4.5
c = 25°C	VОН	3000	2	2.0 V		2.0 V	4 11/4		2.0 V	4 mA	GND "							0.7 V	4.5
c = 25°C			3	"					2.0 V	4 IIIA	"	4 mA	2.0 V						
			4	"							"	4 MA	2.0 V		4 mA	2.0 V			
-	V	3007					4				"				4 MA	2.0 V		2.0.1/	
	V <sub>OL</sub>	3007	5				4 mA			4								2.0 V	
			6 7							4 mA		4							
											"	4 mA			4				
-	N/		8	40							"				4 mA				
	VIC		9	-18 mA	40						"								
			10 11		-18 mA	10 1													
			11			-18 mA		-18 mA			"								
								-18 MA	40		"								
			13						-18 mA				10						
			14										-18 mA	40					
			15											-18 mA		10 1			
			16													-18 mA	10 (		
			17														-18 mA	10 (	
ŀ		2000	18		0.414	E E V												-18 mA	
	I <sub>IL1</sub>	3009	19	GND	0.4 V	5.5 V												GND	5.5
			20 21	5.5 V GND	5.5 V	0.4 V		0.4 V	EEV										
			21	5.5 V				0.4 V 5.5 V	5.5 V 0.4 V										
			22	5.5 V 5.5 V				5.5 V	0.4 V		"		0.4 V	5.5 V					
			23	S.S V GND							"								
			24 25	5.5 V									5.5 V	0.4 V		0.4 V	5.5 V		
			25	GND							"					0.4 V 5.5 V	0.4 V		"
ŀ	I <sub>IL2</sub>	"	20	0.4 V							"					J.J V	0.4 V	5.5 V	"
	IL2		27	0.4 V 5.5 V							"							0.4 V	
ŀ	I <sub>IH1</sub>	3010	28	5.5 V 5.5 V	2.7 V						"							0.4 V	
	•iH1	3010	30	GND	2.7 V	2.7 V					"								"
			31	5.5 V		2.1 V		2.7 V											
			32	GND				2.1 V	2.7 V		"								
			33	GND					2.1 V		"		2.7 V						"
			34	5.5 V							"		2.7 V	2.7 V					
			35	GND							"			2.1 V		2.7 V			
			36	5.5 V							"					2.1 V	2.7 V		
-	I <sub>IH2</sub>	3010	37	5.5 V 5.5 V	7.0 V							<u>├</u>					2.1 V		
	•IH2	3010	38	GND	1.0 V	7.0 V					"								
			39	5.5 V		7.0 V		7.0 V											"
			40	GND				7.0 V	7.0 V		"								
		"	40	GND					7.0 V		"		7.0 V						"
		"	42	5.5 V	-			-			"			7.0 V		-	-		"
		"	43	GND							"			1.0 1		7.0 V			"
		"	44	5.5 V							"					7.0 V	7.0 V		"
ŀ	I <sub>IH3</sub>	"	45	2.7 V							"						1.0 1	GND	
	·IF13	"	46 <u>3</u> /	GND							"							2.7 V	
-	I <sub>IH4</sub>	"	40 <u>6</u> / 47	7.0 V							"							GND	"
	• 117144	"	48 3/	GND							"							7.0 V	
ŀ	Ios	3011	40 <u>5</u> / 49	"	5.5 V	5.5 V	GND											GND	"
	'US	"	49 50	"	J.J V	0.0 V	UND	5.5 V	5.5 V	GND		<u>├</u>						GND "	"
			51	"				0.0 V	0.0 V	GND	"	GND	5.5 V	5.5 V					"
			52	"							"	OND	5.5 v	5.5 v	GND	5.5 V	5.5 V		
-	I <sub>CC1</sub>	3005	53	5.5 V	5.5 V	5.5 V		5.5 V	5.5 V		"		5.5 V	5.5 V		5.5 V	5.5 V	5.5 V	"
					0.0 v	0.0 v		0.0 V	0.0 v				J.J V	0.0 v		0.0 V	5.5 v	0.0 v	1

TABLE III. Group A inspection for device type 03.Terminal conditions (pins not designated may be high  $\ge 2.0$  V; low  $\le 0.7$  V; or open).4567891011121314

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Cases E, F

MIL-STD-

See footnotes at end of device type 03.

3

2

MIL-STD- bol 883 method c- 3014 al " s " " " " " " " " " " "	Cases E, F Cases <u>1</u> / 2, X Test no. 55 56 57 57 58 59 60 61 62 63	1 2 A B " " " " A	2 3 1A A B B A A A B B A A B	3 4 1B A B " "	4 5 1Y L "	5 7 2A A A B	6 8 2B A A	7 9 2Y	8 10 GND	9 12 3Y	10 13	11 14	12 15	13 17	14 18	15 19	16 20
c- 3014 al " s " " " " " " " " " " " " " " "	2, X Test no. 54 55 56 57 58 59 60 61 62	S A " " "	1A A B B A A	1B A A B "	1Y	2A A A	2B A	2Y							18	19	20
al " s " " " " " eat subgroup 7	54           55           56           57           58           59           60           61           62	A B " " "	A A B A A	A A B "		A A	A		GND	01/							1
al " s " " " " " eat subgroup 7	54           55           56           57           58           59           60           61           62	A B " " "	A A B A A	A B "		A A	A			3Y	3B	ЗA	4Y	4B	4A	G	Vcc
al " s " " " " " eat subgroup 7	55 56 57 58 59 60 61 62	B " " "	A B A A	B "		Α			GND	L	A	Α	L	Α	А	A	5.0 \
" " " eat subgroup 7	56 57 58 59 60 61 62	"	B B A A	"				"	"	"	A	Α	"	Α	Α		
	57 58 59 60 61 62	"	A A	"	"		В		"	"	В	В	"	В	В		"
	58 59 60 61 62	"	А	"		В	"	"	"	"		В	"		В	В	
	60 61 62	"			Н	Α	"	Н	"	Н		Α	Н	"	Α		
	61 62	" A	B	A	Н	A	Α	Н	"	Н	А	Α	Н	Α	A		
	62	A		"	L	В	"	L	"	L		В	L	"	В		"
			В	"	Н	В	"	Н	"	Н		В	Н	"	В		"
	63	"	Α	"	Н	А	"	Н	"	Н	"	Α	Н	"	А		
		"	Α	В	L	А	В	L	"	L	В	Α	L	В	А		
	7 tests at T <sub>C</sub> :	= +125°C a	and T <sub>C</sub> = -	55°C													
	64	GND	IN		OUT				GND							GND	5.0 \
Fig. 4	65	5.0 V		IN	OUT				"								
"	66	GND				IN		OUT	"								
"	67	5.0 V					IN	OUT	"								
"	68	5.0 V							"	OUT	IN						
"	69	GND							"	OUT		IN					
"	70	5.0 V							"				OUT	IN			
"	71	GND							"				OUT		IN		
.1	72	GND	IN		OUT				"								
	73	5.0 V		IN	OUT				"								
	74	GND				IN		OUT	"								
	75	5.0 V					IN	OUT									
	76	5.0 V								OUT	IN						<u> </u>
										001		IN	OUT				
														IN	INI		
				5.0.1/	OUT								001		IN		
13		5.0 V		5.0 V	001		5.0.1/	OUT								IN "	
							5.0 V	001	"	OUT	EOV						
		"							"	001	5.0 V			5 0 V			
. "		GND	5 0 V						"				001	J.0 V		IN	
3 "		"	3.0 v		001	50V		OUT	"							"	
		"				0.0 V		001	"	OUT		50V					
		"							"	001		3.0 ¥	OUT		50V		
15 "		IN	5.0 V	GND	OUT				"						0.0 .	GND	
CI		"	0.0 v		001	5.0 V	GND	OUT	"							"	
	90	"				0.0 .	0		"	OUT	GND	5.0 V				"	
		"							"		0.10	5.5 .	OUT	GND	5.0 V		"
5 "	92	"	GND	5.0 V	OUT	1			"							IN	"
		"				GND	5.0 V	OUT	"								
	94	"							"	OUT	5.0 V	GND				"	"
	95	"							"				OUT	5.0 V	GND	"	
	terminal co	onditions	as for su	baroup 9	excent	$T_{c} = +12$	25°C and	for follow	vina limit	s' tour a	ind t <sub>P⊔l 1</sub> =	3 to 29 n	IS' to u2 =	3 to 38 n	s: tour 2 =	3 to 39 ns	to us
ne tests and																IIC	·, •r:Lr15
	5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	81         82           "83         84           "85         86           "86         87           6         88           "90         91           5         "92           "93         94           "95         "95	"         78         5.0 V           79         GND           80         5.0 V           81         "           82         "           83         "           84         GND           85         "           86         "           87         "           90         "           91         "           93         92           93         93           94         "           95         "           96         "           95         "	"         78         5.0 V           79         GND           80         5.0 V           81         "           82         "           83         "           83         "           83         "           83         "           84         GND           85         "           86         "           87         "           90         "           90         "           91         "           92         " GND           93         "           94         "           95         "	"         78         5.0 V           79         GND	78         5.0 V         9           79         GND         -           80         5.0 V         5.0 V         OUT           81         "         -         -           82         "         -         -           83         "         -         -           83         "         -         -           83         "         -         -           84         GND         5.0 V         OUT           85         "         -         -           86         "         -         -           87         -         -         -           90         "         -         -           90         "         -         -           90         "         -         -           91         "         -         -           93         "         -         -           93         "         -         -           94         -         -         -	78         5.0 V         9           79         GND         000           80         5.0 V         5.0 V         000           81         "         0         000           82         "         0         000           83         "         0         000           83         "         0         000           84         GND         5.0 V         000           85         "         0         000           86         "         0         000           87         "         0         000           88         IN         5.0 V         GND         0UT           90         "         0         000         000           90         "         0         000         000           91         "         000         000         000           93         "         000         000         000           93         "         000         000         000           95         "         000         000         000	78         5.0 V         79         GND           79         GND         5.0 V         OUT           80         5.0 V         5.0 V         OUT           81         "         5.0 V         5.0 V           82         "         1         5.0 V           83         "         0         5.0 V           83         "         0         0           83         "         0         0           86         "         0         0           86         "         0         0           87         0         0         0           88         IN         5.0 V         GND           90         "         0         0           90         "         0         0           91         "         0         0           93         "         0         0           93         "         0         0           95         0         0         0	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	78         5.0 V         0 <td>78         5.0 V         0<td>78         5.0 V         Image: Constraint of the second se</td><td><math display="block"> \begin{array}{c ccccccccccccccccccccccccccccccccccc</math></td></td>	78         5.0 V         0 <td>78         5.0 V         Image: Constraint of the second se</td> <td><math display="block"> \begin{array}{c ccccccccccccccccccccccccccccccccccc</math></td>	78         5.0 V         Image: Constraint of the second se	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				

TABLE III.Group A inspection for device type 03 - Continued.Terminal conditions (pins not designated may be high  $\geq$  2.0 V; low  $\leq$  0.7 V; or open).

# TABLE III. Group A inspection for device type 03 - Continued.

 $\underline{1}/$  Pins not designated are high  $\geq$  2.0 V; low  $\leq$  0.7 V; or open. Case X and 2 pins not referenced are NC.

#### $\underline{2}/~I_{\text{IL}}$ limits are as follows:

					Min/Max limits	s (mA) for circuit	S
Test	А	В	С	D	E	F	G
I <sub>IL1</sub>	135/370	016/40	20/44	03/30	0/20	12/36	0/15
I <sub>IL2</sub>	270/740	12/36	40/88	06/60	0/10 for test 27 0/10 for test 28	24/72 except 12/36 test 28	0/15

- $\label{eq:alpha} \begin{array}{l} \underline{4}/ \mbox{ Inputs: } A \geq 2.5 \mbox{ V minimum, } B \leq 0.4 \mbox{ V maximum.} \\ \mbox{ Outputs: } H \geq 1.5 \mbox{ V, } L \leq 1.5 \mbox{ V.} \end{array}$

ubgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	1
			Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	ЗA	4Y	4B	4A	G	V
1	V <sub>OH</sub>	3006	1				4 mA				GND							2.0 V	4
= 25°C		"	2							4 mA	"								
		"	3								"	4 mA							Т
			4								"				4 mA				T
	V <sub>OL</sub>	3007	5	2.0 V		2.0 V	4 mA				"							0.7 V	T
	02	"	6	"					2.0 V	4 mA	"							-	Т
		"	7	"							"	4 mA	2.0 V						T
			8	-							"		-		4 mA	2.0 V			t
	VIC		9	-18 mA							"								t
	•10		10		-18 mA						"								t
			11		1011/1	-18 mA					"								t
			12			10 110 1		-18 mA			"								+
			13					-10 11/4	-18 mA		"								+
			13						-101114		"		-18 mA						+
			14								"		-10 IIIA	-18 mA					+
			16								"			-101114		-18 mA			+
			10								"					-101114	-18 mA		+
			18								"						-1011/4	-18 mA	+
	-	3009	10	GND	0.4 V	5.5 V					"							GND	+
	$I_{IL1}$	3009	20	5.5 V	0.4 V 5.5 V	0.4 V												GND	+
			20		5.5 V	0.4 V		0.4 V	5.5 V										+
				GND															+
			22	5.5 V				5.5 V	0.4 V		"		0.4.1/	5.5.1					+
			23	5.5 V									0.4 V	5.5 V					+
			24	GND									5.5 V	0.4 V					+
			25	5.5 V												0.4 V	5.5 V		+
			26	GND												5.5 V	0.4 V		+
	$I_{IL2}$		27	0.4 V														5.5 V	+
			28	5.5 V							"							0.4 V	_
	I <sub>IH1</sub>	3010	29	5.5 V	2.7 V						"								
		"	30	GND		2.7 V					"								
		"	31	5.5 V				2.7 V											
			32	GND					2.7 V		"								
			33	GND							"		2.7 V						
			34	5.5 V							-			2.7 V					
		"	35	GND							=					2.7 V			
		"	36	5.5 V							=						2.7 V		T
	I <sub>IH2</sub>	3010	37	5.5 V	7.0 V														Τ
		"	38	GND		7.0 V					"								Т
		"	39	5.5 V				7.0 V											I
		"	40	GND					7.0 V		-								T
		"	41	GND							"		7.0 V						T
		"	42	5.5 V							=			7.0 V					T
		"	43	GND							"					7.0 V			Т
		"	44	5.5 V							"						7.0 V		T
	I <sub>IH3</sub>	"	45	2.7 V							"							GND	Ť
		"	46	GND							"							2.7 V	t
	I <sub>IH4</sub>	"	47	7.0 V							"							GND	Ť
		"	48	GND	1						"					1	1	7.0 V	t
	los	3011	49	"			GND				"							5.5 V	+
	108	"	49 50	"			GND			GND	"							0.0 v "	+
		"	50	"						GND	"	GND							+
			51	"							"	GND			GND				+
	_	3005	52	5.5 V	5.5 V	5.5 V		5.5 V	5.5 V				5.5 V	E E V	GND	E E M	E E V		+
	I <sub>CC1</sub>												5.5 V	5.5 V		5.5 V	5.5 V		1
2				and limits	s as suboro	DUD 1. exce	ept T <sub>C</sub> = +	125°C and	I Vic tests	omitted									

TABLE III. Group A inspection for device type 04.Terminal conditions (pins not designated may be high  $\geq 2.0$  V; low  $\leq 0.7$  V; or open).4567891011121314

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Cases E, F

MIL-STD-

See footnotes at end of device type 04.

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													e nign ∠						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ubgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	2
			Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	V
7	Func-	3014	54	A	A	Α	Н	Α	A	Н	GND	Н	А	A	Н	A	Α	A	5.0
c = 25°C	tional	"	55	В	A	Α	"	Α	A	-	-		A	Α	-	A	Α	-	
	tests		56		В	В		В	В	-	-		В	В	=	В	В	-	
		"	57	"	В	"	"	В	"	=	-		=	В	=		В	В	
		"	58		A	"	L	A		L	"	L	-	Α	L		A	-	
		"	59		A	Α	L	A	A	L	"	L	A	Α	L	A	Α		
			60	"	В	"	Н	В	"	Н	"	Н		В	Н		В	"	
		"	61	A	В	"	L	В	"	L	"	L	-	В	L		В	"	
		"	62	"	A	"	L	A	"	L	"	L		A	L		A	"	
		"	63	"	A	В	Н	A	В	Н	"	Н	В	Α	Н	В	A	"	
8	Repeat	subgroup 7				55°C													
9	t <sub>PLH1</sub>	3003	64	GND	IN		OUT				GND							GND	5
c = 25°C		Fig. 4	65	5.0 V		IN	OUT				"							"	
		"	66	GND				IN		OUT	"							"	
		"	67	5.0 V					IN	OUT	"							"	
		"	68	5.0 V							"	OUT	IN					"	
		"	69	GND							"	OUT		IN				"	
		"	70	5.0 V							"				OUT	IN		-	
		"	71	GND							"				OUT		IN		
	t <sub>PHL1</sub>		72	GND	IN		OUT				"							"	
			73	5.0 V		IN	OUT				"								
			74	GND				IN		OUT	"								
			75	5.0 V					IN	OUT									
			76	5.0 V								OUT	IN						_
			77	GND								OUT		IN					_
			78	5.0 V											OUT	IN			_
			79	GND	5.0.1/		OUT								OUT		IN		_
	t <sub>PLH3</sub>		80	GND	5.0 V		OUT	5.0.1/		QUIT								IN	_
			81					5.0 V		OUT		OUT		5014					_
			82 83									OUT		5.0 V	OUT		5.0 V		_
	4	"	83	5.0 V		5.0 V	OUT				"				001		5.0 V		_
	t <sub>PHL3</sub>		84 85	5.0 V		5.0 V	001		5.0 V	OUT	"								_
			86	"					5.0 V	001	"	OUT	5.0 V						_
			87	"							"	001	5.0 V		OUT	5.0 V			_
	+		88	IN	5.0 V	GND	OUT				"				001	5.0 V		GND	_
	t <sub>PLH5</sub>		89	"	J.0 V	GND	001	5.0 V	GND	OUT	"							GND "	-
			90	"				J.0 V	GND	001	"	OUT	GND	5.0 V					-
			90	"							"	001	UND	5.0 V	OUT	GND	5.0 V		+
	t <sub>PHL5</sub>	"	92	"	GND	5.0 V	OUT				"				001		0.0 V		+
	PHLS		93	"		0.0 v	001	GND	5.0 V	OUT	"								+
		"	94	"					5.0 v	001	"	OUT	5.0 V	GND					+
		"	95	"							"	001	0.0 ¥		OUT	5.0 V	GND		+
					r subgroup		1	1								0.0 1			

TABLE III.Group A inspection for device type 04- Continued.Terminal conditions (pins not designated may be high  $\geq$  2.0 V; low  $\leq$  0.7 V; or open).

 $\underline{1}/$  Case X and 2 pins not referenced are NC.  $\underline{2}/$  I\_{IL} limits are as follows:

					Min/Max limits (m	A) for circuits	
Test	Α	В	С	D	E	F	G
I <sub>IL1</sub>	135/370	016/40	20/44	03/30	0/20	12/36	0/15
I <sub>IL2</sub>	270/740	12/36	40/88	06/60	0/10 for test 27	24/72 except	0/15
					0/10 for test 28	12/36 test 28	

 $\label{eq:alpha} \begin{array}{l} \underline{3}/ \mbox{ Inputs: } A \geq 2.5 \mbox{ V minimum, } B \leq 0.4 \mbox{ V maximum.} \\ \mbox{ Outputs: } H \geq 1.5 \mbox{ V, } L \leq 1.5 \mbox{ V.} \end{array}$ 

		WIL-STD-	Е, Г																
Subgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
			Test no.	D3	D2	D1	D0	Y	W	S	GND	С	В	Α	D7	D6	D5	D4	V <sub>CC</sub>
1	V <sub>OH</sub>	3006	1					-1 mA		0.7 V	GND	2.0 V	2.0 V	2.0 V	2.0 V				4.5 V
Tc = 25°C	011	"	2				0.7 V		-1 mA	"	"	0.7 V	0.7 V	0.7 V					"
	VoL	3007	3				0.7 V	4 mA		"	"	0.7 V	0.7 V	0.7 V					"
	02	"	4						4 mA	"	"	2.0 V	2.0 V	2.0 V	2.0 V				"
	VIC		5	-18 mA							"								"
			6		-18 mA						"								"
			7			-18 mA					"								"
			8				-18 mA				"								
			9							-18 mA	"								
			10								"	-18 mA							
			11								"		-18 mA						"
			12								"			-18 mA					"
			13								"				-18 mA				
			14								"					-18 mA			
			15														-18 mA	40.4	
		0000	16	0.414	5.5.1/	5.5.1/	5.5.1/						5 5 V	5.5.1	5 5 V	5.5.1/	5.5.1	-18 mA	
	I <sub>IL1</sub>	3009 "	17	0.4 V	5.5 V	5.5 V	5.5 V			GND "		GND	5.5 V	5.5 V	5.5 V "	5.5 V	5.5 V	5.5 V	5.5 V
			18 19	5.5 V	0.4 V 5.5 V	5.5 V 0.4 V							5.5 V GND	GND 5.5 V					"
			20	"	5.5 V	0.4 V 5.5 V	0.4 V						GND	S.S V GND					"
			20	"		5.5 V	0.4 V 5.5 V			"	"	5.5 V	5.5 V	5.5 V	0.4 V				"
			21	"	"	"	5.5 V				"	5.5 V	5.5 V	GND	5.5 V	0.4 V			"
		"	23	"	"	"	"			"	"		GND	5.5 V	0.0 V	5.5 V	0.4 V		"
			24	"	"	"	"			"	"		GND	GND		5.5 V	5.5 V	0.4 V	"
	I <sub>IL2</sub>	"	25							0.4 V	"		OND	OND		0.0 V	0.0 V	0.4 V	
	I <sub>IL3</sub>	"	26							0.4 V	"	0.4 V							"
	125	"	27								"	-	0.4 V						"
		"	28								"			0.4 V					"
	I <sub>IH1</sub>	3010	29	2.7 V	GND	GND	GND			GND	"	5.5 V	GND	GND	GND	GND	GND	GND	"
			30	GND	2.7 V	GND							GND	5.5 V		"	"	-	"
		"	31	"	GND	2.7 V	"			"	"		5.5 V	GND	-	"	"	-	"
			32	"	GND	GND	2.7 V			-	-	-	5.5 V	5.5 V	-	"		-	"
		"	33							2.7 V	=								"
		"	34								-	2.7 V							"
		"	35								"		2.7 V						"
		"	36								"			2.7 V					
			37	GND	GND	GND	GND			GND	"	GND	GND	GND	2.7 V	GND	GND	GND	
			38										GND	5.5 V	GND "	2.7 V	GND		"
			39										5.5 V	GND		GND	2.7 V		"
			40									 	5.5 V GND	5.5 V		GND	GND "	2.7 V GND	
	I <sub>IH2</sub>		41 42	7.0 V GND	7.0 V	GND				"	"	5.5 V	GND	GND 5.5 V				GND "	
			42	GND "	GND	7.0 V							5.5 V	5.5 V GND					"
			43	"	GND	GND	7.0 V	<u> </u>	<u> </u>				5.5 V	5.5 V					"
		"	44		GND	UND	7.0 V			7.0 V	"		0.0 V	0.0 v					
		"	46							7.0 0	"	7.0 V							"
		"	47								"		7.0 V						
		"	48								"			7.0 V					
		"	49	GND	GND	GND	GND			GND	"	GND	GND	GND	7.0 V	GND	GND	GND	"
		"	50	"	"	"	"	1	1	"	"		GND	5.5 V	GND	7.0 V	GND		"
			51	"	"	"	"	1	1	"	"		5.5 V	GND		GND	7.0 V		"
			51																

TABLE III. Group A inspection for device type 05.Terminal conditions (pins not designated may be high  $\ge 2.0$  V; low  $\le 0.7$  V; or open).4567891011121314

16

15

, 14

34 34

Cases E, F

MIL-STD-

See footnotes at end of device type 05.

2

3

												-							-
	I <sub>OZL</sub>		55	"	"	"	"	0.4 V		"	"			"	2.0 V	"	"	"	"
			56	"	"	"	"		0.4 V	"	"			"	0.7 V	"			
	los	3011	57					GND		GND	=	"	=	"	5.5 V				"
	<u>3</u> /	3011	58				GND		GND			GND	GND	GND					"
	I <sub>CC1</sub>	3005	59	5.5 V	5.5 V	5.5 V	5.5 V			"	"	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	"
	I <sub>CC2</sub>	3006	60	5.5 V	5.5 V	5.5 V	5.5 V		1	5.5 V		5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	'
2		ests, termina						125°C and	V. a tests										
3		ests, termina																	
7	Func-		61	B	B	B B		H		B	GND	В	Р	В	В	В	В	В	50
		3014	62	A			A	H		В	GND	В	B	В		A		A	5.0
°c = 25°C				A "	A	A "	A								A "	A "	A	A	
	tests		63				В	L	Н										
			64					Н	L					A					
			65			В	"	L	Н	"	"			A			"		
		"	66	"	"	"		Н	L	"	-		A	В		"	"	-	
		"	67		В			L	Н				=	В	-				
		"	68	"	"	"	"	Н	L	"	"		-	A	-	"			
		"	69	В		"	"	L	Н		-		-	A	-	"	"	"	
		"	70	"		"	=	Н	L		=	А	В	В	=		"	-	
		"	71	"	"	"	"	L	Н	"	"		=	В	-			В	
		"	72	"	"	"	"	Н	L	"	"		=	Α	-			-	
		"	73	"	"	"	=	L	Н	"	=		-	А	-	-	В		
		"	74	"			-	Н	L		-	-	A	В		-	-		
		"	75	"		"	"	L	Н		"			В		В	"		
		"	76	"	"	"		Н	L	"				Α		"	"		
		"	77	"			"	L	Н		"			Α	В				'
8	Repeat	subgroup 7	tests at Tc	= +125°C	and Tc = -	55°C.													
9	t <sub>PLH1</sub>	3003	78				IN	OUT		GND	GND	GND	GND	GND					5.0
c = 25°C		(Fig. 4)	79			IN		"		"	"		GND	5.0 V					
		"	80		IN			"		"	-		5.0 V	GND					
			81	IN				"		"	-		5.0 V	5.0 V					
			82					"		"	"	5.0 V	GND	GND				IN	
			83					"		"	"	"	GND	5.0 V			IN		
			84					"		"	"		5.0 V	GND		IN			
			85					"		"	"		5.0 V	5.0 V	IN				
	t	"	86				IN	"			"	GND	GND	GND	IIN				+
	t <sub>PHL1</sub>		87	+		IN		"	+	"	"	"	GND	5.0 V					+
			88		IN	IIN		"		"			5.0 V	GND					-
			89	IN	IIN			"	+				5.0 V	5.0 V					
			89 90	IIN				"				5.0 V	5.0 V GND	GND				IN	-
			90 91	l				"	l	"		5.U V	GND	5.0 V			INI	IIN	
				l					l							INI	IN		
			92										5.0 V	GND		IN			-
	L		93			L			0.117				5.0 V	5.0 V	IN	L	L		
	t <sub>PLH2</sub>		94	ļ			IN		OUT			GND	GND	GND					1
			95	ļ		IN							GND	5.0 V					<u> </u>
		"	96		IN						"		5.0 V	GND					<u> </u>
		"	97	IN					"	"	"		5.0 V	5.0 V					
		"	98						"		-	5.0 V	GND	GND				IN	
		"	99						"	"	"		GND	5.0 V			IN		
			100						"	"	-		5.0 V	GND		IN			
		"	100																

8

W

2.7 V

9

S 2.0 V

TABLE III. Group A inspection for device type 05- Continued.Terminal conditions (pins not designated may be high  $\geq 2.0$  V; low  $\leq 0.7$  V; or open).4567891011121314

12

C 5.5 V 13

В 5.5 V 14

A 5.5 V 15

D7 0.7 V

2.0 V

17

D6 5.5 V 18

D5 5.5 V

10

GND GND 15

19

D4 5.5 V 16

20

V<sub>CC</sub> 5.5 V

Cases E, F

Cases <u>1</u>/ 2, X

Test no. 53 54

MIL-STD-883 method

Subgroup

1 Tc = 25°C Symbo

 $\mathsf{I}_{\mathsf{OZH}}$ 

2

3

D2 5.5 V

1

2

D3 5.5 V 3

4

D1 5.5 V 5

D0 5.5 V 7

Y 2.7 V

			Cases	- 1															
the second second		MIL-STD-	E, F	I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
quorgau	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
			Test no.	D3	D2	D1	D0	Y	W	S	GND	С	В	A	D7	D6	D5	D4	V <sub>CC</sub>
9	t <sub>PHL2</sub>	3003	102				IN		OUT	GND	GND	GND	GND	GND					5.0 V
c = 25°C		(Fig. 4)	103			IN			"	"	"	"	GND	5.0 V					"
		"	104		IN				"	"		"	5.0 V	GND					"
		"	105	IN					"	"		"	5.0 V	5.0 V					"
		"	106						"	"	=	5.0 V	GND	GND				IN	"
		"	107						"	"	-	"	GND	5.0 V			IN		"
		"	108						"	"		"	5.0 V	GND		IN			
		"	109						"	"	=	"	5.0 V	5.0 V	IN				
	t <sub>PLH5</sub>		110			5.0 V	GND	OUT		"	=	GND	GND	IN					"
		"	111		5.0 V		"	=		"	=	GND	IN	GND					"
		"	112				"	-		"	=	IN	GND	GND				5.0 V	"
	t <sub>PHL5</sub>	"	113			5.0 V	"	"		"	-	GND	GND	IN					"
		"	114		5.0 V		"	-		"	=	GND	IN	GND					
		"	115				"	"		"		IN	GND	GND				5.0 V	
	t <sub>PLH6</sub>	"	116			5.0 V	"		OUT	"		GND	GND	IN					
		"	117		5.0 V		"		"	"		GND	IN	GND					"
		"	118				"		"	"		IN	GND	GND				5.0 V	
	t <sub>PHL6</sub>	"	119			5.0 V	"		"	"		GND	GND	IN					
		"	120		5.0 V		"		"	"		GND	IN	GND					"
		"	121				"		"	"		IN	GND	"				5.0 V	"
	t <sub>PZH1</sub>	"	122				5.0 V	OUT		IN		GND	"	"					"
	t <sub>PZH2</sub>	"	123				GND		OUT	"		"	"						"
	t <sub>PZL1</sub>	"	124				GND	OUT		"	-	"	"						
	t <sub>PZL2</sub>	"	125				5.0 V		OUT	IN	-		"	"					
	t <sub>PHZ1</sub>	"	126				5.0 V	OUT		"	-	"	"						
	t <sub>PHZ2</sub>		127				GND		OUT	"		"		"					"
	t <sub>PLZ1</sub>	"	128				GND	OUT		"	-	"	"						
	t <sub>PLZ2</sub>	"	129				5.0 V		OUT	"		"							
10	t <sub>PLH1</sub> ar t <sub>PZH1</sub> =	nd t <sub>PHL1</sub> = 3 3 to 75 ns	terminal co 3 to 50 ns; 5; t <sub>PZH2</sub> = 3 1 ninal condit	t <sub>PLH2</sub> and to 48 ns	d t <sub>PHL2</sub> = 3 ; t <sub>PZL1</sub> and	3 to 30 ns d t <sub>PZL2</sub> = 3	s; t <sub>PLH5</sub> an 3 to 68 ns	id t <sub>PHL5</sub> = ; t <sub>PHZ1</sub> =	3 to 75 r 3 to 75 n	ns; t <sub>PLH6</sub> a	ind t <sub>PHL6</sub>	= 3 to 57		= 3 to 45	ns.				

TABLE III. <u>Group A inspection for device type 05</u> - Continued. Terminal conditions (pins not designated may be high  $\ge 2.0$  V; low  $\le 0.7$  V; or open).

 $\underline{1}$  Case X and 2 pins not referenced are NC.

 $\underline{2}$ / I<sub>IL</sub> limits are as follows:

	Min/Max limits (mA) for circuits						
Test	А	В	С	D	E	F	G
I <sub>IL1</sub>	16/40	012/36	16/40	03/30	005/72	105/345	0/15
I <sub>IL2</sub>	0/20	12/36	12/36	03/30	002/150	16/40	0/15
I <sub>IL3</sub>	12/36	12/36	12/36	03/30	10/34	16/40	0/15

 $\underline{3}/~I_{OS}$  limits for circuits A, B, D, F, and G are -15 to -100 mA.

<u>4</u>/ Inputs:  $A \ge 2.5 V$  minimum,  $B \le 0.4 V$  maximum.

Outputs:  $H \ge 1.5 V$ ,  $L \le 1.5 V$ .

						Te	erminal	conditio	ns (pins	not des	signated	l may b	e high ≥	2.0 V; lo	$5w \le 0.7$	V; or op	en).		
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Subgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
			Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	V <sub>CC</sub>
1	V <sub>OH</sub>	3006	1	0.7 V	2.0 V		-1 mA				GND							0.7 V	4.5 V
Tc = 25°C	0.11	"	2	"				2.0 V		-1 mA	"								
		"	3	"							"	-1 mA		2.0 V					
		"	4	"							"				-1 mA		2.0 V		"
	V <sub>OL</sub>	3007	5	2.0 V		0.7 V	12 mA												"
		"	6	"					0.7 V	12 mA	"								"
		"	7	"							"	12 mA	0.7 V						"
		"	8	"											12 mA	0.7 V			
	VIC		9	-18 mA							"								
			10		-18 mA														
			11			-18 mA													
			12					-18 mA			"								"
			13						-18 mA		"								"
1			14								"		-18 mA	40.					
1			15	<u> </u>		<u> </u>		<u> </u>						-18 mA		40 1			
1			16 17													-18 mA	-18 mA		
			17								"						-16 mA	-18 mA	
	I <sub>IL1</sub>	3009	18	GND	0.4 V													-10 IIIA	5.5 V
	'IL1	3009	20	5.5 V	0.4 V	0.4 V													J.J V
			20	GND		0.4 V		0.4 V											
			22	5.5 V				0.4 V	0.4 V										"
			23	5.5 V					0		"		0.4 V						"
			24	GND							"		0.1 1	0.4 V					
			25	5.5 V							"					0.4 V			"
		"	26	GND							"						0.4 V		"
	I <sub>IL2</sub>	"	27								"							0.4 V	
		"	28	0.4 V															
	I <sub>IH1</sub>	3010	29	5.5 V	2.7 V						"								
		"	30	GND		2.7 V													"
		"	31	5.5 V				2.7 V											"
		"	32	GND					2.7 V		"								"
			33	GND									2.7 V						"
			34	5.5 V										2.7 V		0.71/			"
			35	GND												2.7 V	0714		
			36 37	5.5 V		<u> </u>		<u> </u>						<u> </u>		<u> </u>	2.7 V	2.7 V	
1	I <sub>IH2</sub>	3010	37	5.5 V	7.0 V							-						2.1 V	
	'IH2	"	39	GND	7.0 V	7.0 V		<u> </u>			"					<u> </u>			"
		"	40	5.5 V		7.5 V		7.0 V						1		1			"
		"	41	GND		1			7.0 V		"			1		1			"
		"	42	GND							"		7.0 V						"
		"	43	5.5 V	İ	1	İ	1			"			7.0 V	İ	1			"
		"	44	GND							"					7.0 V			"
		"	45	5.5 V							"						7.0 V		"
		"	46								"							7.0 V	"
	I <sub>IH3</sub>	"	47	2.7 V							"								
	I <sub>IH4</sub>	"	48	7.0 V							"								
1	I <sub>OZH</sub>		49	2.0 V	0.7 V		2.7 V	0.71		071								2.0 V	"
1			50					0.7 V		2.7 V		071		071/					
			51									2.7 V		0.7 V	2.7 V		0.7 V		
			52 53	0.7 V		2.0 V	0.4 V	<u> </u>						<u> </u>	2.1 V	<u> </u>	0.7 V		"
	I <sub>OZL</sub>		53 54	U.7 V		2.0 V	0.4 V	<u> </u>	2.0 V	0.4 V				<u> </u>		<u> </u>			
1			54 55	"		-		-	2.U V	0.4 V	"	0.4 V	2.0 V	-		-			
			55									0.+ V	2.U V	1					1
			56	"							"				0.4 V	2.0 V			"

TABLE III. Group A inspection for device type 06.Terminal conditions (pins not designated may be high  $\geq 2.0$  V; low  $\leq 0.7$  V; or open).4567891011121314

See footnotes at end of device type 06.

Cases E, F

Cases <u>1</u>/ 2, X

Test no.

MIL-STD-883 method

Symbo

Subgroup

1

2

S

2

3

1A

3

4

1B

5

1Y

7

2A

8

2B

9

2Y

				-								÷.							- 00
	los	3011	57	GND	5.5 V		GND											GND	
	<u>3</u> /		58	"				5.5 V		GND	"								"
		"	59	"							"	GND		5.5 V					"
		"	60								"				GND		5.5 V		"
	I <sub>CC1</sub>	3005	61		5.5 V	5.5 V		5.5 V	5.5 V		"		5.5 V	5.5 V		5.5 V	5.5 V		"
	I <sub>CC2</sub>	"	62		GND	GND		GND	GND		"		GND	GND		GND	GND		"
	I <sub>CC3</sub>	"	63		GND	GND		GND	GND		"		GND	GND		GND	GND	5.5 V	"
2		ests termina	al conditions	and limits	as subaro	oup 1 exce	$Pot T_{c} = +$	125°C and	Vic tests	omitted									
3			al conditions																
7	Func-	3014	64	B	B	B B		B	B	L	GND		В	В		В	В	В	5.0 V
, Тс = 25°С	tional	"	65	"	B	A	L	B	A	L	"	Ē	A	B		A	B	"	"
10 - 25 0	tests		66		A	"	Н	A	"	Н		Н	"	A	Н	"	A		"
	lesis		67		B	"		B	"	L	"			B			B		
			68		B		L		"	—	"	L			L		B		
				A		"	н	В		н	"	н	"	B	н				
			69		A		H.	A		н		н.		A	H -		A		
			70		A	В	L	A	В	L		L	В	A	L	В	A		
			71	"	В	В	L	В	В	L	"	L	В	В	L	В	В		
8		subgroup 7	tests at $\mathrm{T}_{\mathrm{C}}$	= +125°C ;		55°C								1		1			
9	t <sub>PLH1</sub>	3003	72	GND	IN		OUT				GND							GND	5.0 V
Tc = 25°C		Fig. 4	73	5.0 V		IN	OUT				"								
		"	74	GND				IN		OUT	"								
		"	75	5.0 V					IN	OUT	-								
		"	76	5.0 V							-	OUT	IN						"
		"	77	GND							-	OUT		IN					"
		"	78	5.0 V							-				OUT	IN			
		"	79	GND							"				OUT		IN		"
	t <sub>PHL1</sub>	"	80	GND	IN		OUT				"								
		"	81	5.0 V		IN	OUT				"								
		"	82	GND				IN		OUT	"								
			83	5.0 V					IN	OUT	"								
		"	84	5.0 V							"	OUT	IN						"
		"	85	GND							"	OUT		IN					
		"	86	5.0 V							"				OUT	IN			"
		"	87	GND							"				OUT		IN		
	t <sub>PLH5</sub>	"	88	IN	GND	5.0 V	OUT				"							"	"
	1 613	"	89	"	-			GND	5.0 V	OUT	"								
		"	90	"							"	OUT	5.0 V	GND				"	"
		"	91	"							"			-	OUT	5.0 V	GND		
	t <sub>PHL5</sub>	"	92	"	5.0 V	GND	OUT				"							"	
		"	93	"				5.0 V	GND	OUT	"							"	"
		"	94	"				0.0 .	0.15		"	OUT	GND	5.0 V					
		"	95	"							"	001	0.10	0.0 ¥	OUT	GND	5.0 V		
	t <sub>PZH3</sub>	"	96	GND	5.0 V		OUT				"					0.10	0.0 1	IN	
	4PZH3	"	90	"	5.0 V		001	5.0 V		OUT	"							"	
		"	98	"				0.0 V		001	"	OUT		5.0 V					
		"	98	"							"	001		5.0 v	OUT		5.0 V		
	t	"	100	5.0 V		GND	OUT				"				001		J.0 V		
	t <sub>PZL3</sub>		100	5.0 V		GND	001		GND	OUT	"								
			101						GND	001	"	OUT	GND						
			102	"							"	001	GND		OUT	CNID			
			103		l	I				I				l	OUT	GND	ļ		L

TABLE III. Group A inspection for device type 06- Continued.Terminal conditions (pins not designated may be high  $\geq 2.0$  V; low  $\leq 0.7$  V; or open).4567891011121314

10

GND

12

3Y

13

3B

14

ЗA

15

4Y

17

4B

14

18

4A

15

19

G

16

20

V<sub>cc</sub>

## TABLE III. Group A inspection for device type 06 - Continued.

				· · · · / ·			
The second second second states of the	· · · · · · ·	1 share the second share share	and the second s	<ul> <li>Infaulty Sciences</li> </ul>	0 0 1/	1	(
Terminal conditions (p	ins no	t designated	may n	e nian > :	2.0 v	$10W \le 0.7$	v or open).
(p				• • • · · · · · · · · · · · · · · · · ·			.,

		MIL-STD-	Cases E. F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		WIL-OTD-	∟, '																
Subgroup	Symbol	883	Cases 1/	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
<b>U</b> .	2	method	2, X																
			Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	V <sub>CC</sub>
9	t <sub>PHZ3</sub>	3003	104	5.0 V		5.0 V	OUT				GND							IN	"
Tc = 25°C		Fig. 5	105	"					5.0 V	OUT	"								"
			106	"							"	OUT	5.0 V						"
			107	"							"				OUT	5.0 V			"
	t <sub>PLZ3</sub>	"	108	GND	GND		OUT				"								"
		"	109	"				GND		OUT	"								"
		"	110	"								OUT		GND					"
		"	111	"							"				OUT		GND		"
10	Same te	ests, termina	al conditions	and limits	as subgro	up 9, exce	ept T <sub>C</sub> = +	125°C and	for the fol	lowing:									
	t <sub>PLH1</sub> and	$d t_{PHL1} = 3 tc$	35 ns; t <sub>PLH5</sub>	5 and t <sub>PHL5</sub>	= 3 to 39	ns; t <sub>PZH3</sub> , t <sub>P</sub>	<sub>zL3</sub> , and t <sub>f</sub>	<sub>PHZ3</sub> = 3 to	53 ns; t <sub>PLZ</sub>	<sub>3</sub> = 3 to 45	5 ns.								
11	Same te	ests, termina	al conditions	and limits	as subgro	up 10, exc	cept T <sub>C</sub> = -	55°C.											

 $\underline{1}$  Case X and 2 pins not referenced are NC.

 $\underline{2}/~I_{\text{IL}}$  limits shall be as follows:

39

			Min/Max lin	nits (mA) for cire	cuits		
Test	А	В	С	D	Е	F	G
I <sub>IL1</sub>	15/38	16/40	20/44	0/30	0/20	12/36	0/15
IIL2 test 27	0/20	16/40	20/44	0/30	0/10	12/36	0/15
IIL2 test 28	0/20	32/80	40/88	0/60	0/10	24/72	0/15

 $\underline{3}\!/$   $I_{OS}$  limits for circuits B, C, D, F, and G are -15 to -100 mA.

<u>4</u>/ Inputs:  $A \ge 2.5$  V minimum,  $B \le 0.4$  V maximum.

Outputs: Output voltages shall be either:

a. H = 2.5 volts minimum and L = 0.4 volt maximum when using a high speed checker double comparator, or

b. H  $\geq$  1.5 volts and L  $\leq$  1.5 volts when using a high speed checker single comparator.

c. Attributes data only is required for subgroups 7 and 8.

		MIL-STD-	E, F	1	2	3	4	5	0	1	0	9	10		12	15	14	15	10
Subgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
			Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	ЗA	4Y	4B	4A	G	Vo
1	V <sub>OH</sub>	3006	1	0.7 V	0.7 V		-1 mA				GND							0.7 V	4.5
c = 25°C		"	2	"				0.7 V		-1 mA						I			
		"	3	"								-1 mA		0.7 V		L			
		-	4	"							-				-1 mA	I	0.7 V		
	V <sub>OL</sub>	3007	5	2.0 V		2.0 V	12 mA									I			-
		"	6						2.0 V	12 mA	=					L			
		"	7	"							-	12 mA	2.0 V			L			
		"	8	"											12 mA	2.0 V			
	VIC		9	-18 mA												L			
			10		-18 mA						=								
			11			-18 mA													
			12					-18 mA			=								
			13						-18 mA		-					ĺ			
			14								"		-18 mA						
			15											-18 mA					
			16								"					-18 mA			
			17														-18 mA		
			18								-							-18 mA	
	I <sub>IL1</sub>	3009	19	GND	0.4 V						-							GND	5.5
	121		20	5.5 V		0.4 V					-								
			21	GND				0.4 V			"								
			22	5.5 V					0.4 V		-								
			23	5.5 V							"		0.4 V						
			24	GND										0.4 V					
			25	5.5 V										0		0.4 V			
			26	5.5 V							"					0	0.4 V		
	I <sub>IL2</sub>	"	27								"							0.4 V	
	-162		28	0.4 V															
	I <sub>IH1</sub>	3010	29	5.5 V	2.7 V						"								
	-101	"	30	GND		2.7 V					"								'
			31	5.5 V		2.1 V		2.7 V											,
			32	GND				2.1 V	2.7 V		"								
			33	GND					2.1 V				2.7 V				<u> </u>		
			34	5.5 V									2.1 V	2.7 V			<u>├</u>		
			35	GND										2.1 V		2.7 V	<u>├</u>		-
			36	5.5 V												2.1 V	2.7 V		
			37	GND													2.1 V	2.7 V	
	I <sub>IH2</sub>	3010	38	5.5 V	7.0 V													2.1 V	-
	'IH2		39	GND	7.0 V	7.0 V					"								
			40	5.5 V		7.0 V		7.0 V									<u> </u>		
			40	GND				7.0 V	7.0 V								<u>├</u>		
			42	GND					7.0 V				7.0 V				<u>├</u>		-
			42	5.5 V									7.0 V	7.0 V			<u>├</u>		
			43	GND										7.0 V		7.0 V			
			44	5.5 V							"					7.0 V	7.0 V		
			45	GND													7.0 V	7.0 V	- · · ·
		"		2.7 V												<u> </u>		7.0 V	
	I <sub>IH3</sub>	"	47	2.7 V 7.0 V															
	I <sub>IH4</sub>		48			2.0.1/	271/										<b>├───</b>	2.0.1/	-
	I <sub>OZH</sub>		49	2.0 V		2.0 V	2.7 V		201/	271							┥───┤	2.0 V	-
			50						2.0 V	2.7 V		0711	0.01/			<u> </u>	$\vdash$		-
			51									2.7 V	2.0 V	L	0714	0.01/	$\vdash$		+
	L .		52		0.71/		0.4V/					L		L	2.7 V	2.0 V	$\vdash$		
	I <sub>OZL</sub>		53	0.7 V	0.7 V		0.4 V					ļ		L		<b> </b>			+
			54					0.7 V		0.4 V						<b> </b>	$\square$		4'
			55	"								0.4 V		0.7 V					
			56	-			1								0.4 V		0.7 V		

TABLE III. Group A inspection for device type 07.Terminal conditions (pins not designated may be high  $\ge 2.0$  V; low  $\le 0.7$  V; or open).4567891011121314

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See footnotes at end of device type 07.

Cases E, F

2

1

3

		WIL-STD-	Е, Г																
Subgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
		mounou	Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G	V <sub>cc</sub>
	los	3011	57	GND	GND		GND	27	20	21	"	51	30	34	71			GND	*CC "
	<u>3</u> /		58	"	GIND		OND	GND		GND								"	"
	<u>o</u> /		59	"				OND		OND	"	GND		GND					
			60	"							"	0.15		0.10	GND		GND		
	I <sub>CC1</sub>	3005	61	5.5 V	5.5 V	5.5 V		5.5 V	5.5 V		"		5.5 V	5.5 V		5.5 V	5.5 V		"
	I <sub>CC2</sub>	"	62	GND	GND	GND		GND	GND		"		GND	GND		GND	GND		"
	I <sub>CC3</sub>	"	63	-	-	-		-			"		-					5.5 V	"
2		ests, termina	al conditions	and limits	as suboro	oup 1. exce	ept T <sub>c</sub> = +	125°C and	V <sub>LC</sub> tests	omitted.									
3			al conditions																
7	Func-	3014	64	B	B	B	H	B	B	H	GND	Н	В	В	Н	В	В	В	5.0 V
Tc = 25°C	tional	"	65	"	B	A	H	B	A	H	"	H	A	B	H	A	B	"	"
10 - 20 0	tests		66		A	"	L	A	"	L		L	"	A	L	"	A		"
	10010	"	67	"	В	"	H	В	"	H	"	H		В	H		В		
		"	68	А	B	"		B	"	1	"	L		B	L	"	B	"	
		"	69	"	A	"	1	A	"	1	"	1		A		"	A	"	
			70	"	A	В	H	A	В	H	"	H	В	A	H	В	A		
		"	71	"	В	B	Н	В	B	H	"	H	B	В	Н	B	В	"	"
8	Repeat	subaroun 7	tests at T <sub>C</sub>	= +125°C ∶							1							1	1
9	t <sub>PLH1</sub>	3003	72	GND	IN	000	OUT				GND							GND	5.0 V
Tc = 25°C	4 611	Fig. 4	73	5.0 V		IN	OUT				"								"
		"	74	GND				IN		OUT	"								
			75	5.0 V					IN	OUT	"								
			76	5.0 V							"	OUT	IN						
		"	77	GND							"	OUT		IN					
		"	78	5.0 V							"				OUT	IN			"
		"	79	GND							"				OUT		IN		"
	t <sub>PHL1</sub>	"	80	GND	IN		OUT				"							"	
			81	5.0 V		IN	OUT				"								"
		"	82	GND				IN		OUT	"								"
		"	83	5.0 V					IN	OUT	"								"
		"	84	5.0 V							"	OUT	IN						"
			85	GND							"	OUT		IN					"
		"	86	5.0 V							"				OUT	IN		"	
		"	87	GND											OUT		IN	"	"
	t <sub>PLH5</sub>		88	IN	5.0 V	GND	OUT				"								
		"	89	"				5.0 V	GND	OUT	"								"
		"	90	"							"	OUT	GND	5.0 V					
1		"	91	"							"				OUT	GND	5.0 V		
	t <sub>PHL5</sub>		92	"	GND	5.0 V	OUT				"								
			93					GND	5.0 V	OUT		<u></u>		01:5					
1			94									OUT	5.0 V	GND	0.UT	5 0 1	0115		<u> </u>
			95		ONE		OUT								OUT	5.0 V	GND		<u> </u>
1	t <sub>PZH3</sub>		96	GND	GND		OUT	OND		OUT						L	L	IN	
1			97					GND		OUT		OUT		CNID					
1			98									OUT		GND	OUT		ONE		
1	4		99	" 5.0 V		FOV	OUT								OUT		GND		
	t <sub>PZL3</sub>		100 101	5.0 V		5.0 V	001		5.0 V	OUT									
1			101						5.0 V	001		OUT	5.0 V						
1			102	"								001	5.U V		OUT	5.0 V			
			103												001	5.0 V		1	

TABLE III. Group A inspection for device type 07- Continued.Terminal conditions (pins not designated may be high  $\geq 2.0$  V; low  $\leq 0.7$  V; or open).4567891011121314

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15

Cases E, F

See footnotes at end of device type 07.

MIL-STD-

2

3

## TABLE III. Group A inspection for device type 07 - Continued.

			'; low $\leq 0.7$ V; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Subgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
			Test no.	S	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	ЗA	4Y	4B	4A	G	V <sub>CC</sub>
9	t <sub>PHZ3</sub>	3003	104	GND	GND		OUT				=							IN	"
Tc = 25°C		Fig. 4	105	"				GND		OUT	"								"
		"	106	"							"	OUT		GND					
		"	107	"							"				OUT		GND		
	t <sub>PLZ3</sub>	"	108	5.0 V		5.0 V	OUT				-								
		"	109						5.0 V	OUT	=								
		"	110	"							"	OUT	5.0 V						
		-	111	"							-				OUT	5.0 V			
10			inal condi																
			3 to 35 ns;							to 53 ns;	$t_{PLZ3} = 3$	to 45 ns	S.						
11	Same	tests, term	ninal condit	tions and	l limits as	subgrou	ıp 10, ex	cept T <sub>C</sub> =	-55°C.										

1/ Case X and 2 pins not referenced are NC.

 $\underline{2}$ / I<sub>IL</sub> limits shall be as follows:

			Min/Max lin	nits (mA) for circ	uits		
Test	A	В	С	D	E	F	G
I <sub>IL1</sub>	15/38	16/40	20/44	0/30	0/20	12/36	0/15
I <sub>IL2</sub> test 27	0/20	16/40	20/44	0/30	0/10	12/36	0/15
I <sub>IL2</sub> test 28	0/20	32/80	32/80	0/60	0/10	24/72	0/15

3/ Ios limits for circuits B, C, D, F, and G are -15 to -100 mA.

42  $\underline{4}/$  Inputs: A  $\geq 2.5$  V minimum, B  $\leq 0.4$  V maximum.

Outputs: Output voltages shall be either: a. H = 2.5 volts minimum and L = 0.4 volt maximum when using a high speed checker double comparator, or

b.  $H \ge 1.5$  volts and  $L \le 1.5$  volts when using a high speed checker single comparator. c. Attributes data only is required for subgroups 7 and 8.

						16	erminal	conditio	<u>ns (pins</u>	not des		l may b	e high ≥				en).		
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Subgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
			Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	Α	2G	Vcc
1	V <sub>OH</sub>	3006	1	0.7 V	0.7 V				2.0 V	-1 mA	GND						0.7 V		4.5 V
Tc = 25°C	- 011	"	2		0.7 V						"	-1 mA	2.0 V				0.7 V	0.7 V	"
	V <sub>OL</sub>	3007	3	0.7 V	2.0 V	0.7 V				4 mA	"						2.0 V		"
	- OL	"	4		2.0 V						"	4 mA				0.7 V	2.0 V	0.7 V	"
	VIC		5	-18 mA							"								
	-10		6		-18 mA						-								
			7			-18 mA													
			8				-18 mA				"								"
			9					-18 mA			"								
			10						-18 mA		"								
			11								"		-18 mA						"
			12								"			-18 mA					"
			13								-				-18 mA				
1			14								-					-18 mA			
1			15								-						-18 mA		
			16								-							-18 mA	"
	I <sub>IL1</sub>	3009	17	0.4 V							"								5.5 V
		"	18		0.4 V						=								
		"	19	GND	5.5 V	0.4 V					-						5.5 V		"
		"	20		5.5 V		0.4 V										GND		"
		"	21		GND			0.4 V			-						5.5 V		"
		"	22	"	"				0.4 V								GND		
			23		"						=		0.4 V				GND	GND	"
		"	24		"						-			0.4 V			5.5 V		
		"	25		5.5 V						=				0.4 V		GND		"
		"	26		5.5 V											0.4 V	5.5 V		"
			27								"						0.4 V		"
		"	28															0.4 V	
	I <sub>IH1</sub>	3010	29	2.7 V															
			30		2.7 V						"								"
			31		GND	2.7 V											GND		
			32		GND		2.7 V										5.5 V		"
			33		5.5 V			2.7 V	071/								GND		
1			34						2.7 V				271/			<b>├</b> ──	5.5 V		
1			35 36										2.7 V	2.7 V			5.5 V GND		
1			36		GND									2.1 V	2.7 V		5.5 V		"
1			37		GND						"				2.1 V	2.7 V	5.5 V GND		"
1			39		GND						"					2.1 V	2.7 V		
			40			<u> </u>	<u> </u>	<u> </u>	<u> </u>		"			-			2.1 V	2.7 V	
	I <sub>IH2</sub>	"	40	7.0 V							"							2.1 V	
1	'IH2	"	42	7.0 0	7.0 V						"								
1		"	43		GND	7.0 V					"						GND		"
1		"	44		GND	1.0 1	7.0 V				"						5.5 V		"
			45		5.5 V			7.0 V			"			1		1	GND		"
		"	46		"				7.0 V		"			1			5.5 V		"
		"	47		"						"		7.0 V	1		1	5.5 V		
		"	48		"						"			7.0 V		1	GND		
		"	49		GND						"				7.0 V	1	5.5 V		"
		"	50		GND						"			1	-	7.0 V	GND		"
		"	51								"			1			7.0 V		
		"	52								"			1				7.0 V	"
				•		•	•	•	•			•			•				

TABLE III. Group A inspection for device type 08.Terminal conditions (pins not designated may be high  $\geq 2.0$  V; low  $\leq 0.7$  V; or open).4567891011121314

See footnotes at end of device type 08.

See footnotes at end of device type 08.

Cases E, F

Cases <u>1</u>/ 2, X

Test no.

MIL-STD-

883

method

Symbo

Subgroup

2

3

В

3

4

5

1C3 1C2

7

8

1C1 1C0

9

1

2

1G

				-			-	-			-			-	-				00
1	I <sub>OZH</sub>		53	2.0 V	0.7 V				0.7 V	2.7 V	GND						0.7 V	1	5.5 V
Tc = 25°C			54		0.7 V						"	2.7 V	0.7 V				0.7 V	2.0 V	"
	I <sub>OZL</sub>		55	2.0 V	2.0 V	2.0 V				0.4 V							2.0 V	[	"
			56		2.0 V						"	0.4 V				2.0 V	2.0 V	2.0 V	"
	los	3011	57	GND	GND				5.5 V	GND	"						GND	[	"
	3/	3011	58		"						"	GND	5.5 V					GND	"
	I <sub>CC1</sub>	3005	59	GND	"	GND	GND	GND	GND		"		GND	GND	GND	GND		GND	"
	Icc2	3005	60	5.5 V	"	GND	GND	GND	GND		"		GND	GND	GND	GND		5.5 V	"
2			al conditions		as suboro				-	omitted									
3			al conditions																
7	Func-	3014	61	B	B	A	A	A	B	1	GND	L	В	А	А	А	В	В	5.0 V
, Tc = 25°C		"	62	"	"	В	В	В	B	L	"	L	B	В	В	В	"	"	"
10 = 20 0	tests		63			"	"	"	A	Н		Н	A	"	"	"			
	16313		64		"		"		-		"	1		"			Α		
			65	"	"	"	"	A	"	H	"	L H	"	A			A		
			66	"	"	"	"	н "	"	H	"	н Н	"	н "	"		B	"	
			67	"	A	"	"	"	"		"			"	"				
			68	"	н "	"	A	"	"	H	"	L H	"	"	A				
			69						"			L					Α		
			70			Α	"		"	H	"	L H				A	A		
8	Denest	aubaraup 7	-	12500	and To					п		п				A	A	L	
9		3003	tests at Tc 71	= +125°C	GND	55°C.		1	INI	OUT		-		1		r	GND		5.0 V
-	t <sub>PLH1</sub>			GND "				INI	IN	001	GND							l	5.0 V
Tc = 25°C		(Fig. 4)	72		GND			IN									5.0 V	l	
			73		5.0 V		IN										GND		
			74		5.0 V	IN											5.0 V		
			75		GND						"	OUT	IN				GND	GND	
			76		GND									IN			5.0 V	<u> </u>	
			77		5.0 V										IN		GND		
			78		5.0 V						"					IN	5.0 V	<u> </u>	
	t <sub>PHL1</sub>		79	GND	GND				IN	OUT	"						GND		
			80	"	GND			IN			"						5.0 V	<b> </b>	
			81		5.0 V		IN									ļ	GND		
			82	"	5.0 V	IN				OUT						ļ	5.0 V		
		"	83		GND						"	OUT	IN				GND	GND	
			84		GND						"			IN			5.0 V		
		"	85		5.0 V						"				IN		GND		
		"	86		5.0 V						"					IN	5.0 V		
	t <sub>PLH5</sub>		87	GND	GND			5.0 V	GND	OUT	"						IN	<b> </b>	"
		"	88		GND						"	OUT	GND	5.0 V			IN	GND	
			89	GND	IN		5.0 V		GND	OUT	"						GND	<u> </u>	
		"	90		IN						"	OUT	GND		5.0 V		GND	GND	
								GND	5.0 V	OUT		1		1	1	1	IN	1	"
	t <sub>PHL5</sub>	"	91	GND	GND			GND	J.0 V	001									
	t <sub>PHL5</sub>	"	91 92		GND			GND			"	OUT	5.0 V	GND			IN	GND	
	t <sub>PHL5</sub>	"	91	GND GND			GND	GND	5.0 V	OUT	"	OUT	5.0 V 5.0 V	GND	GND			GND GND	"

TABLE III. Group A inspection for device type 08- Continued.Terminal conditions (pins not designated may be high  $\geq 2.0$  V; low  $\leq 0.7$  V; or open).456789101112131.

10

1Y GND

12

2Y

13

2C0

14

2C1

15

2C2

17

2C3

14

18

Α

15

19

2G

16

20

V<sub>cc</sub>

TABLE III. Group A inspection for device type 08 - Continued. Terminal conditions (pins not designated may be high  $\geq 2.0$  V; low  $\leq 0.7$  V; or open)

						10		Jonantio		not doc	ngnatoc		⊂ nign ≞	2.0 0, 10		•, o. op	· • · · · · ·		
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Subgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
			Test no.	1G	В	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	A	2G	V <sub>CC</sub>
9	t <sub>PZH3</sub>	3003	95	IN	5.0 V	5.0 V				OUT	GND						5.0 V		5.0 V
$Tc = 25^{\circ}C$		(Fig. 4)	96		5.0 V						"	OUT				5.0 V	5.0 V	IN	
	t <sub>PZL3</sub>	"	97	IN	GND				GND	OUT	=						GND		
		"	98		GND						=	OUT	GND				GND	IN	-
	t <sub>PHZ3</sub>	"	99	IN	5.0 V	5.0 V				OUT	=						5.0 V		-
		"	100		5.0 V						=	OUT				5.0 V	5.0 V	IN	-
	t <sub>PLZ3</sub>	"	101	IN	GND				GND	OUT	-						GND		
		"	102		GND						=	OUT	GND				GND	IN	
10	Same	Same tests, terminal conditions and limits as subgroup 9, except $T_c = +125^{\circ}C$ and limits as follows:																	
	t <sub>PLH1</sub> =	$t_{P1H1} = 3 \text{ to } 45 \text{ ns; } t_{PH11} = 3 \text{ to } 38 \text{ ns; } t_{P1H5} = 3 \text{ to } 75 \text{ ns; } t_{PH15} = 3 \text{ to } 56 \text{ ns;}$																	
		$t_{\text{DFI}3}$ = 3 to 69 ns; $t_{\text{PI}3}$ = 3 to 42 ns, and $t_{\text{PI}23}$ = 3 to 69 ns; $t_{\text{PI}23}$ = 3 to 48 ns.																	
			al conditions						-										

1/ Case X and 2 pins not referenced are NC.

 $\underline{2}/~I_{\text{IL}}$  limits shall be as follows:

	Min/Max limits (mA) for circuits											
Test	Α	В	С	D	E	F	G					
I <sub>IL1</sub>	18 through 27 12/36 except test 28 and 17 001/15	12/36	12/36	03/30	Test 18 and 27 12/36 Test 17 and 28 16/40 Tests 19 through 26 16/40	12/36	0/15					

45

 $\underline{3}/~I_{OS}$  limits for circuits B, D, E, F, and G are -15 to -100 mA.

4/ Inputs: A ≥ 2.4 V minimum, B ≤ 0.4 V maximum. Outputs: Output voltages shall be either:
 a. H = 2.5 volts minimum and L = 0.4 volt maximum when using a high speed checker double comparator, or

b. H  $\geq$  1.5 volts and L  $\leq$  1.5 volts when using a high speed checker single comparator.

c. Attributes data only is required for subgroups 7 and 8.

		method	2, X	_	-		-	-	÷	-		. –							
			Test no.	B2	A2	A1	B1	C2	D2	D1	GND	C1	WS	CP	QD	QC	QB	QA	V <sub>CC</sub>
1	V <sub>OH</sub>	3006	1		2.0 V						GND		2.0 V	2/				4 mA	4.5 \
c = 25°С	·OH	"	2	2.0 V	2.0 1						"						4 mA		"
- 20 0		"	3					2.0 V			"		"	"		4 mA			
		"	4						2.0 V		"			"	4 mA				
	V <sub>OL</sub>	3007	5		0.7 V						"		-	"				4.0 mA	
	02	"	6	0.7 V							"		"	"			4.0 mA		
		"	7					0.7 V			"		-	"		4.0 mA			
			8						0.7 V		"			"	4.0 mA				"
	VIC		9	-18 mA							"								
			10		-18 mA						"								
			11			-18 mA					-								
			12				-18 mA				"								
			13					-18 mA			"								
			14						-18 mA		"								
			15							-18 mA	"								
			16								-	-18 mA							
			17								"		-18 mA						
			18				1				"			-18 mA					
	I <sub>IL1</sub>	3009	19	0.4 V	<u> </u>		-				"		5.5 V						5.5 V
	'IL1	"	20	0.4 V	0.4 V						"		5.5 V						0.0 v
			21		0.4 V	0.4 V					"		GND						
			22			0.4 V	0.4 V				"		GND						
		"	23				0.4 V	0.4 V			"		5.5 V						"
			24						0.4 V		"		5.5 V						"
			25							0.4 V	"		GND						
			26								"	0.4 V	GND						
			27								"		0.4 V						"
		"	28								"			0.4 V					
	I <sub>IH1</sub>	3010	29	2.7 V									GND						
			30		2.7 V						"		GND						"
			31			2.7 V					"		5.5 V						
			32				2.7 V	0.71/					5.5 V						
			33					2.7 V	0.71/				GND						"
			34						2.7 V	071/	"		GND						
			35 36							2.7 V		2.7 V	5.5 V 5.5 V						
			30								"	2.7 V	2.7 V						
			38								"		2.7 V	2.7 V					
			50											2.1 V					
	I <sub>IH2</sub>	"	39	5.5 V							"		GND						"
		"	40		5.5 V						-		GND						"
		"	41			5.5 V					=		5.5 V						"
		"	42				5.5 V				"		5.5 V						"
		"	43					5.5 V			"		GND						"
		"	44						5.5 V		-		GND						"
		"	45							5.5 V	-		5.5 V						"
			46								"	5.5 V							
			47 48											5.5 V					
	I <sub>os</sub>	3011	49			5.5 V					"		GND	2/				GND	
	'OS	"	50		<u> </u>	5.5 V	5.5 V				"		GND "	<u>/</u> "			GND		
		"	51				5.5 v				"	5.5 V				GND			
			52		1	t	1	-		5.5 V	"	0.0 v		"	GND	O.ND	1		

TABLE III. Group A inspection for device type 09.Terminal conditions (pins not designated may be high  $\geq 2.0$  V; low  $\leq 0.7$  V; or open).4567891011121314

See footnotes at end of device type 09.

Cases E, F

Cases <u>1</u>/

MIL-STD-

Subgroup Symbol

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Subgroup	Symbol	883 method	Cases <u>1</u> / 2, X	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20
			Test no.	B2	A2	A1	B1	C2	D2	D1	GND	C1	WS	CP	QD	QC	QB	QA	V <sub>CC</sub>
2			al conditions																
3			al conditions	and limits	as subgr			55°C and \	/IC tests of										
7	Func-	3014	54	А	A	В	В	A	A	В	GND	В	В	A	L	L	L	L	5.0 V
$Tc = 25^{\circ}C$	tional		55	"	"	"	"	"	"	"	"		"	В					"
	tests		56	-										A					"
		"	57	"	"	A	A	"	"	A	"	A		A					"
		"	58	"	"	"	"	"	"	"	"	"	"	В	Н	Н	Н	Н	"
		"	59	"	"	"	"	"	"	"	"			A					
		"	60		"	В	В	"	"	В	"	В	"	A					
		"	61		"	В	В	"	"	В	"	В	"	В	L	L	L	L	
			62	"	"	A	A	"	"	A	"	A		"					"
		"	63	"	"	В	В	"	"	В	"	В	"	"					
		"	64	"	"	"	"	"	"	"	"	"	"	A					
		"	65	"	"	"	"		"	"	"		A	"					
			66		"	A	A		"	A	"	A		"					
			67		"			"	"		"			В	Н	Н	Н	Н	
			68	"					"					A					
		"	69	В	В	"		В	В	"	"		"	A					
		"	70	В	В	"		В	В	"	"		"	В	L	L	L	L	
		"	71	A	A			A	A					"					
	_		72	В	В			В	В	"	"			"					
8			tests at T <sub>C</sub>	= +125°C ;		55°C.	r	r	r	r		r				1	1		
9	t <sub>PLH1</sub>	3003	73		IN						GND		5.5 V	IN				OUT	5.0 V
Tc = 25°C		Fig. 4	74	IN										"			OUT		
		"	75					IN			"		"	"		OUT			
		"	76						IN		"		"	"	OUT				
	t <sub>PHL1</sub>	"	77		IN						"		"	"				OUT	"
		"	78	IN							"		"	"			OUT		
		"	79					IN			"		"	"		OUT			
		"	80						IN		"		"	"	OUT				"
10	Same te	ests, termina	al conditions	and limits	as subgr	up 9, exc	ept T <sub>c</sub> = +	125°C and	l limits as f	ollows:	1	1	1	1	1	1	1	1	1
			HL1 = 3 to 48		0														
11	Same te	ests, termina	al conditions	and limits	as subgr	oup 10, ex	cept T <sub>C</sub> = ·	-55°C.											
					<u> </u>														

# TABLE III.Group A inspection for device type 09- Continued.Terminal conditions (pins not designated may be high $\geq$ 2.0 V; low $\leq$ 0.7 V; or open).

 $\underline{1}/$  Case X and 2 pins not referenced are NC.  $\underline{2}/$  Apply normal clock pulse.  $\underline{3}/$  I<sub>IL</sub> limits shall be as follows:

		Min/Max limits (mA) for circuits								
Test	Α	В	С	D	E	F	G			
I <sub>IL1</sub>	16/40	-	-	16/40	16/40	12/36	-			
				except	except					
				03/30	12/36					
				test 27 and 28	test 27 and 28					

 $\begin{array}{ll} \underline{4}' & \mbox{Apply} \geq 3.0 \mbox{ V pulse, then ground, then measure.} \\ \underline{5}' & \mbox{Inputs: } A \geq 2.5 \mbox{ V minimum, } B \leq 0.4 \mbox{ V maximum.} \\ & \mbox{Outputs: } H \geq 1.5 \mbox{ volts, } L \leq 1.5. \end{array}$ 

#### MIL-M-38510/309E

#### 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 actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department of Defense Agency, or within the Military Department'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

6.1 <u>Intended use.</u> Microcircuits conforming to this specification are intended for original equipment design applications and logistic support of existing equipment.

- 6.2 Acquisition requirements. Acquisition documents should specify the following:
  - a. Title, number, and date of the specification.
  - b. Complete part number (see 1.2).
  - c. Requirements for delivery of one copy of the quality conformance inspection data pertinent to the device inspection lot to be supplied with each shipment by the device manufacturer, if applicable.
  - d. Requirements for certificate of compliance, if applicable.
  - e. Requirements for notification of change of product or process to contracting activity in addition to notification to the qualifying activity, if applicable.
  - f. Requirements for failure analysis (including required test condition of method 5003 of MIL-STD-883), corrective action, and reporting of results, if applicable.
  - g. Requirements for product assurance options.
  - Requirements for special carriers, lead lengths, or lead forming, if applicable. These requirements should not affect the part number. Unless otherwise specified, these requirements will not apply to direct purchase by or direct shipment to the Government.
  - j. Requirements for "JAN" marking.

6.3 <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.

6.4 <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.

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

V <sub>IC</sub>	Voltage level at an input terminal. Input clamp voltage.
l <sub>IN</sub>	
t <sub>PHZ</sub>	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 to a high-impedance (off) state.
t <sub>PLZ</sub>	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.
t <sub>PZH</sub>	Output enable time (of a three-state output) to high level.
t <sub>PZL</sub>	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. 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.

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 should not affect the part number.

6.7 <u>Substitutability.</u> The cross-reference information below is presented for the convenience of users. Microcircuits covered by this specification will functionally replace the listed generic-industry type. Generic-industry microcircuit types may not have equivalent operational performance characteristics across military temperature ranges or reliability factors equivalent to MIL-M-38510 device types and may have slight physical variations in relation to case size. The presence of this information should not be deemed as permitting substitution of generic-industry types for MIL-M-38510 types or as a waiver of any of the provisions of MIL-PRF-38535.

Military device type	Generic-industry type
01	54LS151
02	54LS153
03	54LS157
04	54LS158
05	54LS251
06	54LS257B
07	54LS258B
08	54LS253
09	54LS298

#### MIL-M-38510/309E

6.8 <u>Manufacturers' designation.</u> Manufacturers' circuits, which form a part of this specification, are designated as shown in table IV herein.

		CIRCUITS								
	А	В	С	D	Е	F	G			
Device type	Texas Instruments	Advanced Micro Devices	Raytheon	Signetics	Motorola	Fairchild	National			
01	Х	Х	Х	Х	Х	Х	Х			
02	Х	Х	Х	Х	Х	Х	Х			
03	Х	Х	Х	Х	Х	Х	Х			
04	Х	Х	Х	Х	Х	Х	Х			
05	Х	Х	Х	Х	Х	Х	Х			
06	Х	Х	Х	Х	Х	Х	Х			
07	Х	Х	Х	Х	Х	Х	Х			
08	Х	Х	Х	Х	Х	Х	Х			
09	Х	Х	Х	Х	Х	Х	Х			

#### TABLE IV. Manufacturer's designator.

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

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

(Project 5962-1958)

Review activities: Army - MI, SM Navy - AS, CG, MC, SH, TD Air Force - 03, 19, 99

STANDARDIZ	ATION DOCUMENT IMPROVEN	IENT PROPOSAL							
INSTRUCTIONS 1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.									
2. The submitter of this form must complete b	2. The submitter of this form must complete blocks 4, 5, 6, and 7, and send to preparing activity.								
3. The preparing activity must provide a reply	within 30 days from receipt of the form.								
NOTE: This form may not be used to reques	t copies of documents, nor to request waivers	or clarification of requirements on current contracts.							
I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER MIL-M-38510/309E	2. DOCUMENT DATE (YYYYMMDD) 2003-04-10							
3. DOCUMENT TITLE MICROCIRCUITS, DIGITAL, BIPOLAR LOW-POWER SCHOTTKY TTL, SELECTOR/MULTIPLEXER, WITH THREE STATE OUTPUTS, MONOLITHIC SILICON									
4. NATURE OF CHANGE (Identify paragraph)	number and include proposed rewrite, if possi	ble. Attach extra sheets as needed.)							
5. REASON FOR RECOMMENDATION									
6. SUBMITTER a. NAME (Last, First Middle Initial)	b. ORGANIZATION								
c. ADDRESS (Include Zip Code)	d. TELEPHONE (Inclu (1) Commercial (2) DSN (If applicable)	de Area Code) 7. DATE SUBMITTED (YYYYMMDD)							
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