

## 54LS242, 54LS243

### *Transceivers with Three-State Outputs*

#### **Rochester Electronics Manufactured Components**

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

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

#### **Quality Overview**

- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-35835
  - Class Q Military
  - Class V Space Level
- Qualified Suppliers List of Distributors (QSLD)
  - Rochester is a critical supplier to DLA and meets all industry and DLA standards.

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

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

**FOR REFERENCE ONLY**

INCH-POUND

MIL-M-38510/328C  
18 November 2003  
SUPERSEDING  
MIL-M-38510/328B  
23 March 1984

## MILITARY SPECIFICATION

### MICROCIRCUITS, DIGITAL, BIPOLAR, LOW-POWER SCHOTTKY TTL, BUS TRANSCEIVERS 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.

The requirements for acquiring the product herein shall consist of this specification sheet and MIL-PRF-38535.

#### 1. SCOPE

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 For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.3).

1.2 Part or Identifying Number (PIN). The PIN should be in accordance with MIL-PRF-38535, and as specified herein.

1.2.1 Device types. The device types should be as follows:

<u>Device type</u>	<u>Circuit</u>
01	Quadruple inverting bus transceivers with three state outputs
02	Quadruple noninverting bus transceivers with three state outputs
03	Octal noninverting bus transceivers with three state outputs
04	Octal inverting bus transceivers and registers with three state outputs
05	Octal inverting bus transceivers and registers with three state outputs

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:

<u>Outline letter</u>	<u>Descriptive designator</u>	<u>Terminals</u>	<u>Package style</u>
A	GDFP5-F14 or CDFP6-F14	14	Flat pack
C	GDIP1-T14 or CDIP2-T14	14	Dual-in-line
D	GDFP1-F14 or CDFP2-F14	14	Flat pack
R	GDIP1-T20 or CDIP2-T20	20	Dual-in-line
S	GDFP2-F20 or CDFP3-F20	20	Flat pack
L	GDIP3-T24 or CDIP4-T24	24	Dual-in-line
2	CQCC1-N20	20	Square leadless chip carrier

Comments, suggestions, or questions on this document should be addressed to: Commander, Defense Supply Center Columbus, ATTN: DSCC-VAS, 3990 East Broad St., Columbus, OH 43216-5000, or emailed to bipolar@dsc.dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at [www.dodssp.daps.mil](http://www.dodssp.daps.mil).

1.3 Absolute maximum ratings.

Supply voltage range .....	-0.5 V dc to +7.0 V dc
Input voltage range .....	-1.5 V dc at -18 mA to +5.5 V dc
Storage temperature range .....	-65° to +150°C
Maximum power dissipation ( $P_D$ ) <u>1/</u>	
Device type 01 and 02 .....	297 mW dc
Device type 03 .....	522.5 mW dc
Device type 04 and 05 .....	907.5 mW dc
Lead temperature (soldering, 10 seconds) .....	+300°C
Thermal resistance, junction to case ( $\theta_{JC}$ ):	
Cases A, C, D, R, S, L, and 2 .....	(See MIL-STD-1835)
Junction temperature ( $T_J$ ) <u>2/</u> .....	+175°C

1.4 Recommended operating conditions.

Supply voltage ( $V_{CC}$ ) .....	4.5 V dc minimum to 5.5 V dc maximum
Minimum high level input voltage ( $V_{IH}$ ) .....	2.0 V
Maximum low level input voltage ( $V_{IL}$ ):	
Device types 01, 02, and 03 .....	0.7 V dc
Device types 04 and 05 .....	0.5 V dc
Normalized fanout (each input) <u>3/</u> .....	20 maximum
Case operating temperature range ( $T_C$ ) .....	-55°C to +125°C
Width of clock pulse ( $t_{CLK}$ )	
Device types 04 and 05 .....	20 ns
Setup time before clock ( $t_{SETUP}$ )	
Device types 04 and 05 .....	20 ns
Hold time ( $t_{HOLD}$ )	
Device types 04 and 05 .....	0 ns

## 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

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

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

3/ The device shall fanout in both high and low levels to the specified number of inputs of the same device type as that being tested.

## 2.2 Government documents.

2.2.1 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 are those cited in the solicitation or contract.

### DEPARTMENT OF DEFENSE SPECIFICATIONS

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

### DEPARTMENT OF DEFENSE STANDARDS

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

(Copies of these documents are available online at <http://assist.daps.dla.mil;quicksearch/> or [www.dodssp.daps.mil](http://www.dodssp.daps.mil) or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 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 Logic diagrams and terminal connections. The logic diagrams and terminal connections shall be as specified on figure 1.

3.3.2 Truth tables. The truth tables shall be as specified on figure 2.

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

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

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

3.5 Electrical performance characteristics. 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 Electrical test requirements. 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 Microcircuit group assignment. The devices covered by this specification shall be in microcircuit group number 9 (see MIL-PRF-38535, appendix A).

#### 4. VERIFICATION

4.1 Sampling and inspection. 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 Screening. 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 Qualification inspection. Qualification inspection shall be in accordance with MIL-PRF-38535.

4.4 Technology Conformance inspection (TCI). 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.

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

- a. End-point electrical parameters shall be as specified in table II herein.
- b. Subgroups 3 and 4 shall be added to the group C inspection parameters for class B devices and shall consist of the tests, conditions, and limits specified for subgroups 10 and 11 of group A.
- c. 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.

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions $-55^{\circ}\text{C} \leq T_C \leq +125^{\circ}\text{C}$	Device type	Limits		Unit
				Min	Max	
High level output voltage	V <sub>OH1</sub>	V <sub>CC</sub> = 4.5 V, V <sub>IH</sub> = 2.0 V, I <sub>OH</sub> = -3 mA	V <sub>IL</sub> = 0.7 V	01, 02, 03	2.4	V
			V <sub>IL</sub> = 0.5 V	04, 05	2.4	"
	V <sub>OH2</sub>	V <sub>CC</sub> = 4.5 V, V <sub>IH</sub> = 2.0 V, I <sub>OH</sub> = -12 mA	V <sub>IL</sub> = 0.5 V	01, 02, 03	2.0	"
			V <sub>IL</sub> = 0.5 V	04, 05	2.0	"
High level output voltage	V <sub>OL</sub>	V <sub>CC</sub> = 4.5 V, V <sub>IH</sub> = 2.0 V, I <sub>OL</sub> = 12 mA	V <sub>IL</sub> = 0.7 V	01, 02, 03	0.4	"
			V <sub>IL</sub> = 0.5 V	04, 05	0.4	"
Input clamp voltage	V <sub>IC</sub>	V <sub>CC</sub> = 4.5 V, I <sub>IN</sub> = -18 mA, T <sub>C</sub> = +25°C	All		-1.5	"
High level input current	I <sub>IH1</sub>	V <sub>CC</sub> = 5.5 V, V <sub>IN</sub> = 2.7 V	All		20	μA
High level input current	I <sub>IH2</sub>	V <sub>CC</sub> = 5.5 V, V <sub>IN</sub> = 5.5 V	All		0.1	mA
Inhibited state output leakage current	I <sub>OZH</sub>	V <sub>CC</sub> = 5.5 V, V <sub>OUT</sub> = 2.7 V	01, 02		40	μA
			03		20	
			04, 05		20	
	I <sub>OZL</sub>	V <sub>CC</sub> = 5.5 V, V <sub>OUT</sub> = 0.4 V	01, 02, 03		-200	μA
			04, 05		-400	
Low level input current	I <sub>IL</sub>	V <sub>CC</sub> = 5.5 V, V <sub>IN</sub> = 0.4 V	01, 02, 03	0	-240	μA
			04, 05	0	-200	
Short circuit output current	I <sub>OS</sub>	V <sub>CC</sub> = 5.5 V 1/	All	-40	-225	mA
Supply current	I <sub>CCH</sub>	V <sub>CC</sub> = 5.5 V	01, 02		38	mA
			03		70	
			04, 05		145	
	I <sub>CCL</sub>	V <sub>CC</sub> = 5.5 V	01, 02		50	mA
			03		90	
			04, 05		165	
	I <sub>CCZ</sub>	V <sub>CC</sub> = 5.5 V	01, 02		50	mA
			03		95	
			04, 05		165	
Propagation delay time, low to high clock to bus	t <sub>PLH1</sub>	V <sub>CC</sub> = 5.0 V, R <sub>L</sub> = 110Ω, C <sub>L</sub> = 50 pF	04, 05	2	39	ns
Propagation delay time, high to low clock to bus	t <sub>PHL1</sub>		04	2	52	ns
			05	2	59	
Propagation delay time, low to high bus to bus	t <sub>PLH2</sub>		01, 02	2	25	ns
			03	2	22	
			04, 05	2	30	

See footnote at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions $-55^{\circ}\text{C} \leq T_C \leq +125^{\circ}\text{C}$	Device type	Limits		Unit
				Min	Max	
Propagation delay time, high to low bus to bus	$t_{PHL2}$	$V_{CC} = 5.0 \text{ V},$ $C_L = 50 \text{ pF},$ $R_L = 110 \Omega$	01, 02	2	30	ns
			03	2	22	
			04	2	33	
			05	2	39	
Propagation delay time, low to high select (with bus input high) to bus	$t_{PLH3}$		04	2	59	ns
			05	2	78	
Propagation delay time, high to low select (with bus input high) to bus	$t_{PHL3}$		04	2	52	ns
			05	2	59	
Propagation delay time, low to high select (with bus input low) to bus	$t_{PLH4}$		04	2	72	ns
			05	2	59	
Propagation delay time, high to low select (with bus input low) to bus	$t_{PHL4}$		04	2	39	ns
			05	2	59	
Propagation delay time, disabled to high level output	$t_{PZH1}$		01, 02	2	36	ns
			03	2	58	
Propagation delay time, disabled to high level output enable to bus	$t_{PZH2}$		04	2	78	ns
			05	2	72	
Propagation delay time, disabled to high level output direction to bus	$t_{PZH3}$		04	2	65	ns
			05	2	59	
Propagation delay time, disabled to low level output	$t_{PZL1}$		01, 02	2	46	ns
			03	2	58	
Propagation delay time, disabled to low level output enable to bus	$t_{PZL2}$		04	2	91	ns
			05	2	78	
Propagation delay time, disabled to low level direction to bus	$t_{PZL3}$		04	2	85	ns
			05	2	65	
Propagation delay time high level to disabled output	$t_{PHZ1}$		01, 02	2	46	ns
			03	2	39	
Propagation delay time high level to disabled output enable to bus	$t_{PHZ2}$		04	2	52	ns
			05	2	65	
Propagation delay time high level to disabled output direction to bus	$t_{PHZ3}$		04	2	46	ns
			05	2	52	
Propagation delay time, low level to disabled output	$t_{PLZ1}$		01, 02	2	39	ns
			03	2	39	
Propagation delay time, low level to disabled output enable to bus	$t_{PLZ2}$		04	2	52	ns
			05	2	52	
Propagation delay time, low level to disabled output direction to bus	$t_{PLZ3}$		04	2	46	ns
			05	2	46	

1/ Not more than one output should be shorted at one time.

TABLE II. Electrical test requirements.

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

\*PDA applies to subgroup 1.

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

4.5 Methods of inspection. Methods of inspection shall be specified and as follows:

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

4.6 Inclusion with other detail specifications. For qualification and quality conformance inspection purposes, devices covered by this specification may be treated as though they were included on the same detail specification as devices covered by MIL-M-38510/324. In addition, if a manufacturer is already qualified for type 32402, and if the respective devices on this specification (MIL-M-38510/328) are designed and manufactured identically (same die, same process, same screening) in all respects except electrical testing, then device type 32802 may be qualified by conducting only group A electrical tests with approval of the qualifying activity including subgroups A-10 and A-11, and submitting data in accordance with MIL-M-38510, appendix D (i.e., groups B, C, and D tests are not required).



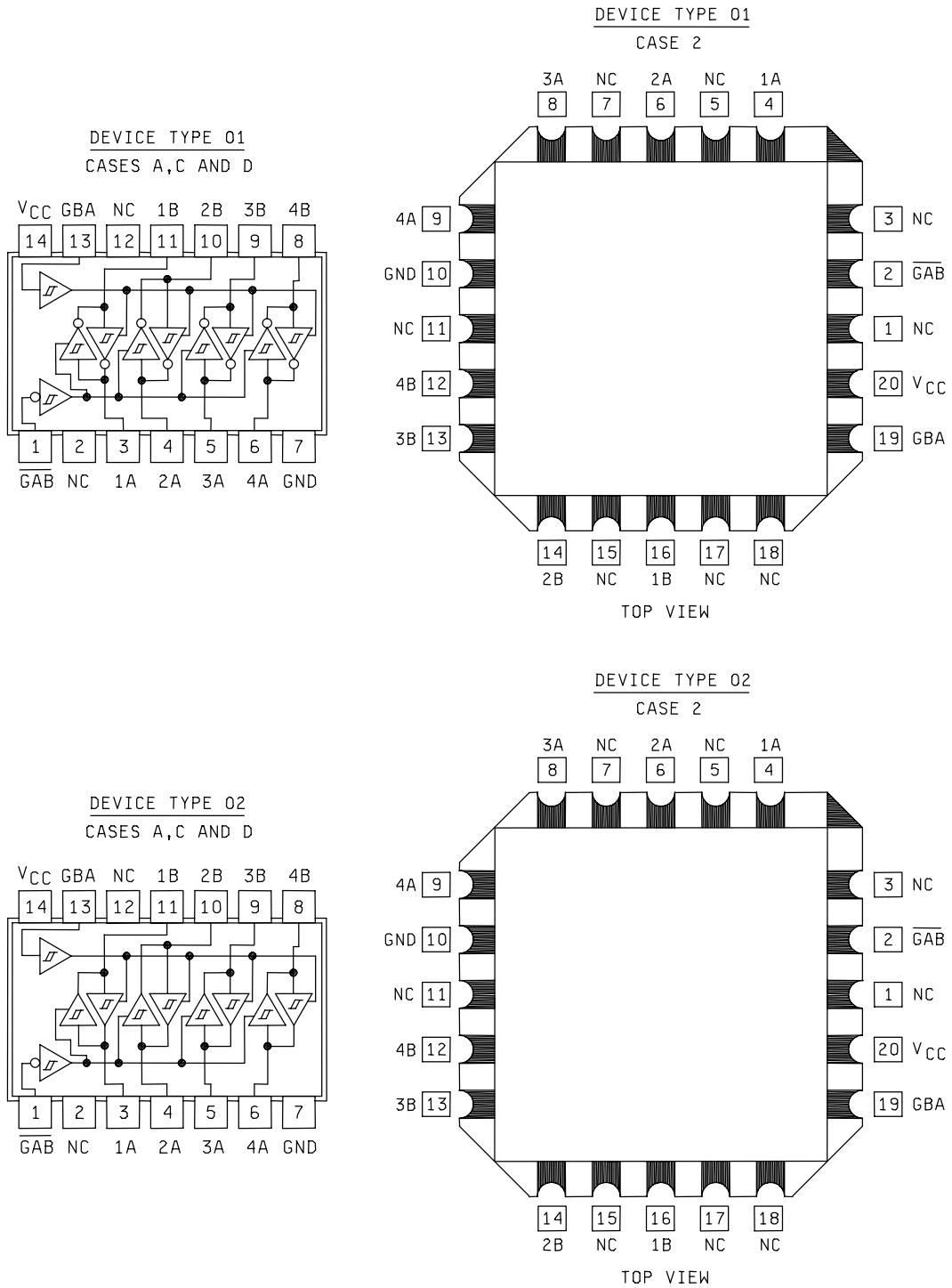


FIGURE 1. Logic diagrams and terminal connections.

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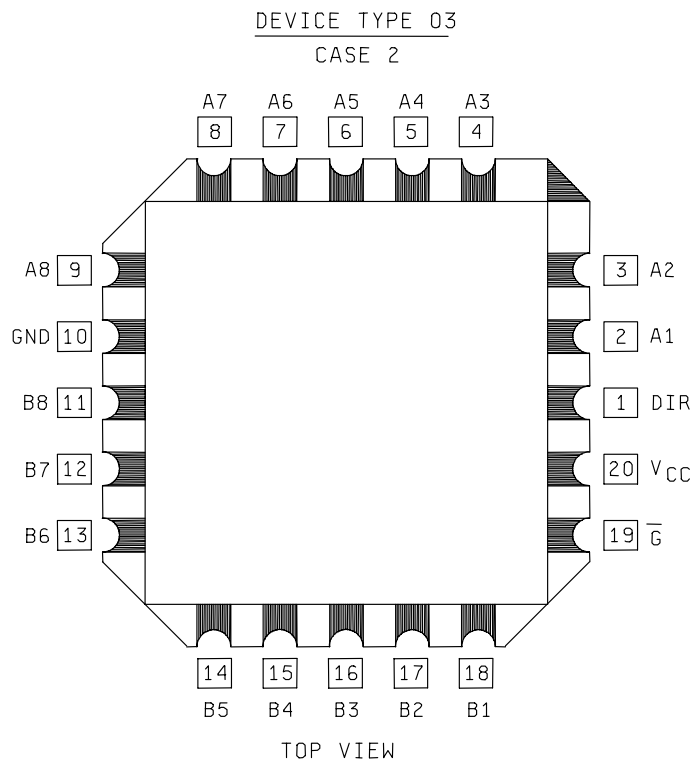
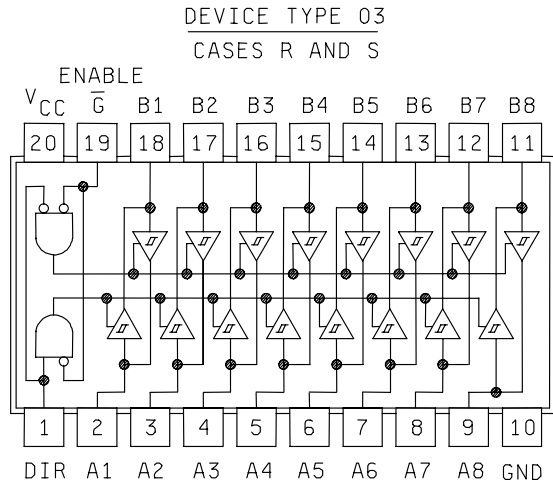


FIGURE 1. Logic diagrams and terminal connections - Continued.

MIL-M-38510/328C

DEVICE TYPES 04 AND 05  
 TERMINAL CONNECTIONS  
 CASE L

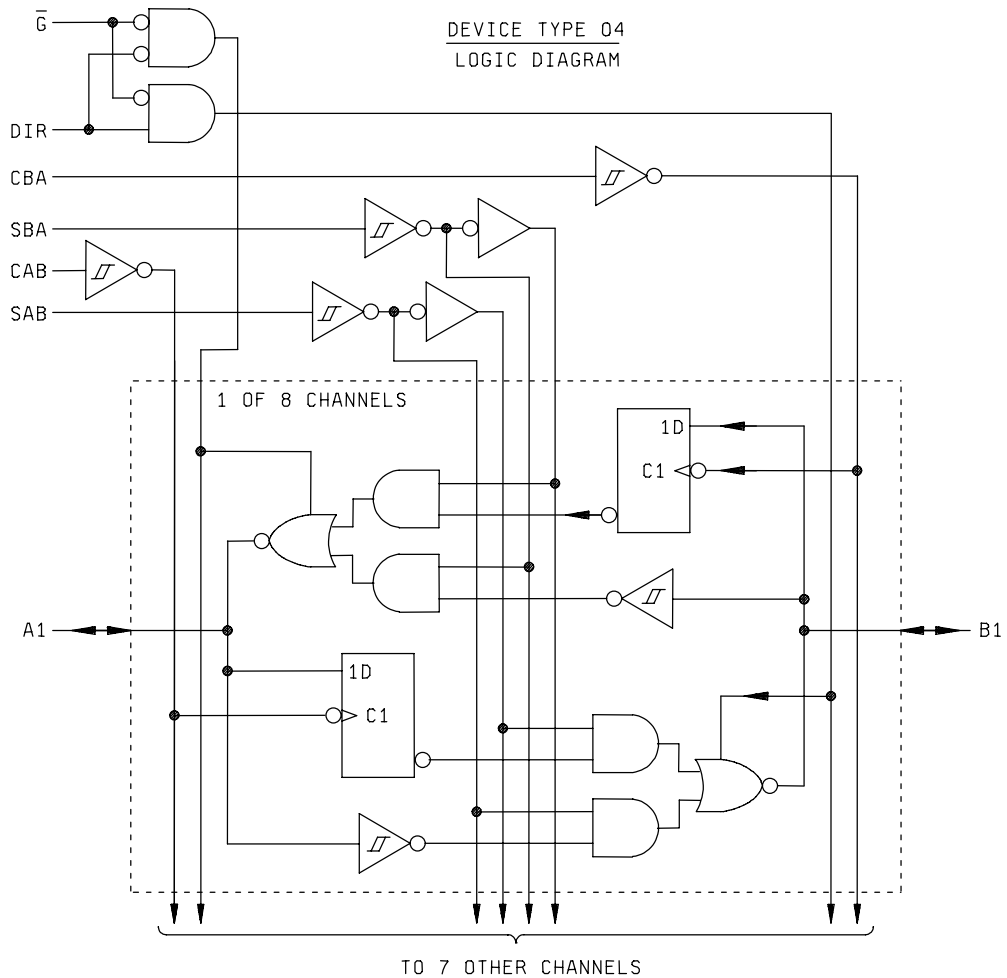
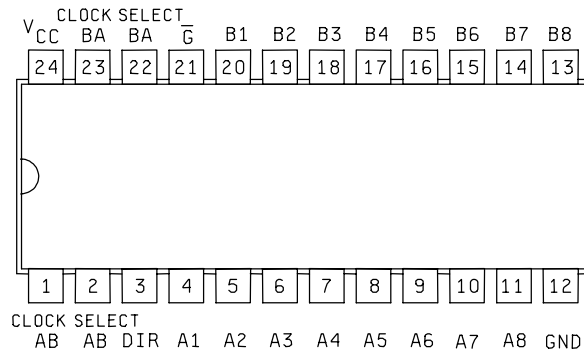


FIGURE 1. Logic diagrams and terminal connections - Continued.

DEVICE TYPE 05  
LOGIC DIAGRAM

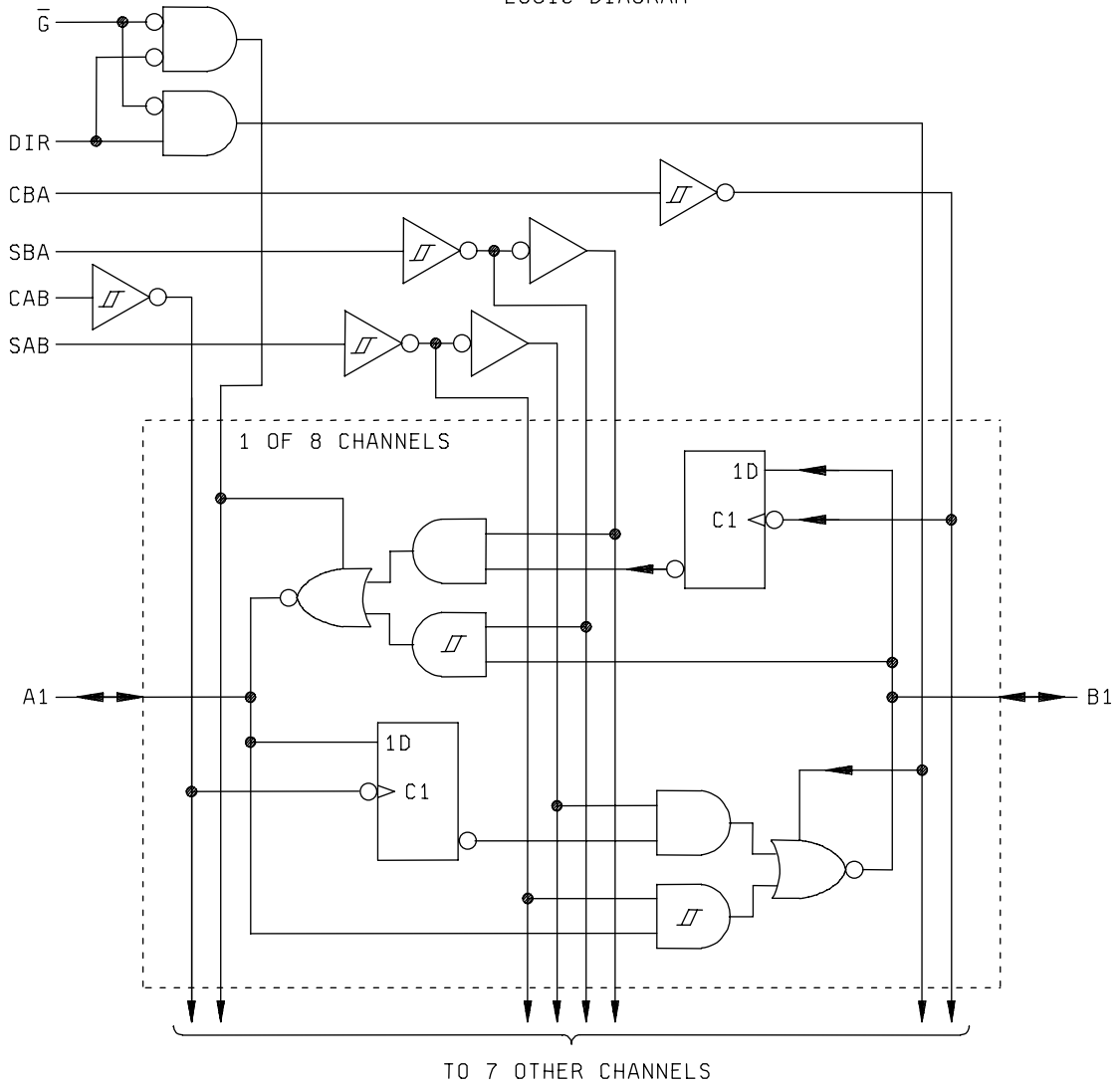


FIGURE 1. Logic diagrams and terminal connections - Continued.

Device type 01

CONTROL INPUTS		DATA PORT STATUS	
$\overline{\text{GAB}}$	GBA	A	B
H	H	$\overline{\text{O}}$	I
L	H	*	*
H	L	ISOLATED	
L	L	I	$\overline{\text{O}}$

\* Possibly destructive oscillation may occur if the transceivers are enabled in both directions at once.  
 I = Input, O = Output,  $\overline{\text{O}}$  = Inverting Output

Device type 02

CONTROL INPUTS		DATA PORT STATUS	
$\overline{\text{GAB}}$	GBA	A	B
H	H	O	I
L	H	*	*
H	L	ISOLATED	
L	L	I	O

\* Possibly destructive oscillation may occur if the transceivers are enabled in both directions at once.  
 I = Input, O = Output,  $\overline{\text{O}}$  = Inverting Output

Device type 03

ENABLE $\overline{\text{G}}$	DIRECTION CONTROL DIR	OPERATION
L	L	B data to A bus
L	H	A data to B bus
H	X	Isolation

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

FIGURE 2. Truth tables.

Device type 04

INPUTS						DATA I/O *		OPERATION OR FUNCTION
$\bar{G}$	DIR	CAB	CBA	SAB	SBA	A1 thru A8	B1 thru B8	
H	X	H or L	H or L	X	X	Input	Input	Isolation
H	X	↑	↑	X	X			Store A and B Data
L	L	X	X	X	L	Output	Input	Real Time B Data to A Bus
L	L	X	X	X	H			Stored B Data to A Bus
L	H	X	X	L	X	Input	Output	Real Time A Data to B Bus
L	H	H or L	X	H	X			Stored A Data to B Bus

H = High Level                      L = Low Level                      X = Irrelevant                      ↑ = Low to high level transition

\* The data output function may be enabled or disabled by various signals at the  $\bar{G}$  and DIR inputs. Data input functions are always enabled, i.e., data at the bus pins will be stored on every low to high transition on the clock inputs.

Device type 05

INPUTS						DATA I/O *		OPERATION OR FUNCTION
$\bar{G}$	DIR	CAB	CBA	SAB	SBA	A1 thru A8	B1 thru B8	
H	X	H or L	H or L	X	X	Input	Input	Isolation
H	X	↑	↑	X	X			Store A and B Data
L	L	X	X	X	L	Output	Input	Real Time $\bar{B}$ Data to A Bus
L	L	X	X	X	H			Stored $\bar{B}$ Data to A Bus
L	H	X	X	L	X	Input	Output	Real Time $\bar{A}$ Data to B Bus
L	H	H or L	X	H	X			Stored $\bar{A}$ Data to B Bus

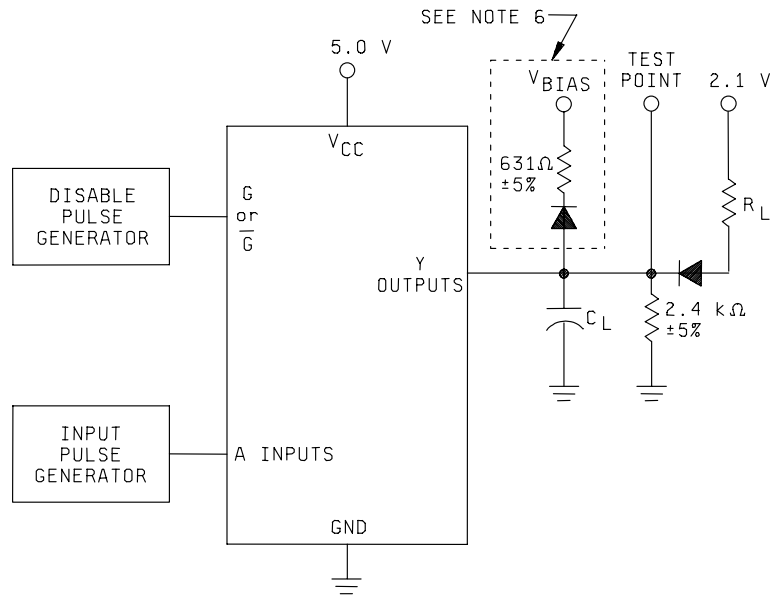
H = High Level                      L = Low Level                      X = Irrelevant                      ↑ = Low to high level transition

\* The data output function may be enabled or disabled by various signals at the  $\bar{G}$  and DIR inputs. Data input functions are always enabled, i.e., data at the bus pins will be stored on every low to high transition on the clock inputs.

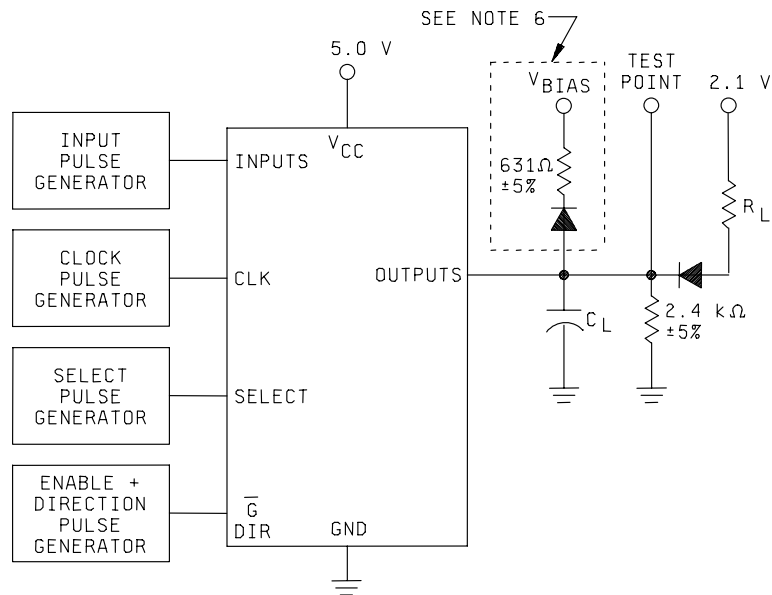
FIGURE 2. Truth tables - Continued.

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TEST CIRCUIT TYPES 01,02 AND 03



TEST CIRCUIT TYPES 04 AND 05



NOTES:

1.  $R_L = 110\Omega \pm 5\%$
2. All diodes are 1N3064 or equivalent.
3.  $C_L = 50 \text{ pF} \pm 10\%$  including probe and jig capacitance.
4. The pulse generators have the following characteristics:  $V_{gen} = 3.0 \text{ V}$ ,  $PRR \leq 1 \text{ MHz}$ ,  $t_{TLH} \leq 15 \text{ ns}$ ,  $t_{THL} \leq 6 \text{ ns}$ ,  $Z_{OUT} = 50\Omega$ .
5. Clock pulse characteristics:  $t_{p(CLK)} = 20 \text{ ns}$ ,  $t_{SETUP} = 20 \text{ ns}$ .
6. The diode and resistor shown within the dotted area are optional. When the diode and resistor are used,  $V_{BIAS}$  shall be 5.5 V for all tests except for  $t_{PHZ}$ , for  $t_{PHZ}$  tests,  $V_{BIAS}$  shall be -0.6V.

FIGURE 3. Switching time test circuit and waveforms.

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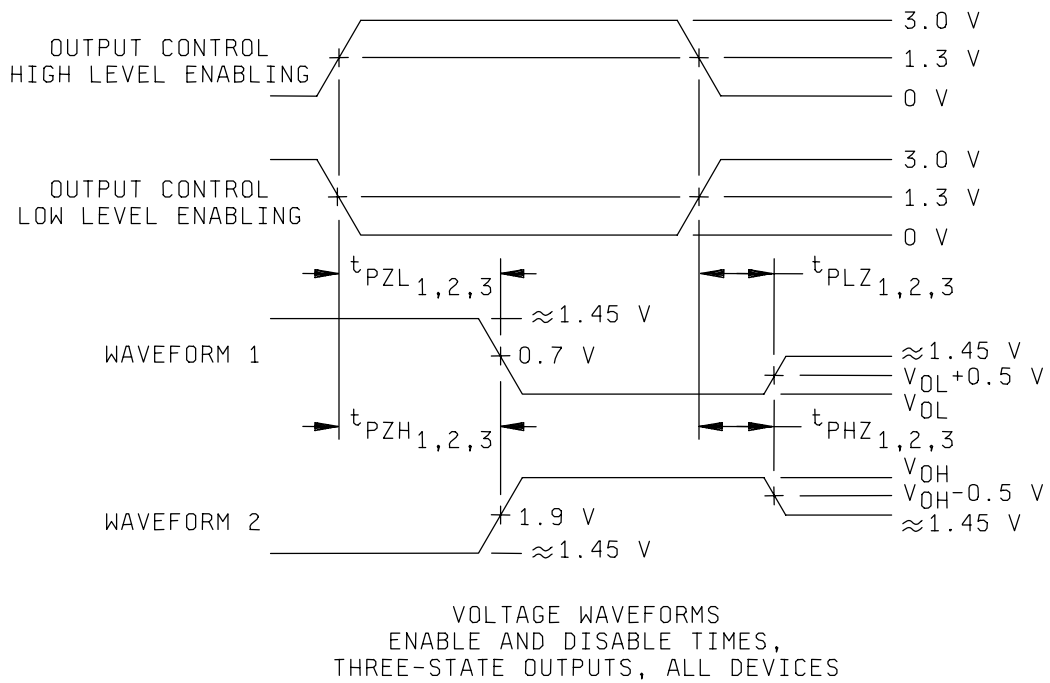
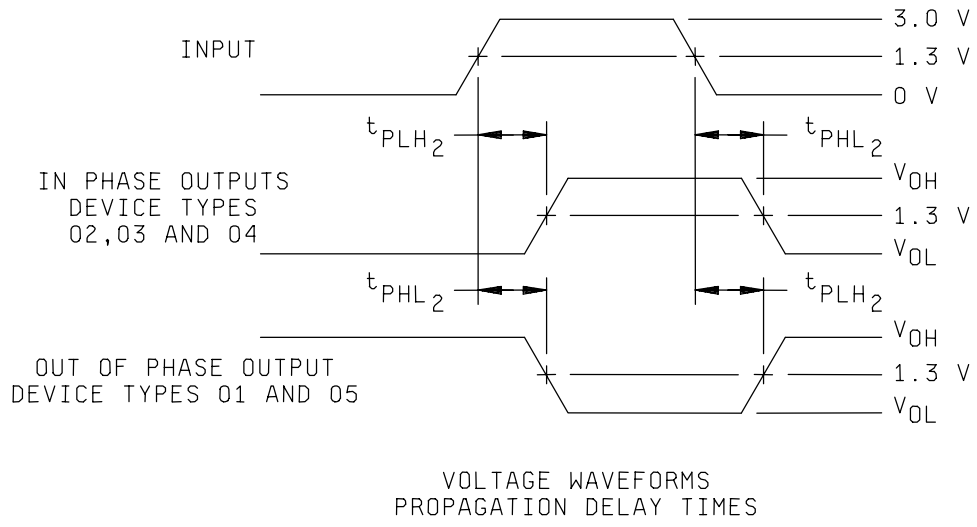
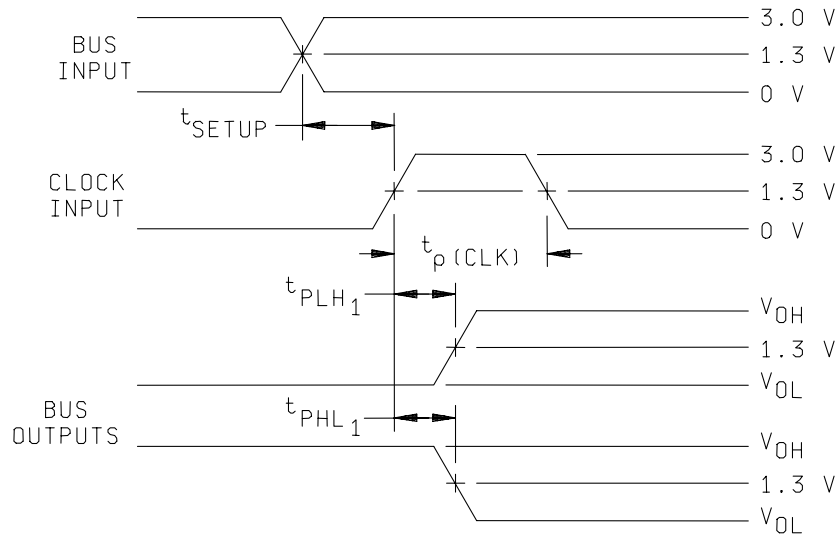


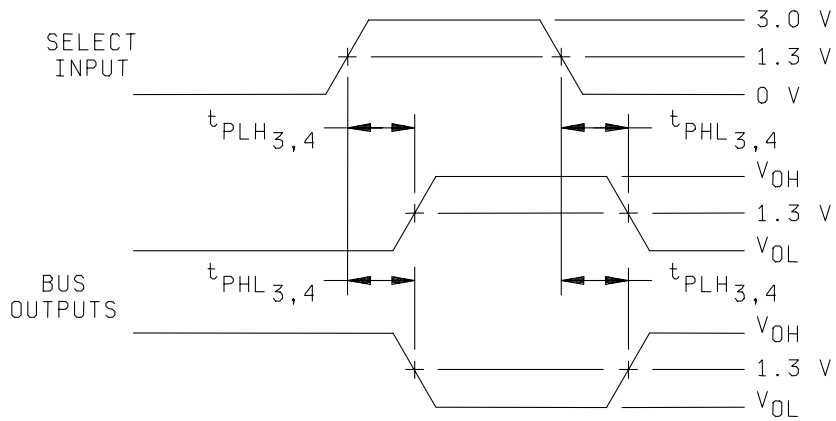
FIGURE 3. Switching time test circuit and waveforms - Continued.



MIL-M-38510/328C



CLOCK TO OUTPUT (TYPES 04 AND 05)



SELECT TO OUTPUT (TYPES 04 AND 05)

FIGURE 3. Switching time test circuit and waveforms - Continued.

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

Subgroup	Symbol	MIL-STD-883 method	Cases A, C, D Case 2, 1/ Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Limits		Measured terminal	Unit		
				2	3	4	5	6	7	8	9	10	11	12	13	14	Min	Max					
1 Tc = 25°C	V <sub>OH1</sub>	3006	GAB	1	NC	1A	2A	3A	4A	GND	GND							1B	2.4		V		
				2	0.7 V	0.7 V														2B			
				3																3B			
				4					0.7 V											4B			
				5	2.0 V															1A			
				6																2A			
				7																3A			
				8																4A			
				9	0.5 V															1B	2.0		
				10																2B			
				11																3B			
				12																4B			
				13	2.0 V															1A			
				14																2A			
				15																3A			
				16																4A			
	V <sub>OH2</sub>	3007	GAB	17	0.7 V	2.0 V												1A					
				18															2B			0.4	
				19															3B				
				20															4B				
				21	2.0 V														1A				
				22															2A				
				23															3A				
				24															4A				
				25															1A	5.5 V		2/	
				26															2A				
				27															3A				
					I <sub>OH2</sub>		GAB	28														1A	
29	2.0 V																		2B				
30																			3B				
31																			4B				
32																			1A				
33																			2A				
34																			3A				
35																			4A				
36																			1B				
37	2.0 V																		2B				
	I <sub>OL</sub>		GAB	38														3B					
				39															4B				
				40															1A				
				41	0.4 V														2A				
				42															3A				
				43															4A				
				44															1B				
				45															2B				
				46	5.5 V														3B				
				47															4B				
	I <sub>IL</sub>	3009	GAB	48														1A					
				49														2A					
				50														3A					
																		4A					

See footnotes at end of device type 01.

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

Subgroup	Symbol	MIL-STD-883 method	Cases A, C, D Case 2, 1/ Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Measured terminal	Limits		Unit					
				2	3	4	5	6	7	8	9	10	11	12	13	14	Min		Max							
1 $T_c = 25^\circ\text{C}$	$I_{IH1}$	3010	51	GAB	NC	1A	2A	3A	4A	GND	4B	3B	2B	1B	NC	GBA	GAB	20	$\mu\text{A}$							
				2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V	2.7 V			
				52	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
				53	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
				54	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
				55	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
				56	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
				57	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				58	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				59	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				60	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				61	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				62	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				63	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				64	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				65	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				66	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				67	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				68	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				69	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
				70	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
71	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
72	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
73	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
75	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
76	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
77	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
78	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
79	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
80	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
81	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
82	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
83	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
84	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
85	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
86	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
87	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
88	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
89	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
90	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
91	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
2	Same tests, terminal conditions, and limits as for subgroup 1, except $T_c = 125^\circ\text{C}$ and $V_{IC}$ tests are omitted.																									
3	Same tests, terminal conditions, and limits as for subgroup 1, except $T_c = -55^\circ\text{C}$ and $V_{IC}$ tests are omitted.																									
7	$T_c = 25^\circ\text{C}$	Truth table tests 4/	Test 96 optional	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
92				A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
93				L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L		
94				H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	
95				A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
96	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
8	Same tests and terminal conditions as subgroup 7, except $T_c = +125^\circ\text{C}$ and $-55^\circ\text{C}$ .																									

See footnotes at end of device type 01.

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

Subgroup	Symbol	MIL-STD-883 method	Cases A, C, D Case 2, 1/ Test no.	Terminal conditions																		Measured terminal	Limits		Unit
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	14	20	Min	Max				
9 Tc = 25°C	t <sub>PH2</sub>	3003 See fig. 3	97	GAB	1A	2A	3A	4A	GND	4B	3B	2B	1B	OUT	1A to 1B	2	19	ns							
			98	GND	IN	IN	IN	IN	IN	IN	OUT	OUT	OUT	OUT	OUT	2A to 2B	"	"	"						
			99	"	"	"	"	"	"	"	"	OUT	OUT	OUT	OUT	3A to 2B	"	"	"						
			100	"	"	"	"	"	"	"	"	"	"	"	"	4A to 2B	"	"	"						
			101	4.5 V	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	IN	IN	IN	1B to 1A	"	"	"						
			102	"	"	"	"	"	"	"	"	"	"	"	"	2B to 2A	"	"	"						
			103	"	"	"	"	"	"	"	"	"	"	"	"	3B to 3A	"	"	"						
			104	"	"	"	"	"	"	"	"	"	"	"	"	4B to 4A	"	"	"						
			105	GND	IN	IN	IN	IN	IN	IN	IN	OUT	OUT	OUT	OUT	1A to 1B	"	23	"						
			107	"	"	"	"	"	"	"	"	"	"	"	"	2A to 2B	"	"	"						
			108	"	"	"	"	"	"	"	"	"	"	"	"	3A to 2B	"	"	"						
			109	4.5 V	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	4A to 2B	"	"	"						
			110	"	"	"	"	"	"	"	"	"	"	"	"	1B to 1A	"	"	"						
111	"	"	"	"	"	"	"	"	"	"	"	"	2B to 2A	"	"	"									
112	"	"	"	"	"	"	"	"	"	"	"	"	3B to 3A	"	"	"									
113	IN	4.5 V	4.5 V	OUT	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT	4B to 4A	"	"	"									
114	"	"	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	GAB to 1B	"	35	"								
115	"	"	"	"	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	GAB to 2B	"	"	"								
116	"	"	"	"	"	"	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	GAB to 2B	"	"	"								
117	"	"	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	GAB to 2B	"	"	"								
118	"	"	"	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	GBA to 1A	"	"	"								
119	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 2A	"	"	"								
120	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 3A	"	"	"								
121	IN	IN	GND	OUT	OUT	OUT	OUT	OUT	OUT	4.5 V	4.5 V	4.5 V	4.5 V	GBA to 4A	"	"	"								
122	"	"	"	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GAB to 1B	"	"	"								
123	"	"	"	"	GND	GND	GND	GND	GND	GND	GND	GND	GND	GAB to 2B	"	"	"								
124	"	"	"	"	"	"	GND	GND	GND	GND	GND	GND	GND	GAB to 2B	"	"	"								
125	"	"	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	GAB to 2B	"	"	"								
126	"	"	"	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	GBA to 1A	"	"	"								
127	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 2A	"	"	"								
128	"	"	"	"	OUT	OUT	OUT	OUT	OUT	GND	GND	GND	GND	GBA to 3A	"	"	"								
129	"	"	IN	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	GBA to 4A	"	"	"								
130	"	"	"	"	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	GAB to 1B	"	30	"								
131	"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 2B	"	"	"								
132	"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 2B	"	"	"								
133	"	"	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	GAB to 2B	"	"	"								
134	"	"	"	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	GAB to 2B	"	"	"								
135	"	"	"	"	OUT	OUT	OUT	OUT	OUT	4.5 V	4.5 V	4.5 V	4.5 V	GAB to 2B	"	"	"								
136	"	"	"	"	OUT	OUT	OUT	OUT	OUT	4.5 V	4.5 V	4.5 V	4.5 V	GAB to 2B	"	"	"								

See footnotes at end of device type 01.

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

Subgroup	Symbol	MIL-STD-883 method	Cases A, C, D Case 2, 1/ Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Limits		Unit				
				GAB	NC	1A	2A	3A	4A	GND	4B	3B	2B	1B	18	19	20	Min	Max					
9 Tc = 25°C	I <sub>PH1</sub>	3003 See fig. 3	137	IN										OUT			GND	5.0 V	2	35	ns			
			138	*		GND									OUT				*	*	*	*	*	
			139	*			GND							OUT						*	*	*	*	*
			140	*						GND			OUT							*	*	*	*	*
			141	*	4.5 V			OUT								GND		IN		*	*	*	*	*
			142	*				OUT												*	*	*	*	*
10	I <sub>PH2</sub> I <sub>PH12</sub> I <sub>PH1</sub> I <sub>PH11</sub> I <sub>PH21</sub> I <sub>PH1</sub> I <sub>PH21</sub>	Same tests and terminal conditions as subgroup 9, except Tc = +125°C.	143	*				OUT										*	*	*	*	*		
			144	*					OUT										*	*	*	*	*	
										OUT									*	*	*	*	*	
											OUT								*	*	*	*	*	
11																								

- 1/ Pins not referenced are N/C.
- 2/ The I<sub>PH</sub> limit for circuits D and E shall be 20  $\mu$ A maximum; the limit for circuits A, B, and C shall be 40  $\mu$ A maximum.
- 3/ The I<sub>L</sub> limits are as follows:

Test	Min/Max limits $\mu$ A for circuit:				
	A	B	C	D	E
I <sub>L</sub>	-5/-200	0/-100	0/-200	-10/-150	0/-150

- 4/ A = 3.0 V minimum; B = 0.0 V or GND.
- 5/ H > 1.5 V; L < 1.5 V.
- 6/ Add resistor of 0.5 k $\Omega$  to 5 k $\Omega$  between V<sub>CC</sub> and each output.

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

Subgroup	Symbol	MIL-STD-883 method	Cases A, C, D Case 2, 1/ Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Measured terminal	Limits		Unit				
				GAB	NC	1A	2A	3A	4A	GND	4B	3B	2B	1B	18	19	20		Min	Max					
1 Tc = 25°C	V <sub>OH1</sub>	3006	1	0.7 V		2.0 V												1B	2.4		V				
			2	"		2.0 V													2B	"		"			
			3	"					2.0 V											3B	"		"		
			4	"						2.0 V										4B	"		"		
			5	2.0 V																1A	"		"		
			6	"																2A	"		"		
			7	"																3A	"		"		
			8	"																4A	"		"		
			9	0.5 V																	1B	2.0		"	
			10	"																	2B	"		"	
			11	"																	3B	"		"	
			12	"																	4B	"		"	
			13	2.0 V																	1A	"		"	
			14	"																	2A	"		"	
			15	"																	3A	"		"	
			16	"																	4A	"		"	
3007	V <sub>OL</sub>	3007	17	0.7 V		0.7 V												1B			0.4	"			
			18	"															2B	"		"	"		
			19	"															3B	"		"	"		
			20	"																4B	"		"	"	
			21	2.0 V																1A	"		"	"	
			22	"																2A	"		"	"	
			23	"																3A	"		"	"	
			24	"																4A	"		"	"	
			25	"																1A			2/	"	
			26	"																2A	"		"	"	
			27	"																3A	"		"	"	
			28	"																4A	"		"	"	
			29	2.0 V																	4B	"		"	"
			30	"																	3B	"		"	"
31	"																	2B	"		"	"			
32	"																	1B	"		"	"			
33	"																	1A	"		-200	"			
34	"																	2A	"		"	"			
35	"																	3A	"		"	"			
36	"																	4A	"		"	"			
37	2.0 V																	4B	"		"	"			
38	"																	3B	"		"	"			
39	"																	2B	"		"	"			
40	"																	1B	"		"	"			
3009	I <sub>IL</sub>	3009	41	0.4 V															GAB	3/		"			
			42	"															1A	"		"	"		
			43	"																GND	"		"	"	
			44	"																2A	"		"	"	
			45	"																3A	"		"	"	
			46	5.5 V																4A	"		"	"	
			47	"																3B	"		"	"	
			48	"																2B	"		"	"	
			49	"																1B	"		"	"	
			50	"																GAB	"		"	"	

See footnotes at end of device type 02.

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

Subgroup	Symbol	MIL-STD-883 method	Cases A, C, D		1	2	3	4	5	6	7	8	9	10	11	12	13	14	Measured terminal	Limits		Unit				
			Case 2, 1/	Test no.	GAB	NC	1A	2A	3A	4A	GND	4B	3B	2B	1B	19	20	Min		Max						
1	$I_{IH1}$	3010		51	2.7 V													GAB			20	$\mu$ A				
				52		2.7 V														GND					"	
				53				2.7 V													2A					"
				54							2.7 V										3A					"
				55								2.7 V									4A					"
				56			5.5 V								2.7 V						4B					"
				57												2.7 V					3B					"
				58													2.7 V				2B					"
				59														2.7 V			1B					"
				60																2.7 V	GBA					"
				61				5.5 V													GAB			100		"
				62						5.5 V											1A					"
				63							5.5 V										2A					"
				64								5.5 V									3A					"
				65									5.5 V								4A					"
				66				5.5 V								5.5 V					4B					"
				67													5.5 V				3B					"
				68														5.5 V			2B					"
				69															5.5 V		1B					"
				70					-18 mA											5.5 V	GBA					"
				71																	GAB					-1.5 V
72						-18 mA											1A					"				
73							-18 mA										2A					"				
74								-18 mA									3A					"				
75									-18 mA								4A					"				
76					5.5 V							-18 mA					4B					"				
77																	3B					"				
78																	2B					"				
79													-18 mA				1B					"				
80																	GBA					"				
81	$I_{GCH}$	3005			GND		5.5 V	5.5 V									-18 mA					"				
82	$I_{GCL}$	3005			GND		GND	GND									GND	$V_{CC}$				38 mA				
83	$I_{Gcz}$	3005			5.5 V												GND	$V_{CC}$				50 "				
84	$I_{OS}$	3011			GND		5.5 V										GND	$V_{CC}$				50 "				
85								5.5 V									GND	1B				-225 "				
86									5.5 V									2B				"				
87										5.5 V								3B				"				
88					5.5 V							GND						4B				"				
89							GND						5.5 V					1A				"				
90									GND					5.5 V				2A				"				
91										GND		5.5 V						3A				"				
92																		4A				"				
2	Same tests, terminal conditions, and limits as for subgroup 1, except $T_c = 125^\circ\text{C}$ , and $V_{IC}$ tests are omitted.																									
3	Same tests, terminal conditions, and limits as for subgroup 1, except $T_c = -55^\circ\text{C}$ , and $V_{IC}$ tests are omitted.																									
7	Truth table tests $\frac{4}{}$				B	B	A	A	A	A	GND	H	H	H	H	H	B	B	B	B	5/					
8	$T_c = 25^\circ\text{C}$			93		B	B	B	B	B	A	L	L	L	L	L	B	B	B	B	B	5/				
				94		A	H	H	H	H	A	A	A	A	A	A	A	A	A	A	A	A	A			
				95		A	L	L	L	L	L	L	L	L	B	B	B	B	B	B	B	B	B	B		
96		A	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	g/ for test 96 only)				

See footnotes at end of device type 02.

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

Subgroup	Symbol	MIL-STD-883 method	Cases A, C, D Case 2, 1/ Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Limits		Unit					
				2	3	4	6	8	9	10	13	14	16	18	19	20	Measured terminal	Min	Max						
9 Tc = 25°C	I <sub>PH2</sub>	3003 See fig. 3	97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136	GAB	NC	1A	2A	3A	4A	GND	4B	3B	2B	1B	OUT	NC	GND	5.0 V	2	19	ns				
				GND	NC	IN	IN	IN	IN	IN	IN	IN	IN	OUT	OUT	OUT	OUT	OUT	GND	2A to 2B	"	"	"		
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	3A to 3B	"	"	"		
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	4A to 4B	"	"	"		
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	1B to 1A	"	"	"		
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	2B to 2A	"	"	"		
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	3B to 3A	"	"	"		
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	4B to 4A	"	"	"		
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GND	1A to 1B	"	23	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	2A to 2B	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	3A to 3B	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	4A to 4B	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	4.5 V	1B to 1A	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	2B to 2A	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	3B to 3A	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	4B to 4A	"	"	"	
					I <sub>PZ1</sub>			IN		GND	GND							OUT		GND	"	GAB to 1B	"	35	"
								"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 2B	"
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 3B	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 4B	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 1A	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 2A	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 3A	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 4A	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 1B	"	30	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 2B	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 3B	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 4B	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 1A	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 2A	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 3A	"	"	"	
"	"	"	"					"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 4A	"	"	"	
	I <sub>PZ1</sub>							IN		GND	GND							OUT		GND	"	GAB to 1B	"	28	"
								"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 2B	"
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 3B	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 4B	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 1A	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 2A	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 3A	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 4A	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 1B	"	30	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 2B	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 3B	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GAB to 4B	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 1A	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 2A	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 3A	"	"	"	
				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GBA to 4A	"	"	"	

See footnotes at end of device type 02.



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

Subgroup	Symbol	MIL-STD-883 method	Cases A, C, D Case 2, 1/ Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Limits		Unit			
				GAB	IN	NC	1A	2A	3A	4A	GND	4B	GND	19	20	Min	Max						
9 Tc = 25°C	I <sub>PH1</sub>	3003 See fig. 3	137	4.5 V										OUT			GND	GAB to 1B	2	35	ns		
			138	"		4.5 V									OUT			"	GAB to 2B	"	"	"	
			139	"			4.5 V							OUT				"	GAB to 3B	"	"	"	
			140	"				4.5 V				OUT						"	GAB to 4B	"	"	"	
			141	"	4.5 V											4.5 V			IN	GAB to 1A	"	"	"
10	I <sub>PH2</sub> I <sub>PH12</sub> I <sub>PZ1</sub> I <sub>PZ11</sub> I <sub>PZ1</sub> I <sub>PZ1</sub>	Same tests ans terminal conditions as subgroup 9, except Tc = +125°C.	142	"		OUT							4.5 V				"	GAB to 2A	"	"	"		
			143	"			OUT						4.5 V					"	GAB to 3A	"	"	"	
			144	"					OUT				4.5 V					"	GAB to 4A	"	"	"	
			144	"					OUT				4.5 V					"	GAB to 4A	"	"	"	
11	I <sub>IL</sub>	Same tests, terminal conditions, and limits as for subgroup 10, except Tc = -55°C.	Min/Max limits $\mu$ A for circuit:																				
			A	B	C	D	E																
			-5/-200	0/-100	0/-200	-10/-150	0/-150																

- 1/ Pins not referenced are N/C.
- 2/ The I<sub>PH</sub> limit for circuits D and E shall be 20  $\mu$ A maximum; the limit for circuits A, B, and C shall be 40  $\mu$ A maximum.
- 3/ The I<sub>IL</sub> limits are as follows:

Test	Min/Max limits $\mu$ A for circuit:				
	A	B	C	D	E
I <sub>IL</sub>	-5/-200	0/-100	0/-200	-10/-150	0/-150

- 4/ A = 3.0 V minimum; B = 0.0 V or GND.
- 5/ H > 1.5 V; L < 1.5 V.
- 6/ Add resistor of 0.5 k $\Omega$  to 5 k $\Omega$  between V<sub>CC</sub> and each output.









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

Subgroup	Symbol	MIL-STD-883 method	Cases R, S, 2 Test no.	Terminal conditions (pins not designated may be high $\geq 2.0$ V; low $\leq 0.7$ V; or open)																	Test limits		Unit																		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20	Min	Max															
9 Tc = 25°C	$t_{pZL1}$	3003 See fig. 3	217	DIR	A1	GND																				2	45	ns													
			218	4.5 V	GND																																				
			219	"	"																																				
			220	"	"																																				
			221	"	"																																				
			222	"	"																																				
			223	"	"																																				
			224	"	"																																				
			225	"	"																																				
			226	"	"																																				
			227	"	"																																				
			228	"	"																																				
			229	"	"																																				
			230	"	"																																				
			231	"	"																																				
			232	"	"																																				
			233	"	"																																				
			234	"	"																																				
			235	"	"																																				
			236	"	"																																				
			237	"	"																																				
			238	"	"																																				
			239	"	"																																				
			240	"	"																																				
241	"	"																																							
242	"	"																																							
243	"	"																																							
244	"	"																																							
245	"	"																																							
246	"	"																																							
247	"	"																																							
248	"	"																																							

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

Subgroup	Symbol	MIL-STD-883 method	Cases R, S, 2 Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured terminal	Test limits		Unit																															
				DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	IN	V <sub>CC</sub>		G to B1	Min		Max																														
9	T <sub>c</sub> = 25°C	3003	249	4.5 V	GND																					2	30	ns																														
			250	"	"	GND																OUT																																				
			251	"	"	"	GND																																																			
			252	"	"	"	"																																																			
			253	"	"	"	"	GND																																																		
			254	"	"	"	"	"				GND																																														
			255	"	"	"	"	"				"																																														
			256	"	"	"	"	"	"			"																																														
			257	"	"	"	"	"	"			"																																														
			258	"	"	"	"	"	"			"																																														
			259	"	"	"	"	"	"			"																																														
			260	"	"	"	"	"	"			"																																														
			261	"	"	"	"	"	"			"																																														
			262	"	"	"	"	"	"			"																																														
			263	"	"	"	"	"	"			"																																														
			264	"	"	"	"	"	"			"																																														
265	"	"	"	"	"	"			"																																																	
266	"	"	"	"	"	"			"																																																	
267	"	"	"	"	"	"			"																																																	
268	"	"	"	"	"	"			"																																																	
269	"	"	"	"	"	"			"																																																	
270	"	"	"	"	"	"			"																																																	
271	"	"	"	"	"	"			"																																																	
272	"	"	"	"	"	"			"																																																	
10	t <sub>PHZ1</sub>																																																									
	t <sub>PHZ2</sub>																																																									
	t <sub>PHZ</sub>																																																									
	t <sub>PHZL1</sub>																																																									
	t <sub>PHZL1</sub>																																																									
	t <sub>PHZ1</sub>																																																									
	t <sub>PHZ1</sub>																																																									
11	Same tests, terminal conditions, and limits as for subgroup 9, except T <sub>c</sub> = 125°C.																																																									

Same tests, terminal conditions, and limits as for subgroup 9, except T<sub>c</sub> = 125°C.

1/ The I<sub>OH</sub> limits for circuit B and E are +20  $\mu$ A maximum.  
 2/ The I<sub>IL</sub> limits for circuit E are -5 $\mu$ A minimum, -240  $\mu$ A maximum.  
 3/ A = 3.0 V minimum; B = 0.0 V or GND.  
 4/ H > 1.5 V; L < 1.5 V.  
 5/ Add resistor of 0.5 k $\Omega$  to 5 k $\Omega$  between V<sub>CC</sub> and each output.

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).

Subgroup	Symbol	MIL-STD- method	Case L Test.no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit	
				CLK AB 0.5 V	SEL AB 0.5 V	DIR 2.0 V	A1 2.0 V	A2 2.0 V	A3 2.0 V	A4 2.0 V	A5 2.0 V	A6 2.0 V	A7 2.0 V	A8 2.0 V	GND		Min	Max		
1 Tc = 25°C	V <sub>OH1</sub>	3006	1	0.5 V	0.5 V	2.0 V	2.0 V	2.0 V	2.0 V							B1	2.4		V	
			2	"	"	"	"	"	"	"							B2	"		"
			3	"	"	"	"	"	"	"	2.0 V						B3	"		"
			4	"	"	"	"	"	"	"	"	2.0 V					B4	"		"
			5	"	"	"	"	"	"	"	"	"	2.0 V				B5	"		"
			6	"	"	"	"	"	"	"	"	"	"	2.0 V			B6	"		"
			7	"	"	"	"	"	"	"	"	"	"	"	2.0 V		B7	"		"
			8	"	"	"	"	"	"	"	"	"	"	"	"	2.0 V	B8	"		"
			9	"	"	0.5 V	-3 mA										A1	"		"
			10	"	"	"	"	-3 mA									A2	"		"
			11	"	"	"	"	"	-3 mA								A3	"		"
			12	"	"	"	"	"	"	-3 mA							A4	"		"
			13	"	"	"	"	"	"	"	-3 mA						A5	"		"
			14	"	"	"	"	"	"	"	"	-3 mA					A6	"		"
			15	"	"	"	"	"	"	"	"	"	-3 mA				A7	"		"
			16	"	"	"	"	"	"	"	"	"	"	-3 mA			A8	"		"
	V <sub>OH2</sub>		17	"	"	2.0 V	2.0 V								B1	2.0		"		
			18	"	"	"	"	2.0 V								B2	"		"	
			19	"	"	"	"	"	2.0 V							B3	"		"	
			20	"	"	"	"	"	"	2.0 V						B4	"		"	
			21	"	"	"	"	"	"	"	2.0 V					B5	"		"	
			22	"	"	"	"	"	"	"	"	2.0 V				B6	"		"	
			23	"	"	"	"	"	"	"	"	"	2.0 V			B7	"		"	
			24	"	"	"	"	"	"	"	"	"	"	2.0 V		B8	"		"	
			25	"	"	0.5 V	-12 mA										A1	"		"
			26	"	"	"	"	"	-12 mA								A2	"		"
			27	"	"	"	"	"	"	-12 mA							A3	"		"
			28	"	"	"	"	"	"	"	-12 mA						A4	"		"
			29	"	"	"	"	"	"	"	"	-12 mA					A5	"		"
30	"	"	"	"	"	"	"	"	"	-12 mA				A6	"		"			
31	"	"	"	"	"	"	"	"	"	"	-12 mA			A7	"		"			
32	"	"	"	"	"	"	"	"	"	"	"	-12 mA		A8	"		"			
	V <sub>OL</sub>		33	"	"	2.0 V	0.5 V								B1	"	0.4	"		
			34	"	"	"	"	0.5 V								B2	"	"	"	
			35	"	"	"	"	"	"	0.5 V						B3	"	"	"	
			36	"	"	"	"	"	"	"	0.5 V					B4	"	"	"	
			37	"	"	"	"	"	"	"	"	0.5 V				B5	"	"	"	
			38	"	"	"	"	"	"	"	"	"	0.5 V			B6	"	"	"	
			39	"	"	"	"	"	"	"	"	"	"	0.5 V		B7	"	"	"	
			40	"	"	"	"	"	"	"	"	"	"	"	0.5 V	B8	"	"	"	
			41	"	"	0.5 V	12 mA										A1	"		"
			42	"	"	"	"	"	12 mA								A2	"		"
	V <sub>IC</sub>		43	"	"	"	"	"	12 mA						A3	"		"		
			44	"	"	"	"	"	"	12 mA					A4	"		"		
			45	"	"	"	"	"	"	"	"	12 mA			A5	"		"		
			46	"	"	"	"	"	"	"	"	"	12 mA			A6	"		"	
			47	"	"	"	"	"	"	"	"	"	"	12 mA		A7	"		"	
			48	"	"	"	"	"	"	"	"	"	"	"	12 mA	A8	"		"	
			49	"	-18 mA	"	"	"	"	"	"	"	"	"	"	CAB	"	-1.5	"	
			50	"	"	-18 mA	"	"	"	"	"	"	"	"	"	SAB	"	"	"	
			51	"	"	"	-18 mA	"	"	"	"	"	"	"	"	DIR	"	"	"	
			52	"	"	"	"	-18 mA	"	"	"	"	"	"	"	"	A1	"	"	"
53	"	"	"	"	"	-18 mA	"	"	"	"	"	"	"	A2	"	"	"			
54	"	"	"	"	"	"	-18 mA	"	"	"	"	"	"	A3	"	"	"			
55	"	"	"	"	"	"	"	-18 mA	"	"	"	"	"	A4	"	"	"			
56	"	"	"	"	"	"	"	"	-18 mA	"	"	"	"	A5	"	"	"			
57	"	"	"	"	"	"	"	"	"	-18 mA	"	"	"	A6	"	"	"			
58	"	"	"	"	"	"	"	"	"	"	-18 mA	"	"	A7	"	"	"			
59	"	"	"	"	"	"	"	"	"	"	"	-18 mA	"	A8	"	"	"			

See footnotes at end of device type 04. Pins 13 thru 24 on next page.



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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>		Min	Max			
1 T <sub>C</sub> = 25°C	V <sub>OH1</sub>	3006	1								-3 mA	0.5 V	0.5 V	0.5 V	4.5 V	B1	2.4		V		
			2														B2				
			3															B3			
			4															B4			
			5															B5			
			6															B6			
			7															B7			
			8															B8			
			9															A1			
			10										2.0 V					A2			
			11															A3			
			12									2.0 V						A4			
			13															A5			
			14															A6			
			15															A7			
			16															A8			
	V <sub>OH2</sub>		17													B1	2.0				
			18														B2				
			19														B3				
			20														B4				
			21														B5				
			22														B6				
			23														B7				
			24														B8				
			25														A1				
			26														A2				
			27														A3				
			28														A4				
			29														A5				
			30														A6				
			31														A7				
			32														A8				
	V <sub>OL</sub>		33													B1					
			34													B2					
			35													B3					
			36													B4					
			37													B5					
			38													B6					
			39													B7					
			40													B8					
			41													A1					
			42													A2					
			43													A3					
			44													A4					
			45													A5					
			46													A6					
			47													A7					
			48													A8					
	V <sub>IC</sub>		49													CAB					
			50													SAB					
			51													DIR					
			52													A1					
			53													A2					
			54													A3					
			55													A4					
			56													A5					
			57													A6					
58													A7								
59													A8								

See footnotes at end of device type 04.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test.no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit		
				CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		Min	Max			
1 Tc = 25°C	V <sub>ic</sub>		60													B8			V		
			61														B7			"	
			62															B6			"
			63															B5			"
			64															B4			"
			65															B3			"
			66															B2			"
			67															B1			"
			68															G			"
			69															SBA			"
			70															CBA			"
			71			0.4 V												CAB	0	-200	μA
			72			0.4 V												SAB			"
			73						0.4 V									DIR			"
74							0.4 V								A1			"			
75								0.4 V							A2			"			
76									0.4 V						A3			"			
77										0.4 V					A4			"			
78											0.4 V				A5			"			
79												0.4 V			A6			"			
80													0.4 V		A7			"			
81														0.4 V	A8			"			
82															B8			"			
83															B7			"			
84															B6			"			
85															B5			"			
86															B4			"			
87															B3			"			
88															B2			"			
89															B1			"			
90															G			"			
91															SBA			"			
92															CBA			"			
93			2.7 V												CAB		20	"			
94				2.7 V											SAB			"			
95						2.7 V									DIR			"			
96							2.7 V								A1			"			
97								2.7 V							A2			"			
98									2.7 V						A3			"			
99										2.7 V					A4			"			
100											2.7 V				A5			"			
101												2.7 V			A6			"			
102													2.7 V		A7			"			
103														2.7 V	A8			"			
104															B8			"			
105															B7			"			
106															B6			"			
107															B5			"			
108															B4			"			
109															B3			"			
110															B2			"			
111															B1			"			
112															G			"			
113															SBA			"			
114															CBA			"			

See footnotes at end of device type 04. Pins 13 thru 24 on next page.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>cc</sub>		Min	Max	
1 T <sub>c</sub> = 25°C	V <sub>ic</sub>		60	-18 mA											4.5 V	B8		-1.5	V
			61	-18 mA													B7		"
			62			-18 mA										B6		"	"
			63			-18 mA										B5		"	"
			64			-18 mA										B4		"	"
			65					-18 mA								B3		"	"
			66						-18 mA							B2		"	"
			67							-18 mA						B1		"	"
			68								-18 mA					G		"	"
			69										-18 mA			SBA		"	"
			70											-18 mA		CBA		"	"
	I <sub>L</sub>	3009	71												5.5 V	CAB	0	-200	µA
			72													SAB		"	"
			73													DIR		"	"
			74													A1		"	"
			75													A2		"	"
			76													A3		"	"
			77													A4		"	"
			78													A5		"	"
			79													A6		"	"
			80													A7		"	"
			81													A8		"	"
			82	0.4 V												B8		"	"
			83		0.4 V											B7		"	"
			84			0.4 V										B6		"	"
			85				0.4 V									B5		"	"
			86					0.4 V								B4		"	"
			87						0.4 V							B3		"	"
			88							0.4 V						B2		"	"
			89								0.4 V					B1		"	"
			90									0.4 V				G		"	"
			91										0.4 V			SBA		"	"
			92											0.4 V		CBA		"	"
	I <sub>HT</sub>	3010	93													CAB			20
			94													SAB		"	"
			95													DIR		"	"
			96													A1		"	"
			97													A2		"	"
			98													A3		"	"
			99													A4		"	"
			100													A5		"	"
			101													A6		"	"
			102													A7		"	"
			103													A8		"	"
			104	2.7 V												B8		"	"
			105													B7		"	"
			106			2.7 V										B6		"	"
			107				2.7 V									B5		"	"
			108					2.7 V								B4		"	"
			109						2.7 V							B3		"	"
			110							2.7 V						B2		"	"
			111								2.7 V					B1		"	"
			112									2.7 V				G		"	"
			113										2.7 V			SBA		"	"
			114											2.7 V		CBA		"	"

See footnotes at end of device type 04.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit	
				CLKAB	SELAB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		Min	Max		
1 Tc = 25°C	I <sub>HE</sub>	3010	115	5.5 V												CAB		100	µA	
			116		5.5 V												SAB		"	"
			117			5.5 V											DIR		"	"
			118				5.5 V										A1		"	"
			119					5.5 V									A2		"	"
			120						5.5 V								A3		"	"
			121							5.5 V							A4		"	"
			122								5.5 V						A5		"	"
			123									5.5 V					A6		"	"
			124											5.5 V			A7		"	"
			125												5.5 V		A8		"	"
			126													5.5 V	B8		"	"
			127														B7		"	"
			128														B6		"	"
			129														B5		"	"
			130														B4		"	"
131														B3		"	"			
132														B2		"	"			
133														B1		"	"			
134														G		"	"			
135														SBA		"	"			
136														CBA		"	"			
137							0.4 V							A1		-400	"			
138								0.4 V						A2		"	"			
139									0.4 V					A3		"	"			
140										0.4 V				A4		"	"			
141											0.4 V			A5		"	"			
142												0.4 V		A6		"	"			
143													0.4 V	A7		"	"			
144														A8		"	"			
145														B8		"	"			
146														B7		"	"			
147														B6		"	"			
148														B5		"	"			
149														B4		"	"			
150														B3		"	"			
151														B2		"	"			
152														B1		"	"			
153							2.7 V							A1		20	"			
154								2.7 V						A2		"	"			
155									2.7 V					A3		"	"			
156										2.7 V				A4		"	"			
157											2.7 V			A5		"	"			
158												2.7 V		A6		"	"			
159													2.7 V	A7		"	"			
160														A8		"	"			
161														B8		"	"			
162														B7		"	"			
163														B6		"	"			
164														B5		"	"			
165														B4		"	"			
166														B3		"	"			
167														B2		"	"			
168														B1		"	"			

See footnotes at end of device type 04. Pins 13 thru 24 on next page.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>cc</sub>		Min	Max			
1 T <sub>c</sub> = 25°C	I <sub>HE</sub>	3010	115												5.5 V	CAB		100	µA		
			116														SAB		"	"	
			117															DIR		"	"
			118															A1		"	"
			119															A2		"	"
			120															A3		"	"
			121															A4		"	"
			122															A5		"	"
			123															A6		"	"
			124															A7		"	"
			125															A8		"	"
			126															B8		"	"
			127															B7		"	"
			128															B6		"	"
			129															B5		"	"
			130															B4		"	"
131															B3		"	"			
132															B2		"	"			
133															B1		"	"			
134															G		"	"			
135															SBA		"	"			
136															CBA		"	"			
137															A1		-400	"			
138															A2		"	"			
139															A3		"	"			
140															A4		"	"			
141															A5		"	"			
142															A6		"	"			
143															A7		"	"			
144															A8		"	"			
145															B8		"	"			
146															B7		"	"			
147															B6		"	"			
148															B5		"	"			
149															B4		"	"			
150															B3		"	"			
151															B2		"	"			
152															B1		"	"			
153															A1		20	"			
154															A2		"	"			
155															A3		"	"			
156															A4		"	"			
157															A5		"	"			
158															A6		"	"			
159															A7		"	"			
160															A8		"	"			
161															B8		"	"			
162															B7		"	"			
163															B6		"	"			
164															B5		"	"			
165															B4		"	"			
166															B3		"	"			
167															B2		"	"			
168															B1		"	"			

See footnotes at end of device type 04.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	Terminal conditions (pins not designated may be high $\geq 2.0\text{ V}$ ; low $\leq 0.7\text{ V}$ ; or open)												Test Limits		Unit										
				1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Min		Max									
1 $T_c = 25^\circ\text{C}$	Ios	3011	169	CLK AB GND	SEL AB GND	DIR 4.5 V	A1 4.5 V	A2 4.5 V	A3 4.5 V	A4 4.5 V	A5 4.5 V	A6 4.5 V	A7 4.5 V	A8 4.5 V	GND	B1	-40	-225	mA									
			170	"	"	"	"	4.5 V	"	"	"	"	"	"	"	B2	"	"	"	"								
			171	"	"	"	"	4.5 V	"	"	"	"	"	"	"	B3	"	"	"	"	"							
			172	"	"	"	"	"	"	4.5 V	"	"	"	"	"	B4	"	"	"	"	"							
			173	"	"	"	"	"	"	"	4.5 V	"	"	"	"	B5	"	"	"	"	"							
			174	"	"	"	"	"	"	"	"	4.5 V	"	"	"	B6	"	"	"	"	"							
			175	"	"	"	"	"	"	"	"	"	4.5 V	"	"	B7	"	"	"	"	"							
			176	"	"	"	"	"	"	"	"	"	"	4.5 V	"	B8	"	"	"	"	"							
			177	"	"	"	"	"	GND	GND	"	"	"	"	4.5 V	A1	"	"	"	"	"							
			178	"	"	"	"	"	"	GND	"	"	"	"	"	A2	"	"	"	"	"							
			179	"	"	"	"	"	"	"	GND	"	"	"	"	A3	"	"	"	"	"							
			180	"	"	"	"	"	"	"	"	GND	"	"	"	A4	"	"	"	"	"							
			181	"	"	"	"	"	"	"	"	"	GND	"	"	A5	"	"	"	"	"							
			182	"	"	"	"	"	"	"	"	"	"	GND	"	A6	"	"	"	"	"							
			183	"	"	"	"	"	"	"	"	"	"	"	GND	A7	"	"	"	"	"							
			184	"	"	"	"	"	"	"	"	"	"	"	"	A8	"	"	"	"	"							
			185	Icch	3005	"	"	"	"	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	GND	Vcc	145	145	"	"						
			186	Iccl	"	"	"	"	4.5 V	GND	GND	GND	GND	GND	GND	GND	GND	Vcc	165	165	"	"						
187	Iccz	"	"	"	"	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	GND	Vcc	165	165	"	"									
2			Same tests, terminal conditions, and limits as subgroup 1, except $T_c = +125^\circ\text{C}$ and omit $V_{ic}$ tests.																									
3			Same tests, terminal conditions, and limits as subgroup 1, except $T_c = -55^\circ\text{C}$ and omit $V_{ic}$ tests.																									
7 $T_c = 25^\circ\text{C}$	Truth table tests 1/		188	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	GND						
			189	"	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
			190	"	"	B	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H				
			191	"	"	"	B	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L				
			192	"	"	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
			193	"	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			194	"	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			195	"	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			196	"	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			197	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			198	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			199	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			200	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			8 9	Same tests and terminal conditions as subgroup 7, except $T_c = +125^\circ\text{C}$ and $T_c = -55^\circ\text{C}$ .	3003 (fig. 3)	201	IN	4.5 V	IN	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
						202	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
						203	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
						204	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
205	"	"				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
206	"	"				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
207	"	"				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
208	"	"				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
209	GND	GND				GND	GND	OUT	OUT	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
210	"	"				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
211	"	"				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
212	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"					
213	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"					
214	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"					
215	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"					
216	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"					

See footnotes at end of device type 04. Pins 13 thru 24 on next page.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	Terminal conditions													Measured terminal	Test Limits		Unit		
				13	14	15	16	17	18	19	20	21	22	23	24	Min		Max				
1	Ios	3011	169	B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>	B1	-40	-225	mA			
			170								GND						B2	"	"	"		
			171														B3	"	"	"		
			172							GND							B4	"	"	"		
			173														B5	"	"	"		
			174						GND								B6	"	"	"		
			175														B7	"	"	"		
			176														B8	"	"	"		
			177										5.5 V				A1	"	"	"		
			178									0.5 V					A2	"	"	"		
			179														A3	"	"	"		
			180									0.5 V					A4	"	"	"		
			181														A5	"	"	"		
			182														A6	"	"	"		
			183														A7	"	"	"		
			184														A8	"	"	"		
			185														V <sub>CC</sub>	145		"		
186	I <sub>CC</sub>	3005												V <sub>CC</sub>	165		"					
187	I <sub>CC</sub>	"												V <sub>CC</sub>	165		"					
2														4.5 V								
3																						
7	Truth table tests 1/		188	H	H	H	H	H	H	H	H	H	H	H	H	H	B	B	4.5 V	2/, 3/		
			189	L	L	L	L	L	L	L	L	L	L	L	L	L	L	"	"		"	
			190	A	A	A	A	A	A	A	A	A	A	A	A	A	A	"	"		"	
			191	B	B	B	B	B	B	B	B	B	B	B	B	B	B	"	"		"	
			192	L	L	L	L	L	L	L	L	L	L	L	L	L	L	"	"		"	
			193	H	H	H	H	H	H	H	H	H	H	H	H	H	H	"	"		"	
			194	H	H	H	H	H	H	H	H	H	H	H	H	H	H	"	"		"	
			195	L	L	L	L	L	L	L	L	L	L	L	L	L	L	"	"		"	
			196	A	A	A	A	A	A	A	A	A	A	A	A	A	A	"	"		"	
			197	A	A	A	A	A	A	A	A	A	A	A	A	A	A	"	"		"	
			198	B	B	B	B	B	B	B	B	B	B	B	B	B	B	"	"		"	
			199	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		"	"
			200	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		"	"
8	Same tests and terminal conditions as subgroup 7, except T <sub>C</sub> = +125°C and T <sub>C</sub> = -55°C.	3003 (fig. 3)	201																	ns		
			202																			
			203																			
			204																			
			205																			
			206																			
			207																			
			208																			
			209																			
			210																			
			211																			
			212																			
			213																			
214																						
215																						
216																						

See footnotes at end of device type 04.

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).

Subgroup	Symbol	MIL-STD- method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit								
				CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		Min	Max									
9 Tc = 25°C	$t_{PHL1}$	883 3003 (fig. 3)	217	IN	4.5 V	4.5 V	IN	IN	IN							CAB to B1	2	40	ns								
			218	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B2	"	"	"						
			219	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B3	"	"	"					
			220	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B4	"	"	"				
			221	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B5	"	"	"			
			222	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B6	"	"	"		
			223	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B7	"	"	"	
			224	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B8	"	"	"
			225	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			226	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			227	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			228	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			229	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			230	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			231	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			232	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			233	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			234	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			235	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			236	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			237	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			238	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			239	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			240	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			241	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			242	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			243	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
244	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
245	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
246	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
247	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
248	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
249	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
250	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
251	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
252	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
253	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
254	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
255	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
256	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
257	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
258	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
259	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
260	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
261	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
262	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
263	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
264	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
265	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
266	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
267	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
268	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
269	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
270	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
271	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
272	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			

See footnotes at end of device type 04. Pins 13 thru 24 on next page.



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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>		Min	Max			
9 T <sub>c</sub> = 25°C	t <sub>PHL1</sub>	3003 (fig. 3)	217							OUT					5.0 V	CAB to B1	2	40	ns		
			218						OUT								CAB to B2	"	"	"	
			219					OUT										CAB to B3	"	"	"
			220				OUT											CAB to B4	"	"	"
			221															CAB to B5	"	"	"
			222			OUT												CAB to B6	"	"	"
			223			OUT												CAB to B7	"	"	"
			224			OUT												CAB to B8	"	"	"
			225										IN		4.5 V			CBA to A1	"	"	"
			226									IN						CBA to A2	"	"	"
			227									IN						CBA to A3	"	"	"
			228						IN									CBA to A4	"	"	"
			229					IN										CBA to A5	"	"	"
			230					IN										CBA to A6	"	"	"
			231					IN										CBA to A7	"	"	"
			232				IN											CBA to A8	"	"	"
			233										OUT			GND		A1 to B1	"	23	"
			234										OUT					A2 to B2	"	"	"
			235									OUT						A3 to B3	"	"	"
			236							OUT								A4 to B4	"	"	"
			237						OUT									A5 to B5	"	"	"
			238						OUT									A6 to B6	"	"	"
			239															A7 to B7	"	"	"
			240				OUT											A8 to B8	"	"	"
			241											IN				B1 to A1	"	"	"
			242									IN						B2 to A2	"	"	"
			243									IN						B3 to A3	"	"	"
244							IN								B4 to A4	"	"	"			
245							IN								B5 to A5	"	"	"			
246						IN									B6 to A6	"	"	"			
247						IN									B7 to A7	"	"	"			
248				IN											B8 to A8	"	"	"			
249											OUT				A1 to B1	"	"	"			
250										OUT					A2 to B2	"	25	"			
251															A3 to B3	"	"	"			
252							OUT								A4 to B4	"	"	"			
253						OUT									A5 to B5	"	"	"			
254						OUT									A6 to B6	"	"	"			
255						OUT									A7 to B7	"	"	"			
256				OUT											A8 to B8	"	"	"			
257											IN				B1 to A1	"	"	"			
258										IN					B2 to A2	"	"	"			
259									IN						B3 to A3	"	"	"			
260							IN								B4 to A4	"	"	"			
261						IN									B5 to A5	"	"	"			
262						IN									B6 to A6	"	"	"			
263						IN									B7 to A7	"	"	"			
264				IN											B8 to A8	"	"	"			
265											OUT				SAB to B1	"	45	"			
266										OUT					SAB to B2	"	"	"			
267									OUT						SAB to B3	"	"	"			
268								OUT							SAB to B4	"	"	"			
269						OUT									SAB to B5	"	"	"			
270						OUT									SAB to B6	"	"	"			
271						OUT									SAB to B7	"	"	"			
272				OUT											SAB to B8	"	"	"			

See footnotes at end of device type 04.

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).

Subgroup	Symbol	MIL-STD- method	Case L Test.no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit	
				CLK AB GND	SEL AB GND	DIR GND	A1 OUT	A2 OUT	A3 OUT	A4 OUT	A5 OUT	A6 OUT	A7 OUT	A8 OUT	GND		Min	Max		
9 Tc = 25°C	t <sub>PH3</sub>	883 3003 (fig. 3)	273	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A1	2	45	ns	
			274	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A2	"	"	"
			275	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A3	"	"	"
			276	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A4	"	"	"
			277	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A5	"	"	"
			278	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A6	"	"	"
			279	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A7	"	"	"
			280	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A8	"	"	"
			281	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B1	"	"	"
			282	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B2	"	"	"
			283	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B3	"	"	"
			284	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B4	"	"	"
			285	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B5	"	"	"
			286	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B6	"	"	"
			287	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B7	"	"	"
			288	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B8	"	"	"
			289	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A1	"	"	"
			290	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A2	"	"	"
			291	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A3	"	"	"
			292	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A4	"	"	"
			293	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A5	"	"	"
			294	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A6	"	"	"
			295	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A7	"	"	"
			296	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A8	"	"	"
			297	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B1	"	"	"
			298	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B2	"	"	"
			299	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B3	"	"	"
			300	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B4	"	"	"
			301	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B5	"	"	"
			302	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B6	"	"	"
			303	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B7	"	"	"
			304	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B8	"	"	"
305	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A1	"	"	"			
306	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A2	"	"	"			
307	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A3	"	"	"			
308	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A4	"	"	"			
309	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A5	"	"	"			
310	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A6	"	"	"			
311	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A7	"	"	"			
312	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A8	"	"	"			
313	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B1	"	"	"			
314	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B2	"	"	"			
315	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B3	"	"	"			
316	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B4	"	"	"			
317	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B5	"	"	"			
318	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B6	"	"	"			
319	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B7	"	"	"			
320	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B8	"	"	"			
321	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A1	"	"	"			
322	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A2	"	"	"			
323	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A3	"	"	"			
324	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A4	"	"	"			
325	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A5	"	"	"			
326	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A6	"	"	"			
327	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A7	"	"	"			
328	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A8	"	"	"			

See footnotes at end of device type 04. Pins 13 thru 24 on next page.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>		Min	Max			
9 T <sub>c</sub> = 25°C	t <sub>PH3</sub>	3003 (fig. 3)	273							4/		GND	IN	4/	5.0 V	SBA to A1	2	45	ns		
			274							4/							SBA to A2	"	"	"	
			275					4/									SBA to A3	"	"	"	
			276					4/									SBA to A4	"	"	"	
			277					4/									SBA to A5	"	"	"	
			278					4/									SBA to A6	"	"	"	
			279					4/									SBA to A7	"	"	"	
			280					4/									SBA to A8	"	"	"	
			281											OUT	GND	GND		SAB to B1	"	40	"
			282										OUT					SAB to B2	"	"	"
	283									OUT						SAB to B3	"	"	"		
	284								OUT							SAB to B4	"	"	"		
	285							OUT								SAB to B5	"	"	"		
	286							OUT								SAB to B6	"	"	"		
	287															SAB to B7	"	"	"		
	288															SAB to B8	"	"	"		
	289											4/	IN	4/		SBA to A1	"	"	"		
	290															SBA to A2	"	"	"		
	291									4/						SBA to A3	"	"	"		
	292								4/							SBA to A4	"	"	"		
	293							4/								SBA to A5	"	"	"		
	294							4/								SBA to A6	"	"	"		
	295							4/								SBA to A7	"	"	"		
	296							4/								SBA to A8	"	"	"		
	297											OUT	GND	GND		SAB to B1	"	55	"		
	298											OUT				SAB to B2	"	"	"		
	299									OUT						SAB to B3	"	"	"		
	300								OUT							SAB to B4	"	"	"		
	301							OUT								SAB to B5	"	"	"		
302							OUT								SAB to B6	"	"	"			
303							OUT								SAB to B7	"	"	"			
304							OUT								SAB to B8	"	"	"			
305											5/	IN	5/		SBA to A1	"	"	"			
306											5/				SBA to A2	"	"	"			
307									5/						SBA to A3	"	"	"			
308								5/							SBA to A4	"	"	"			
309							5/								SBA to A5	"	"	"			
310															SBA to A6	"	"	"			
311															SBA to A7	"	"	"			
312							5/								SBA to A8	"	"	"			
313											OUT	GND	GND		SAB to B1	"	30	"			
314															SAB to B2	"	"	"			
315									OUT						SAB to B3	"	"	"			
316								OUT							SAB to B4	"	"	"			
317							OUT								SAB to B5	"	"	"			
318							OUT								SAB to B6	"	"	"			
319															SAB to B7	"	"	"			
320															SAB to B8	"	"	"			
321											5/	IN	5/		SBA to A1	"	"	"			
322											5/				SBA to A2	"	"	"			
323									5/						SBA to A3	"	"	"			
324								5/							SBA to A4	"	"	"			
325								5/							SBA to A5	"	"	"			
326							5/								SBA to A6	"	"	"			
327															SBA to A7	"	"	"			
328							5/								SBA to A8	"	"	"			

See footnotes at end of device type 04.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit			
				CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		Min	Max				
9 Tc = 25°C	$t_{pZL2}$	3003 (fig. 3)	329	CLK AB	GND	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	G to A1	2	60	ns			
			330				OUT										G to A2	"	"	"		
			331						OUT									G to A3	"	"	"	
			332									OUT						G to A4	"	"	"	
			333										OUT					G to A5	"	"	"	
			334											OUT				G to A6	"	"	"	
			335												OUT			G to A7	"	"	"	
			336													OUT		G to A8	"	"	"	
			337						4.5 V	4.5 V									G to B1	"	"	"
			338								4.5 V								G to B2	"	"	"
			339									4.5 V							G to B3	"	"	"
			340										4.5 V						G to B4	"	"	"
			341											4.5 V					G to B5	"	"	"
			342												4.5 V				G to B6	"	"	"
			343													4.5 V			G to B7	"	"	"
			344														4.5 V		G to B8	"	"	"
			345						GND	OUT									G to A1	"	70	"
			346								OUT								G to A2	"	"	"
			347									OUT							G to A3	"	"	"
			348										OUT						G to A4	"	"	"
			349											OUT					G to A5	"	"	"
			350												OUT				G to A6	"	"	"
			351													OUT			G to A7	"	"	"
			352														OUT		G to A8	"	"	"
			353						4.5 V	GND									G to B1	"	"	"
			354								GND								G to B2	"	"	"
			355									GND							G to B3	"	"	"
			356										GND						G to B4	"	"	"
			357											GND					G to B5	"	"	"
			358												GND				G to B6	"	"	"
			359													GND			G to B7	"	"	"
			360														GND		G to B8	"	"	"

See footnotes at end of device type 04. Pins 13 thru 24 on next page.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	$\bar{G}$	SEL BA	CLK BA	V <sub>cc</sub>		Min	Max			
9 T <sub>c</sub> = 25°C	$t_{pZL2}$	3003 (fig. 3)	329							4.5 V	4.5 V	IN	GND		5.0 V	$\bar{G}$ to A1	2	60	ns		
			330								4.5 V						$\bar{G}$ to A2	"	"	"	
			331							4.5 V								$\bar{G}$ to A3	"	"	"
			332						4.5 V									$\bar{G}$ to A4	"	"	"
			333						4.5 V									$\bar{G}$ to A5	"	"	"
			334			4.5 V												$\bar{G}$ to A6	"	"	"
			335				4.5 V											$\bar{G}$ to A7	"	"	"
			336				4.5 V											$\bar{G}$ to A8	"	"	"
			337											OUT				$\bar{G}$ to B1	"	"	"
			338										OUT					$\bar{G}$ to B2	"	"	"
			339															$\bar{G}$ to B3	"	"	"
			340								OUT							$\bar{G}$ to B4	"	"	"
			341							OUT								$\bar{G}$ to B5	"	"	"
			342					OUT										$\bar{G}$ to B6	"	"	"
			343					OUT										$\bar{G}$ to B7	"	"	"
			344				OUT											$\bar{G}$ to B8	"	"	"
			345											GND				$\bar{G}$ to A1	"	70	"
			346										GND					$\bar{G}$ to A2	"	"	"
			347									GND						$\bar{G}$ to A3	"	"	"
			348								GND							$\bar{G}$ to A4	"	"	"
			349							GND								$\bar{G}$ to A5	"	"	"
			350						GND									$\bar{G}$ to A6	"	"	"
			351						GND									$\bar{G}$ to A7	"	"	"
			352						GND									$\bar{G}$ to A8	"	"	"
			353											OUT				$\bar{G}$ to B1	"	"	"
			354										OUT					$\bar{G}$ to B2	"	"	"
			355									OUT						$\bar{G}$ to B3	"	"	"
			356															$\bar{G}$ to B4	"	"	"
			357								OUT							$\bar{G}$ to B5	"	"	"
			358						OUT									$\bar{G}$ to B6	"	"	"
			359						OUT									$\bar{G}$ to B7	"	"	"
			360						OUT									$\bar{G}$ to B8	"	"	"

See footnotes at end of device type 04.

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).

Subgroup	Symbol	MIL-STD- method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit	
				CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		Min	Max		
9 Tc = 25°C	I <sub>PZH</sub>	883 3003 (fig. 3)	361	CLK AB	GND	IN	4.5 V	4.5 V	4.5 V							DIR to B1	2	50	ns	
			362														DIR to B2	"	"	"
			363							4.5 V							DIR to B3	"	"	"
			364									4.5 V					DIR to B4	"	"	"
			365										4.5 V				DIR to B5	"	"	"
			366											4.5 V			DIR to B6	"	"	"
			367												4.5 V		DIR to B7	"	"	"
			368													4.5 V	DIR to B8	"	"	"
			369						OUT								DIR to A1	"	"	"
			370							OUT							DIR to A2	"	"	"
			371								OUT						DIR to A3	"	"	"
			372									OUT					DIR to A4	"	"	"
			373										OUT				DIR to A5	"	"	"
			374											OUT			DIR to A6	"	"	"
			375												OUT		DIR to A7	"	"	"
			376													OUT	DIR to A8	"	"	"
			377							GND							DIR to B1	"	65	"
			378								GND						DIR to B2	"	"	"
			379									GND					DIR to B3	"	"	"
			380										GND				DIR to B4	"	"	"
381											GND			DIR to B5	"	"	"			
382												GND		DIR to B6	"	"	"			
383													GND	DIR to B7	"	"	"			
384														DIR to B8	"	"	"			
385														DIR to A1	"	"	"			
386														DIR to A2	"	"	"			
387														DIR to A3	"	"	"			
388														DIR to A4	"	"	"			
389														DIR to A5	"	"	"			
390														DIR to A6	"	"	"			
391														DIR to A7	"	"	"			
392														DIR to A8	"	"	"			
393							4.5 V								G to B1	"	40	"		
394								4.5 V							G to B2	"	"	"		
395									4.5 V						G to B3	"	"	"		
396										4.5 V					G to B4	"	"	"		
397											4.5 V				G to B5	"	"	"		
398												4.5 V			G to B6	"	"	"		
399													4.5 V		G to B7	"	"	"		
400														4.5 V	G to B8	"	"	"		
401															G to A1	"	"	"		
402															G to A2	"	"	"		
403															G to A3	"	"	"		
404															G to A4	"	"	"		
405															G to A5	"	"	"		
406															G to A6	"	"	"		
407															G to A7	"	"	"		
408															G to A8	"	"	"		

See footnotes at end of device type 04. Pins 13 thru 24 on next page.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>cc</sub>		Min	Max			
9 T <sub>c</sub> = 25°C	I <sub>P213</sub>	3003 (fig. 3)	361							OUT	OUT	GND	GND		5.0 V	DIR to B1	2	50	ns		
			362														DIR to B2	"	"	"	
			363						OUT									DIR to B3	"	"	"
			364					OUT										DIR to B4	"	"	"
			365				OUT											DIR to B5	"	"	"
			366			OUT												DIR to B6	"	"	"
			367			OUT												DIR to B7	"	"	"
			368			OUT												DIR to B8	"	"	"
			369					4.5 V				4.5 V		4.5 V				DIR to A1	"	"	"
			370									4.5 V						DIR to A2	"	"	"
			371							4.5 V								DIR to A3	"	"	"
			372						4.5 V									DIR to A4	"	"	"
			373					4.5 V										DIR to A5	"	"	"
			374				4.5 V											DIR to A6	"	"	"
			375				4.5 V											DIR to A7	"	"	"
			376				4.5 V											DIR to A8	"	"	"
			377										OUT	OUT				DIR to B1	"	65	"
			378										OUT					DIR to B2	"	"	"
			379									OUT						DIR to B3	"	"	"
			380							OUT								DIR to B4	"	"	"
			381						OUT									DIR to B5	"	"	"
			382					OUT										DIR to B6	"	"	"
			383					OUT										DIR to B7	"	"	"
			384				OUT											DIR to B8	"	"	"
			385											GND				DIR to A1	"	"	"
			386															DIR to A2	"	"	"
			387									GND						DIR to A3	"	"	"
			388								GND							DIR to A4	"	"	"
			389							GND								DIR to A5	"	"	"
			390							GND								DIR to A6	"	"	"
			391															DIR to A7	"	"	"
			392															DIR to A8	"	"	"
			393										OUT	IN				G to B1	"	40	"
			394										OUT					G to B2	"	"	"
			395									OUT						G to B3	"	"	"
			396								OUT							G to B4	"	"	"
			397						OUT									G to B5	"	"	"
			398					OUT										G to B6	"	"	"
			399					OUT										G to B7	"	"	"
			400				OUT											G to B8	"	"	"
			401											4.5 V				G to A1	"	"	"
			402										4.5 V					G to A2	"	"	"
			403									4.5 V						G to A3	"	"	"
			404								4.5 V							G to A4	"	"	"
			405							4.5 V								G to A5	"	"	"
			406						4.5 V									G to A6	"	"	"
			407						4.5 V									G to A7	"	"	"
			408						4.5 V									G to A8	"	"	"

See footnotes at end of device type 04.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit					
				CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		Min	Max						
9 Tc = 25°C	$t_{PHZ}$	3003 (fig. 3)	409	CLK AB	GND	4.5 V	GND									GND	G to B1	2	40	ns				
			410					GND										G to B2	"	"	"			
			411							GND									G to B3	"	"	"		
			412									GND								G to B4	"	"	"	
			413										GND							G to B5	"	"	"	
			414											GND						G to B6	"	"	"	
			415												GND					G to B7	"	"	"	
			416													GND				G to B8	"	"	"	
			417						GND	OUT										G to A1	"	"	"	
			418							OUT										G to A2	"	"	"	
			419									OUT									G to A3	"	"	"
			420										OUT								G to A4	"	"	"
			421											OUT							G to A5	"	"	"
			422												OUT						G to A6	"	"	"
			423													OUT					G to A7	"	"	"
			424														OUT				G to A8	"	"	"
			425						GND	IN	4.5 V										DIR to B1	"	35	"
			426								4.5 V										DIR to B2	"	"	"
			427									4.5 V									DIR to B3	"	"	"
			428										4.5 V								DIR to B4	"	"	"
			429											4.5 V							DIR to B5	"	"	"
			430												4.5 V						DIR to B6	"	"	"
			431													4.5 V					DIR to B7	"	"	"
			432														4.5 V				DIR to B8	"	"	"
433																		DIR to A1	"	"	"			
434																		DIR to A2	"	"	"			
435																		DIR to A3	"	"	"			
436																		DIR to A4	"	"	"			
437																		DIR to A5	"	"	"			
438																		DIR to A6	"	"	"			
439																		DIR to A7	"	"	"			
440																		DIR to A8	"	"	"			
441																		DIR to B1	"	"	"			
442																		DIR to B2	"	"	"			
443																		DIR to B3	"	"	"			
444																		DIR to B4	"	"	"			
445																		DIR to B5	"	"	"			
446																		DIR to B6	"	"	"			
447																		DIR to B7	"	"	"			
448																		DIR to B8	"	"	"			
449																		DIR to A1	"	"	"			
450																		DIR to A2	"	"	"			
451																		DIR to A3	"	"	"			
452																		DIR to A4	"	"	"			
453																		DIR to A5	"	"	"			
454																		DIR to A6	"	"	"			
455																		DIR to A7	"	"	"			
456																		DIR to A8	"	"	"			

See footnotes at end of device type 04. Pins 13 thru 24 on next page.



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).

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit			
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>cc</sub>		Min	Max				
9 T <sub>c</sub> = 25°C	t <sub>PHZ2</sub>	3003 (fig. 3)	409								OUT	IN	GND		5.0 V	G to B1	2	40	ns			
			410								OUT						G to B2	"	"	"		
			411							OUT								G to B3	"	"	"	
			412							OUT									G to B4	"	"	"
			413																G to B5	"	"	"
			414																G to B6	"	"	"
			415																G to B7	"	"	"
			416																G to B8	"	"	"
			417											GND					G to A1	"	"	"
			418																G to A2	"	"	"
			419																G to A3	"	"	"
			420																G to A4	"	"	"
			421																G to A5	"	"	"
			422																G to A6	"	"	"
			423																G to A7	"	"	"
			424																G to A8	"	"	"
			425														5.0 V	DIR to B1	"	35	"	
			426											OUT				DIR to B2	"	"	"	
			427															DIR to B3	"	"	"	
			428															DIR to B4	"	"	"	
			429															DIR to B5	"	"	"	
			430															DIR to B6	"	"	"	
			431															DIR to B7	"	"	"	
			432															DIR to B8	"	"	"	
433															DIR to A1	"	"	"				
434															DIR to A2	"	"	"				
435															DIR to A3	"	"	"				
436															DIR to A4	"	"	"				
437															DIR to A5	"	"	"				
438															DIR to A6	"	"	"				
439															DIR to A7	"	"	"				
440															DIR to A8	"	"	"				
441															DIR to B1	"	"	"				
442															DIR to B2	"	"	"				
443															DIR to B3	"	"	"				
444															DIR to B4	"	"	"				
445															DIR to B5	"	"	"				
446															DIR to B6	"	"	"				
447															DIR to B7	"	"	"				
448															DIR to B8	"	"	"				
449															DIR to A1	"	"	"				
450															DIR to A2	"	"	"				
451															DIR to A3	"	"	"				
452															DIR to A4	"	"	"				
453															DIR to A5	"	"	"				
454															DIR to A6	"	"	"				
455															DIR to A7	"	"	"				
456															DIR to A8	"	"	"				

See footnotes at end of device type 04. Pins 13 thru 24 on next page.

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).

Subgroup	Symbol	MIL-STD-883 method	Case L		1	2	3	4	5	6	7	8	9	10	11	12	Test Limits		Unit			
			Test no.	Test no.	CLK AB	SELAB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	Measured terminal	Min		Max		
10 $T_c = 125^\circ\text{C}$	$t_{pH1}$	Same tests and terminal conditions as subgroup 9, except $T_c = +125^\circ\text{C}$ .	883																	ns		
	$t_{pH1.1}$																				2	39
	$t_{pH2}$																				"	52
	$t_{pH2.1}$																				"	30
	$t_{pH3}$																				"	33
	$t_{pH3.1}$																				"	59
	$t_{pH4}$																				"	52
	$t_{pH4.1}$																				"	72
	$t_{pZ1}$																				"	39
	$t_{pZ1.1}$																				"	78
	$t_{pZ2}$																				"	91
	$t_{pZ2.1}$																				"	65
	$t_{pZ3}$																				"	85
	$t_{pZ3.1}$																				"	52
	$t_{pZ4}$																				"	52
$t_{pZ4.1}$	"	46																				
$t_{pZ5}$	"	46																				
11 $T_c = -55^\circ\text{C}$	Same tests, terminal conditions, and limits as subgroup 10, except $T_c = -55^\circ\text{C}$ .																					

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).

Subgroup	Symbol	MIL-STD-883 method	Case L		13	14	15	16	17	18	19	20	21	22	23	24	Test Limits		Unit			
			Test no.	Test no.	B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>	Measured terminal	Min		Max		
10 $T_c = 125^\circ\text{C}$	$t_{pH1}$	Same tests and terminal conditions as subgroup 9, except $T_c = +125^\circ\text{C}$ .	883																	ns		
	$t_{pH1.1}$																				2	39
	$t_{pH2}$																				"	52
	$t_{pH2.1}$																				"	30
	$t_{pH3}$																				"	33
	$t_{pH3.1}$																				"	59
	$t_{pH4}$																				"	52
	$t_{pH4.1}$																				"	72
	$t_{pZ1}$																				"	39
	$t_{pZ1.1}$																				"	78
	$t_{pZ2}$																				"	91
	$t_{pZ2.1}$																				"	65
	$t_{pZ3}$																				"	85
	$t_{pZ3.1}$																				"	52
	$t_{pZ4}$																				"	52
$t_{pZ4.1}$	"	46																				
$t_{pZ5}$	"	46																				
11 $T_c = -55^\circ\text{C}$	Same tests, terminal conditions, and limits as subgroup 10, except $T_c = -55^\circ\text{C}$ .																					





- 1/ Tests shall be performed in sequence, attributes data only.
- 2/  $H > 1.5$  V;  $L < 1.5$  V.
- 3/  $A = 3.0$  V minimum;  $B = 0.0$  V or GND.
- 4/ Prior to test, bus registers are loaded high by placing 4.5 V on bus data and applying one clock pulse (  2.5 V/5.5 V); the bus is then placed at GND for the duration of the test. (  0 V
- 5/ Prior to test, bus registers are loaded low by placing GND on bus data and applying one clock pulse (  2.5 V/5.5 V); the bus is then placed at 4.5 V for the duration of the test. (  0 V

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

Subgroup	Symbol	MIL-STD- method	Case L Test.no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit	
				CLKAB 0.5 V	SELAB 0.5 V	DIR 2.0 V	A1 0.5 V	A2 0.5 V	A3 0.5 V	A4 0.5 V	A5 0.5 V	A6 0.5 V	A7 0.5 V	A8 0.5 V	GND		Min	Max		
1 Tc = 25°C	V <sub>OH1</sub>	3006	1	0.5 V	0.5 V	2.0 V	0.5 V	0.5 V								B1	2.4		V	
			2	"	"	"	"	"	"								B2	"		"
			3	"	"	"	"	0.5 V									B3	"		"
			4	"	"	"	"		0.5 V								B4	"		"
			5	"	"	"	"			0.5 V							B5	"		"
			6	"	"	"	"					0.5 V					B6	"		"
			7	"	"	"	"							0.5 V			B7	"		"
			8	"	"	"	"								0.5 V		B8	"		"
			9	"	"	0.5 V	-3 mA										A1	"		"
			10	"	"	"				-3 mA							A2	"		"
			11	"	"	"					-3 mA						A3	"		"
			12	"	"	"						-3 mA					A4	"		"
			13	"	"	"							-3 mA				A5	"		"
			14	"	"	"								-3 mA			A6	"		"
			15	"	"	"									-3 mA		A7	"		"
			16	"	"	"										-3 mA	A8	"		"
	V <sub>OH2</sub>		17	"	"	2.0 V	0.5 V								B1	2.0		"		
			18	"	"	"		0.5 V								B2	"		"	
			19	"	"	"			0.5 V							B3	"		"	
			20	"	"	"				0.5 V						B4	"		"	
			21	"	"	"					0.5 V					B5	"		"	
			22	"	"	"						0.5 V				B6	"		"	
			23	"	"	"							0.5 V			B7	"		"	
			24	"	"	"								0.5 V		B8	"		"	
			25	"	"	0.5 V	-12 mA										A1	"		"
			26	"	"	"				-12 mA							A2	"		"
			27	"	"	"					-12 mA						A3	"		"
			28	"	"	"						-12 mA					A4	"		"
			29	"	"	"							-12 mA				A5	"		"
30	"	"	"								-12 mA			A6	"		"			
31	"	"	"									-12 mA		A7	"		"			
32	"	"	"										-12 mA	A8	"		"			
33	"	"	2.0 V	2.0 V										B1	"	0.4	"			
34	"	"	"				2.0 V							B2	"		"			
35	"	"	"					2.0 V						B3	"		"			
36	"	"	"						2.0 V					B4	"		"			
37	"	"	"							2.0 V				B5	"		"			
38	"	"	"								2.0 V			B6	"		"			
39	"	"	"									2.0 V		B7	"		"			
40	"	"	"										2.0 V	B8	"		"			
41	"	"	0.5 V	12 mA										A1	"		"			
42	"	"	"					12 mA						A2	"		"			
43	"	"	"						12 mA					A3	"		"			
44	"	"	"							12 mA				A4	"		"			
45	"	"	"								12 mA			A5	"		"			
46	"	"	"									12 mA		A6	"		"			
47	"	"	"										12 mA	A7	"		"			
48	"	"	"											A8	"		"			
49	"	"	-18 mA											CAB	"	-1.5	"			
50	"	"		-18 mA										SAB	"		"			
51	"	"			-18 mA									DIR	"		"			
52	"	"				-18 mA								A1	"		"			
53	"	"					-18 mA							A2	"		"			
54	"	"						-18 mA						A3	"		"			
55	"	"							-18 mA					A4	"		"			
56	"	"								-18 mA				A5	"		"			
57	"	"									-18 mA			A6	"		"			
58	"	"										-18 mA		A7	"		"			
59	"	"											-18 mA	A8	"		"			

See footnotes at end of device type 05. Pins 13 thru 24 on next page.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit	
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>		Min	Max		
1 T <sub>C</sub> = 25°C	V <sub>OH1</sub>	3006	1									0.5 V	0.5 V	0.5 V	4.5 V	B1	2.4		V	
			2								-3 mA						B2			
			3														B3			
			4														B4			
			5														B5			
			6														B6			
			7														B7			
			8														B8			
			9														A1			
			10														A2			
			11														A3			
			12														A4			
			13														A5			
			14														A6			
			15														A7			
			16														A8			
	V <sub>OH2</sub>		17													B1	2.0			
			18													B2				
			19													B3				
			20													B4				
			21													B5				
			22													B6				
			23													B7				
			24													B8				
			25													A1				
			26													A2				
			27													A3				
			28													A4				
			29													A5				
			30													A6				
			31													A7				
			32													A8				
	V <sub>OL</sub>		33													B1				
			34													B2				
			35													B3				
			36													B4				
			37													B5				
			38													B6				
			39													B7				
			40													B8				
			41													A1				
			42													A2				
			43													A3				
			44													A4				
			45													A5				
			46													A6				
			47													A7				
			48													A8				
	V <sub>IC</sub>		49													CAB				
			50													SAB				
			51													DIR				
			52													A1				
			53													A2				
			54													A3				
			55													A4				
			56													A5				
			57													A6				
58													A7							
59													A8							

See footnotes at end of device type 05.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit		
				CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		GND	Min		Max	
1 Tc = 25°C	V <sub>ic</sub>		60													B8			V		
			61														B7			"	
			62														B6			"	
			63														B5			"	
			64														B4			"	
			65														B3			"	
			66														B2			"	
			67														B1			"	
			68														G			"	
			69														SBA			"	
			70														CBA			"	
			71			0.4 V												CAB	0	-200	µA
			72			0.4 V												SAB			"
			73						0.4 V									DIR			"
74							0.4 V								A1			"			
75								0.4 V							A2			"			
76									0.4 V						A3			"			
77										0.4 V					A4			"			
78											0.4 V				A5			"			
79												0.4 V			A6			"			
80													0.4 V		A7			"			
81														0.4 V	A8			"			
82															B8			"			
83															B7			"			
84															B6			"			
85															B5			"			
86															B4			"			
87															B3			"			
88															B2			"			
89															B1			"			
90															G			"			
91															SBA			"			
92															CBA			"			
93			2.7 V													CAB		20	"		
94				2.7 V												SAB			"		
95						2.7 V										DIR			"		
96							2.7 V									A1			"		
97								2.7 V								A2			"		
98									2.7 V							A3			"		
99										2.7 V						A4			"		
100											2.7 V					A5			"		
101												2.7 V				A6			"		
102													2.7 V			A7			"		
103														2.7 V		A8			"		
104																B8			"		
105																B7			"		
106																B6			"		
107																B5			"		
108																B4			"		
109																B3			"		
110																B2			"		
111																B1			"		
112																G			"		
113																SBA			"		
114																CBA			"		

See footnotes at end of device type 05. Pins 13 thru 24 on next page.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	$\bar{G}$	SEL BA	CLK BA	V <sub>CC</sub>		Min	Max			
1 T <sub>c</sub> = 25°C	V <sub>IC</sub>		60	-18 mA											GND	B8		-1.5	V		
			61		-18 mA												B7		"	"	
			62			-18 mA											B6		"	"	
			63				-18 mA										B5		"	"	
			64					-18 mA									B4		"	"	
			65						-18 mA								B3		"	"	
			66							-18 mA							B2		"	"	
			67								-18 mA						B1		"	"	
			68										-18 mA				G		"	"	
			69											-18 mA			SBA		"	"	
			70												-18 mA		CBA		"	"	
			71	3009												-18 mA		CAB	0	-200	μA
			72	"														SAB		"	"
			73	"														DIR		"	"
74	"														A1		"	"			
75	"														A2		"	"			
76	"														A3		"	"			
77	"														A4		"	"			
78	"														A5		"	"			
79	"														A6		"	"			
80	"														A7		"	"			
81	"														A8		"	"			
82	"														B8		"	"			
83	"														B7		"	"			
84	"														B6		"	"			
85	"														B5		"	"			
86	"														B4		"	"			
87	"														B3		"	"			
88	"														B2		"	"			
89	"														B1		"	"			
90	"														G		"	"			
91	"														SBA		"	"			
92	"														CBA		"	"			
93	3010														CAB			20			
94	"														SAB		"	"			
95	"														DIR		"	"			
96	"														A1		"	"			
97	"														A2		"	"			
98	"														A3		"	"			
99	"														A4		"	"			
100	"														A5		"	"			
101	"														A6		"	"			
102	"														A7		"	"			
103	"														A8		"	"			
104	"														B8		"	"			
105	"														B7		"	"			
106	"														B6		"	"			
107	"														B5		"	"			
108	"														B4		"	"			
109	"														B3		"	"			
110	"														B2		"	"			
111	"														B1		"	"			
112	"														G		"	"			
113	"														SBA		"	"			
114	"														CBA		"	"			

See footnotes at end of device type 05.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit	
				CLKAB	SELAB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		Min	Max		
1 Tc = 25°C	I <sub>HE</sub>	3010	115	5.5 V												CAB		100	µA	
			116		5.5 V												SAB		"	"
			117			5.5 V											DIR		"	"
			118				5.5 V										A1		"	"
			119					5.5 V									A2		"	"
			120						5.5 V								A3		"	"
			121							5.5 V							A4		"	"
			122								5.5 V						A5		"	"
			123									5.5 V					A6		"	"
			124											5.5 V			A7		"	"
			125												5.5 V		A8		"	"
			126													5.5 V	B8		"	"
			127														B7		"	"
			128														B6		"	"
			129														B5		"	"
			130														B4		"	"
131														B3		"	"			
132														B2		"	"			
133														B1		"	"			
134														G		"	"			
135														SBA		"	"			
136														CBA		"	"			
137							0.4 V							A1		-400	"			
138								0.4 V						A2		"	"			
139									0.4 V					A3		"	"			
140										0.4 V				A4		"	"			
141											0.4 V			A5		"	"			
142												0.4 V		A6		"	"			
143													0.4 V	A7		"	"			
144														A8		"	"			
145														B8		"	"			
146														B7		"	"			
147														B6		"	"			
148														B5		"	"			
149														B4		"	"			
150														B3		"	"			
151														B2		"	"			
152														B1		"	"			
153							2.7 V							A1		20	"			
154								2.7 V						A2		"	"			
155									2.7 V					A3		"	"			
156										2.7 V				A4		"	"			
157											2.7 V			A5		"	"			
158												2.7 V		A6		"	"			
159													2.7 V	A7		"	"			
160														A8		"	"			
161														B8		"	"			
162														B7		"	"			
163														B6		"	"			
164														B5		"	"			
165														B4		"	"			
166														B3		"	"			
167														B2		"	"			
168														B1		"	"			

See footnotes at end of device type 05. Pins 13 thru 24 on next page.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>cc</sub>		Min	Max			
1 T <sub>c</sub> = 25°C	I <sub>HE</sub>	3010	115												5.5 V	CAB		100	µA		
			116														SAB		"	"	
			117															DIR		"	"
			118															A1		"	"
			119															A2		"	"
			120															A3		"	"
			121															A4		"	"
			122															A5		"	"
			123															A6		"	"
			124															A7		"	"
			125															A8		"	"
			126															B8		"	"
			127															B7		"	"
			128															B6		"	"
			129															B5		"	"
			130															B4		"	"
131															B3		"	"			
132															B2		"	"			
133															B1		"	"			
134															G		"	"			
135															SBA		"	"			
136															CBA		"	"			
137															A1		-400	"			
138															A2		"	"			
139															A3		"	"			
140															A4		"	"			
141															A5		"	"			
142															A6		"	"			
143															A7		"	"			
144															A8		"	"			
145															B8		"	"			
146															B7		"	"			
147															B6		"	"			
148															B5		"	"			
149															B4		"	"			
150															B3		"	"			
151															B2		"	"			
152															B1		"	"			
153															A1		20	"			
154															A2		"	"			
155															A3		"	"			
156															A4		"	"			
157															A5		"	"			
158															A6		"	"			
159															A7		"	"			
160															A8		"	"			
161															B8		"	"			
162															B7		"	"			
163															B6		"	"			
164															B5		"	"			
165															B4		"	"			
166															B3		"	"			
167															B2		"	"			
168															B1		"	"			

See footnotes at end of device type 05.



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

Subgroup	Symbol	MIL-STD- method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit												
				CLK AB GND	SEL AB GND	DIR 4.5 V	A1 GND	A2 GND	A3 GND	A4 GND	A5 GND	A6 GND	A7 GND	A8 GND	GND		B1	Min		Max											
1	Tc = 25°C	883 3011	169	"	"	"	"	"	"	"	"	"	"	"	"	B1	-40	-225	mA												
			170	"	"	"	"	"	"	"	"	"	"	"	"	"	B2	"	"	"											
			171	"	"	"	"	"	"	"	"	"	"	"	"	"	B3	"	"	"											
			172	"	"	"	"	"	"	"	"	"	"	"	"	"	B4	"	"	"											
			173	"	"	"	"	"	"	"	"	"	"	"	"	"	B5	"	"	"											
			174	"	"	"	"	"	"	"	"	"	"	"	"	"	B6	"	"	"											
			175	"	"	"	"	"	"	"	"	"	"	"	"	"	B7	"	"	"											
			176	"	"	"	"	"	"	"	"	"	"	"	"	"	B8	"	"	"											
			177	"	"	"	"	"	"	"	"	"	"	"	"	"	A1	"	"	"											
			178	"	"	"	"	"	"	"	"	"	"	"	"	"	A2	"	"	"											
			179	"	"	"	"	"	"	"	"	"	"	"	"	"	A3	"	"	"											
			180	"	"	"	"	"	"	"	"	"	"	"	"	"	A4	"	"	"											
			181	"	"	"	"	"	"	"	"	"	"	"	"	"	A5	"	"	"											
			182	"	"	"	"	"	"	"	"	"	"	"	"	"	A6	"	"	"											
			183	"	"	"	"	"	"	"	"	"	"	"	"	"	A7	"	"	"											
			184	"	"	"	"	"	"	"	"	"	"	"	"	"	A8	"	"	"											
			2	I <sub>ccH</sub> I <sub>ccL</sub> I <sub>ccZ</sub>	3005	185	"	"	"	"	"	"	"	"	"	"	"	"	V <sub>cc</sub>	145	"	"									
						186	"	"	"	"	"	"	"	"	"	"	"	"	V <sub>cc</sub>	165	"	"									
187	"	"				"	"	"	"	"	"	"	"	"	"	V <sub>cc</sub>	165	"	"												
3	Same tests, terminal conditions, and limits as subgroup 1, except T <sub>c</sub> = +125°C and omit V <sub>iC</sub> tests.																														
3	Same tests, terminal conditions, and limits as subgroup 1, except T <sub>c</sub> = -55°C and omit V <sub>iC</sub> tests.																														
7	Truth table tests 1/		188	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B											
			189	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"										
			190	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"									
			191	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"									
			192	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"									
			193	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"									
			194	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"									
			195	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"									
			196	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"									
			197	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"									
			198	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"									
			199	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"									
200	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"												
8	Same tests and terminal conditions as subgroup 7, except T <sub>c</sub> = +125°C and T <sub>c</sub> = -55°C.	3003 (fig. 3)	201	IN	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B1	2	30	ns											
			202	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B2	"	"	"										
			203	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B3	"	"	"									
			204	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B4	"	"	"								
			205	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B5	"	"	"							
			206	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B6	"	"	"						
			207	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B7	"	"	"					
			208	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B8	"	"	"				
			209	GND	GND	GND	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	"	"	"	"	"	CAB to A1	"	"	"				
			210	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A2	"	"	"			
			211	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A3	"	"	"		
			212	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A4	"	"	"	
213	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A5	"	"	"			
214	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A6	"	"	"		
215	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A7	"	"	"	
216	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A8	"	"	"

See footnotes at end of device type 05. Pins 13 thru 24 on next page.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>		Min	Max			
1	I <sub>OS</sub>	3011	169													B1	-40	-225	mA		
			170														B2	"	"	"	
			171														B3	"	"	"	
			172														B4	"	"	"	
			173														B5	"	"	"	
			174														B6	"	"	"	
			175														B7	"	"	"	
			176														B8	"	"	"	
			177														A1	"	"	"	
			178														A2	"	"	"	
			179														A3	"	"	"	
			180														A4	"	"	"	
			181														A5	"	"	"	
			182														A6	"	"	"	
			183														A7	"	"	"	
			184														A8	"	"	"	
				I <sub>CCH</sub>	3005													V <sub>CC</sub>	145	145	"
	I <sub>CCL</sub>	"													V <sub>CC</sub>	165	165	"			
	I <sub>CCZ</sub>	"													V <sub>CC</sub>	165	165	"			
2												4.5 V									
3																					
7	Truth table tests 1/		188	H	H	H	H	H	H	H	H	H	B	B	B						
			189	L	L	L	L	L	L	L	L	L	L	B	B	B					
			190	B	B	B	B	B	B	B	B	B	B	A	A	A					
			191	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
			192	L	L	L	L	L	L	L	L	L	L	L	L	L	L				
			193	H	H	H	H	H	H	H	H	H	H	H	H	H	H				
			194	H	H	H	H	H	H	H	H	H	H	H	H	H	H				
			195	L	L	L	L	L	L	L	L	L	L	L	L	L	L				
			196	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
			197	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
			198	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
			199	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
			200	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
8	Same tests and terminal conditions as subgroup 7, except T <sub>C</sub> = +125°C and T <sub>C</sub> = -55°C.	3003 (fig. 3)	201																		
			202																		
			203																		
			204																		
			205																		
			206																		
			207																		
			208																		
			209																		
			210																		
			211																		
			212																		
			213																		
214																					
215																					
216																					
9	I <sub>PLH1</sub>																				
9	T <sub>C</sub> = 25°C		201														CAB to B1	2	30	ns	
			202														CAB to B2	"	"	"	
			203														CAB to B3	"	"	"	
			204														CAB to B4	"	"	"	
			205														CAB to B5	"	"	"	
			206														CAB to B6	"	"	"	
			207														CAB to B7	"	"	"	
			208														CAB to B8	"	"	"	
			209														CBA to A1	"	"	"	
			210														CBA to A2	"	"	"	
			211														CBA to A3	"	"	"	
			212														CBA to A4	"	"	"	
			213														CBA to A5	"	"	"	
214														CBA to A6	"	"	"				
215														CBA to A7	"	"	"				
216														CBA to A8	"	"	"				

See footnotes at end of device type 05.

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

Subgroup	Symbol	MIL-STD- method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit			
				CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		Min	Max				
9 Tc = 25°C	$t_{PH1}$	883 3003 (fig. 3)	217	IN	4.5 V	4.5 V	IN	IN	IN							CAB to B1	2	45	ns			
			218	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B2	"	"	"	
			219	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B3	"	"	"
			220	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B4	"	"	"
			221	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B5	"	"	"
			222	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B6	"	"	"
			223	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B7	"	"	"
			224	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to B8	"	"	"
			225	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A1	"	"	"
			226	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A2	"	"	"
			227	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A3	"	"	"
			228	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A4	"	"	"
			229	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A5	"	"	"
			230	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A6	"	"	"
			231	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A7	"	"	"
			232	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	CAB to A8	"	"	"
			233	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A1 to B1	"	23	"
			234	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A2 to B2	"	"	"
			235	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A3 to B3	"	"	"
			236	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A4 to B4	"	"	"
			237	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A5 to B5	"	"	"
			238	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A6 to B6	"	"	"
			239	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A7 to B7	"	"	"
			240	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A8 to B8	"	"	"
			241	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B1 to A1	"	"	"
			242	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B2 to A2	"	"	"
			243	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B3 to A3	"	"	"
244	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B4 to A4	"	"	"			
245	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B5 to A5	"	"	"			
246	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B6 to A6	"	"	"			
247	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B7 to A7	"	"	"			
248	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B8 to A8	"	"	"			
249	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A1 to B1	"	30	"			
250	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A2 to B2	"	"	"			
251	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A3 to B3	"	"	"			
252	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A4 to B4	"	"	"			
253	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A5 to B5	"	"	"			
254	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A6 to B6	"	"	"			
255	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A7 to B7	"	"	"			
256	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A8 to B8	"	"	"			
257	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B1 to A1	"	"	"			
258	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B2 to A2	"	"	"			
259	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B3 to A3	"	"	"			
260	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B4 to A4	"	"	"			
261	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B5 to A5	"	"	"			
262	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B6 to A6	"	"	"			
263	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B7 to A7	"	"	"			
264	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B8 to A8	"	"	"			
265	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B1	"	60	"			
266	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B2	"	"	"			
267	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B3	"	"	"			
268	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B4	"	"	"			
269	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B5	"	"	"			
270	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B6	"	"	"			
271	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B7	"	"	"			
272	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B8	"	"	"			

See footnotes at end of device type 05. Pins 13 thru 24 on next page.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>		Min	Max			
9 T <sub>c</sub> = 25°C	t <sub>PHL1</sub>	3003 (fig. 3)	217							OUT					5.0 V	CAB to B1	2	45	ns		
			218														CAB to B2	"	"	"	
			219							OUT								CAB to B3	"	"	"
			220					OUT										CAB to B4	"	"	"
			221				OUT											CAB to B5	"	"	"
			222			OUT												CAB to B6	"	"	"
			223			OUT												CAB to B7	"	"	"
			224			OUT												CAB to B8	"	"	"
			225											IN	4.5 V			CBA to A1	"	"	"
			226									IN						CBA to A2	"	"	"
			227									IN						CBA to A3	"	"	"
			228							IN								CBA to A4	"	"	"
			229						IN									CBA to A5	"	"	"
			230						IN									CBA to A6	"	"	"
			231						IN									CBA to A7	"	"	"
			232						IN									CBA to A8	"	"	"
			233											OUT		GND		A1 to B1	"	23	"
			234										OUT					A2 to B2	"	"	"
			235									OUT						A3 to B3	"	"	"
			236								OUT							A4 to B4	"	"	"
			237							OUT								A5 to B5	"	"	"
			238							OUT								A6 to B6	"	"	"
			239															A7 to B7	"	"	"
			240															A8 to B8	"	"	"
			241											IN				B1 to A1	"	"	"
			242											IN				B2 to A2	"	"	"
			243									IN						B3 to A3	"	"	"
244								IN							B4 to A4	"	"	"			
245							IN								B5 to A5	"	"	"			
246							IN								B6 to A6	"	"	"			
247															B7 to A7	"	"	"			
248															B8 to A8	"	"	"			
249											OUT				A1 to B1	"	30	"			
250											OUT				A2 to B2	"	"	"			
251															A3 to B3	"	"	"			
252								OUT							A4 to B4	"	"	"			
253							OUT								A5 to B5	"	"	"			
254							OUT								A6 to B6	"	"	"			
255															A7 to B7	"	"	"			
256															A8 to B8	"	"	"			
257											IN				B1 to A1	"	"	"			
258											IN				B2 to A2	"	"	"			
259									IN						B3 to A3	"	"	"			
260								IN							B4 to A4	"	"	"			
261							IN								B5 to A5	"	"	"			
262							IN								B6 to A6	"	"	"			
263															B7 to A7	"	"	"			
264															B8 to A8	"	"	"			
265											OUT				SAB to B1	"	60	"			
266										OUT					SAB to B2	"	"	"			
267									OUT						SAB to B3	"	"	"			
268								OUT							SAB to B4	"	"	"			
269							OUT								SAB to B5	"	"	"			
270							OUT								SAB to B6	"	"	"			
271															SAB to B7	"	"	"			
272															SAB to B8	"	"	"			

See footnotes at end of device type 05.

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

Subgroup	Symbol	MIL-STD- method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit	
				CLK AB GND	SEL AB GND	DIR GND	A1 OUT	A2 OUT	A3 OUT	A4 OUT	A5 OUT	A6 OUT	A7 OUT	A8 OUT	Min		Max			
9 Tc = 25°C	t <sub>PH3</sub>	883 3003 (fig. 3)	273	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A1	2	60	ns	
			274	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A2	"	"	"
			275	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A3	"	"	"
			276	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A4	"	"	"
			277	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A5	"	"	"
			278	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A6	"	"	"
			279	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A7	"	"	"
			280	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A8	"	"	"
			281	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B1	"	45	"
			282	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B2	"	"	"
			283	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B3	"	"	"
			284	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B4	"	"	"
			285	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B5	"	"	"
			286	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B6	"	"	"
			287	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B7	"	"	"
			288	"	"	"	"	"	"	"	"	"	"	"	"	"	SAB to B8	"	"	"
			289	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A1	"	"	"
			290	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A2	"	"	"
			291	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A3	"	"	"
			292	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A4	"	"	"
			293	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A5	"	"	"
			294	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A6	"	"	"
			295	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A7	"	"	"
			296	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A8	"	"	"
			297	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A1	"	"	"
			298	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B1	"	"	"
			299	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B2	"	"	"
			300	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B3	"	"	"
301	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B4	"	"	"			
302	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B5	"	"	"			
303	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B6	"	"	"			
304	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B7	"	"	"			
305	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B8	"	"	"			
306	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A1	"	"	"			
307	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A2	"	"	"			
308	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A3	"	"	"			
309	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A4	"	"	"			
310	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A5	"	"	"			
311	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A6	"	"	"			
312	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A7	"	"	"			
313	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A8	"	"	"			
314	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B1	"	"	"			
315	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B2	"	"	"			
316	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B3	"	"	"			
317	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B4	"	"	"			
318	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B5	"	"	"			
319	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B6	"	"	"			
320	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B7	"	"	"			
321	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to B8	"	"	"			
322	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A1	"	"	"			
323	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A2	"	"	"			
324	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A3	"	"	"			
325	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A4	"	"	"			
326	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A5	"	"	"			
327	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A6	"	"	"			
328	"	"	"	"	"	"	"	"	"	"	"	"	"	SBA to A7	"	"	"			
														SBA to A8	"	"	"			

See footnotes at end of device type 05. Pins 13 thru 24 on next page.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>cc</sub>		Min	Max			
9 T <sub>c</sub> = 25°C	t <sub>PH3</sub>	3003 (fig. 3)	273							4/	4/	GND	IN	4/	5.0 V	SBA to A1	2	60	ns		
			274							4/							SBA to A2	"	"	"	
			275							4/								SBA to A3	"	"	"
			276					4/										SBA to A4	"	"	"
			277				4/											SBA to A5	"	"	"
			278			4/												SBA to A6	"	"	"
			279		4/													SBA to A7	"	"	"
			280			4/												SBA to A8	"	"	"
			281											OUT		GND		SAB to B1	"	45	"
			282										OUT					SAB to B2	"	"	"
			283									OUT						SAB to B3	"	"	"
			284						OUT									SAB to B4	"	"	"
			285					OUT										SAB to B5	"	"	"
			286															SAB to B6	"	"	"
			287															SAB to B7	"	"	"
			288				OUT											SAB to B8	"	"	"
			289										4/			IN		SBA to A1	"	"	"
			290										4/					SBA to A2	"	"	"
			291									4/						SBA to A3	"	"	"
292							4/								SBA to A4	"	"	"			
293						4/									SBA to A5	"	"	"			
294						4/									SBA to A6	"	"	"			
295						4/									SBA to A7	"	"	"			
296						4/									SBA to A8	"	"	"			
297													GND		SAB to B1	"	"	"			
298											OUT				SAB to B2	"	"	"			
299									OUT						SAB to B3	"	"	"			
300								OUT							SAB to B4	"	"	"			
301							OUT								SAB to B5	"	"	"			
302							OUT								SAB to B6	"	"	"			
303															SAB to B7	"	"	"			
304															SAB to B8	"	"	"			
305													IN		SBA to A1	"	"	"			
306										5/					SBA to A2	"	"	"			
307									5/						SBA to A3	"	"	"			
308									5/						SBA to A4	"	"	"			
309							5/								SBA to A5	"	"	"			
310							5/								SBA to A6	"	"	"			
311							5/								SBA to A7	"	"	"			
312													GND		SBA to A8	"	"	"			
313										OUT					SAB to B1	"	"	"			
314															SAB to B2	"	"	"			
315									OUT						SAB to B3	"	"	"			
316								OUT							SAB to B4	"	"	"			
317							OUT								SAB to B5	"	"	"			
318							OUT								SAB to B6	"	"	"			
319															SAB to B7	"	"	"			
320															SAB to B8	"	"	"			
321											5/		IN		SBA to A1	"	"	"			
322										5/					SBA to A2	"	"	"			
323									5/						SBA to A3	"	"	"			
324															SBA to A4	"	"	"			
325							5/								SBA to A5	"	"	"			
326							5/								SBA to A6	"	"	"			
327							5/								SBA to A7	"	"	"			
328							5/								SBA to A8	"	"	"			

See footnotes at end of device type 05.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit			
				CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		Min	Max				
9 Tc = 25°C	$t_{pZL2}$	3003 (fig. 3)	329	CLK AB	GND	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	G to A1	2	55	ns			
			330				OUT										G to A2	"	"	"		
			331						OUT									G to A3	"	"	"	
			332									OUT						G to A4	"	"	"	
			333										OUT					G to A5	"	"	"	
			334											OUT				G to A6	"	"	"	
			335												OUT			G to A7	"	"	"	
			336													OUT		G to A8	"	"	"	
			337						4.5 V	GND									G to B1	"	"	"
			338								GND								G to B2	"	"	"
			339									GND							G to B3	"	"	"
			340										GND						G to B4	"	"	"
			341											GND					G to B5	"	"	"
			342												GND				G to B6	"	"	"
			343													GND			G to B7	"	"	"
			344														GND		G to B8	"	"	"
			345						GND	OUT									G to A1	"	60	"
			346								OUT								G to A2	"	"	"
			347									OUT							G to A3	"	"	"
			348										OUT						G to A4	"	"	"
			349											OUT					G to A5	"	"	"
			350												OUT				G to A6	"	"	"
			351													OUT			G to A7	"	"	"
			352														OUT		G to A8	"	"	"
			353						4.5 V	4.5 V									G to B1	"	"	"
			354								4.5 V								G to B2	"	"	"
			355									4.5 V							G to B3	"	"	"
			356										4.5 V						G to B4	"	"	"
			357											4.5 V					G to B5	"	"	"
			358												4.5 V				G to B6	"	"	"
			359													4.5 V			G to B7	"	"	"
			360														4.5 V		G to B8	"	"	"

See footnotes at end of device type 05. Pins 13 thru 24 on next page.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	$\bar{G}$	SEL BA	CLK BA	V <sub>cc</sub>		Min	Max			
9 T <sub>c</sub> = 25°C	$t_{pZL2}$	3003 (fig. 3)	329							GND		IN	GND		5.0 V	$\bar{G}$ to A1	2	55	ns		
			330								GND						$\bar{G}$ to A2	"	"	"	
			331							GND							$\bar{G}$ to A3	"	"	"	
			332						GND								$\bar{G}$ to A4	"	"	"	
			333						GND								$\bar{G}$ to A5	"	"	"	
			334						GND								$\bar{G}$ to A6	"	"	"	
			335														$\bar{G}$ to A7	"	"	"	
			336														$\bar{G}$ to A8	"	"	"	
			337											OUT			$\bar{G}$ to B1	"	"	"	
			338											OUT			$\bar{G}$ to B2	"	"	"	
			339														$\bar{G}$ to B3	"	"	"	
			340														$\bar{G}$ to B4	"	"	"	
			341														$\bar{G}$ to B5	"	"	"	
			342														$\bar{G}$ to B6	"	"	"	
			343														$\bar{G}$ to B7	"	"	"	
			344														$\bar{G}$ to B8	"	"	"	
			345														$\bar{G}$ to A1	"	"	60	"
			346														$\bar{G}$ to A2	"	"	"	"
			347														$\bar{G}$ to A3	"	"	"	"
			348														$\bar{G}$ to A4	"	"	"	"
			349														$\bar{G}$ to A5	"	"	"	"
			350														$\bar{G}$ to A6	"	"	"	"
			351														$\bar{G}$ to A7	"	"	"	"
			352														$\bar{G}$ to A8	"	"	"	"
			353														$\bar{G}$ to B1	"	"	"	"
			354														$\bar{G}$ to B2	"	"	"	"
			355														$\bar{G}$ to B3	"	"	"	"
			356														$\bar{G}$ to B4	"	"	"	"
			357														$\bar{G}$ to B5	"	"	"	"
			358														$\bar{G}$ to B6	"	"	"	"
			359														$\bar{G}$ to B7	"	"	"	"
			360														$\bar{G}$ to B8	"	"	"	"

See footnotes at end of device type 05.



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

Subgroup	Symbol	MIL-STD- method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit		
				CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	Min		Max				
9 Tc = 25°C	I <sub>pZ13</sub>	883 3003 (fig. 3)	361	CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	DIR to B1	2	45	ns		
			362				GND										DIR to B2	"	"	"	
			363							GND								DIR to B3	"	"	"
			364									GND						DIR to B4	"	"	"
			365										GND					DIR to B5	"	"	"
			366											GND				DIR to B6	"	"	"
			367												GND			DIR to B7	"	"	"
			368													GND		DIR to B8	"	"	"
			369						OUT									DIR to A1	"	"	"
			370							OUT								DIR to A2	"	"	"
			371								OUT							DIR to A3	"	"	"
			372									OUT						DIR to A4	"	"	"
			373										OUT					DIR to A5	"	"	"
			374											OUT				DIR to A6	"	"	"
			375												OUT			DIR to A7	"	"	"
			376													OUT		DIR to A8	"	"	"
			377							4.5 V								DIR to B1	"	50	"
			378								4.5 V							DIR to B2	"	"	"
			379									4.5 V						DIR to B3	"	"	"
			380										4.5 V					DIR to B4	"	"	"
381											4.5 V				DIR to B5	"	"	"			
382												4.5 V			DIR to B6	"	"	"			
383													4.5 V		DIR to B7	"	"	"			
384															DIR to B8	"	"	"			
385															DIR to A1	"	"	"			
386								OUT							DIR to A2	"	"	"			
387									OUT						DIR to A3	"	"	"			
388										OUT					DIR to A4	"	"	"			
389											OUT				DIR to A5	"	"	"			
390												OUT			DIR to A6	"	"	"			
391													OUT		DIR to A7	"	"	"			
392															DIR to A8	"	"	"			
393					GND	4.5 V	GND									G to B1	"	"	"		
394								GND								G to B2	"	"	"		
395									GND							G to B3	"	"	"		
396										GND						G to B4	"	"	"		
397											GND					G to B5	"	"	"		
398												GND				G to B6	"	"	"		
399													GND			G to B7	"	"	"		
400														GND		G to B8	"	"	"		
401																G to A1	"	"	"		
402																G to A2	"	"	"		
403																G to A3	"	"	"		
404																G to A4	"	"	"		
405																G to A5	"	"	"		
406												OUT				G to A6	"	"	"		
407													OUT			G to A7	"	"	"		
408														OUT		G to A8	"	"	"		

See footnotes at end of device type 05. Pins 13 thru 24 on next page.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>		Min	Max			
9 T <sub>c</sub> = 25°C	I <sub>P213</sub>	3003 (fig. 3)	361							OUT	OUT	GND	GND		5.0 V	DIR to B1	2	45	ns		
			362							OUT							DIR to B2	"	"	"	
			363					OUT										DIR to B3	"	"	"
			364				OUT											DIR to B4	"	"	"
			365				OUT											DIR to B5	"	"	"
			366			OUT												DIR to B6	"	"	"
			367			OUT												DIR to B7	"	"	"
			368			OUT												DIR to B8	"	"	"
			369									GND		GND				DIR to A1	"	"	"
			370									GND						DIR to A2	"	"	"
			371								GND							DIR to A3	"	"	"
			372								GND							DIR to A4	"	"	"
			373							GND								DIR to A5	"	"	"
			374							GND								DIR to A6	"	"	"
			375															DIR to A7	"	"	"
			376															DIR to A8	"	"	"
			377											OUT				DIR to B1	"	50	"
			378										OUT					DIR to B2	"	"	"
			379									OUT						DIR to B3	"	"	"
			380								OUT							DIR to B4	"	"	"
			381							OUT								DIR to B5	"	"	"
			382							OUT								DIR to B6	"	"	"
			383															DIR to B7	"	"	"
			384															DIR to B8	"	"	"
			385											4.5 V				DIR to A1	"	"	"
			386										4.5 V					DIR to A2	"	"	"
			387									4.5 V						DIR to A3	"	"	"
			388							4.5 V								DIR to A4	"	"	"
			389							4.5 V								DIR to A5	"	"	"
			390							4.5 V								DIR to A6	"	"	"
			391							4.5 V								DIR to A7	"	"	"
			392							4.5 V								DIR to A8	"	"	"
			393											OUT	IN			G to B1	"	"	"
			394										OUT					G to B2	"	"	"
			395									OUT						G to B3	"	"	"
			396								OUT							G to B4	"	"	"
			397							OUT								G to B5	"	"	"
			398							OUT								G to B6	"	"	"
			399															G to B7	"	"	"
			400															G to B8	"	"	"
			401											GND				G to A1	"	"	"
			402										GND					G to A2	"	"	"
			403									GND						G to A3	"	"	"
			404								GND							G to A4	"	"	"
			405							GND								G to A5	"	"	"
			406							GND								G to A6	"	"	"
			407															G to A7	"	"	"
			408															G to A8	"	"	"

See footnotes at end of device type 05.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Test Limits		Unit			
				CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND		Min	Max				
9 Tc = 25°C	$t_{PHZ}$	3003 (fig. 3)	409	CLK AB	GND	4.5 V	4.5 V	4.5 V								GND	G to B1	2	40	ns		
			410					4.5 V										G to B2	"	"	"	
			411						4.5 V									G to B3	"	"	"	
			412							4.5 V								G to B4	"	"	"	
			413								4.5 V							G to B5	"	"	"	
			414										4.5 V					G to B6	"	"	"	
			415											4.5 V				G to B7	"	"	"	
			416												4.5 V			G to B8	"	"	"	
			417					GND	OUT									G to A1	"	"	"	
			418						OUT									G to A2	"	"	"	
			419							OUT								G to A3	"	"	"	
			420								OUT							G to A4	"	"	"	
			421									OUT						G to A5	"	"	"	
			422										OUT					G to A6	"	"	"	
			423											OUT				G to A7	"	"	"	
			424												OUT			G to A8	"	"	"	
			425					GND	IN	GND								GND	DIR to B1	"	"	"
			426								GND								DIR to B2	"	"	"
			427									GND							DIR to B3	"	"	"
			428										GND						DIR to B4	"	"	"
			429											GND					DIR to B5	"	"	"
			430												GND				DIR to B6	"	"	"
			431													GND			DIR to B7	"	"	"
			432														GND		DIR to B8	"	"	"
433							OUT									DIR to A1	"	"	"			
434								OUT								DIR to A2	"	"	"			
435																DIR to A3	"	"	"			
436										OUT						DIR to A4	"	"	"			
437											OUT					DIR to A5	"	"	"			
438												OUT				DIR to A6	"	"	"			
439													OUT			DIR to A7	"	"	"			
440														OUT		DIR to A8	"	"	"			
441							4.5 V									DIR to B1	"	"	"			
442								4.5 V								DIR to B2	"	"	35			
443									4.5 V							DIR to B3	"	"	"			
444										4.5 V						DIR to B4	"	"	"			
445											4.5 V					DIR to B5	"	"	"			
446												4.5 V				DIR to B6	"	"	"			
447													4.5 V			DIR to B7	"	"	"			
448														4.5 V		DIR to B8	"	"	"			
449							OUT									DIR to A1	"	"	"			
450								OUT								DIR to A2	"	"	"			
451									OUT							DIR to A3	"	"	"			
452										OUT						DIR to A4	"	"	"			
453											OUT					DIR to A5	"	"	"			
454												OUT				DIR to A6	"	"	"			
455													OUT			DIR to A7	"	"	"			
456														OUT		DIR to A8	"	"	"			

See footnotes at end of device type 05. Pins 13 thru 24 on next page.

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

Subgroup	Symbol	MIL-STD-883 method	Case L Test no.	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Test Limits		Unit		
				B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>		Min	Max			
9 T <sub>c</sub> = 25°C	t <sub>PHZ</sub>	3003 (fig. 3)	409							OUT	OUT	IN	GND		5.0 V	G to B1	2	40	ns		
			410								OUT						G to B2	"	"	"	
			411							OUT							G to B3	"	"	"	
			412						OUT								G to B4	"	"	"	
			413					OUT									G to B5	"	"	"	
			414			OUT											G to B6	"	"	"	
			415		OUT												G to B7	"	"	"	
			416	OUT													G to B8	"	"	"	
			417									4.5 V	4.5 V				G to A1	"	"	"	
			418								4.5 V						G to A2	"	"	"	
			419								4.5 V						G to A3	"	"	"	
			420							4.5 V							G to A4	"	"	"	
			421						4.5 V								G to A5	"	"	"	
			422					4.5 V									G to A6	"	"	"	
			423				4.5 V										G to A7	"	"	"	
			424	4.5 V													G to A8	"	"	"	
			425										OUT	GND			5.0 V	DIR to B1	"	"	"
			426										OUT					DIR to B2	"	"	"
			427									OUT						DIR to B3	"	"	"
			428								OUT							DIR to B4	"	"	"
			429							OUT								DIR to B5	"	"	"
			430						OUT									DIR to B6	"	"	"
			431					OUT										DIR to B7	"	"	"
			432	OUT														DIR to B8	"	"	"
433											GND				DIR to A1	"	"	"			
434															DIR to A2	"	"	"			
435															DIR to A3	"	"	"			
436								GND							DIR to A4	"	"	"			
437							GND								DIR to A5	"	"	"			
438						GND									DIR to A6	"	"	"			
439						GND									DIR to A7	"	"	"			
440						GND									DIR to A8	"	"	"			
441											OUT				DIR to B1	"	"	35			
442										OUT					DIR to B2	"	"	"			
443									OUT						DIR to B3	"	"	"			
444								OUT							DIR to B4	"	"	"			
445							OUT								DIR to B5	"	"	"			
446							OUT								DIR to B6	"	"	"			
447							OUT								DIR to B7	"	"	"			
448															DIR to B8	"	"	"			
449											4.5 V				DIR to A1	"	"	"			
450										4.5 V					DIR to A2	"	"	"			
451									4.5 V						DIR to A3	"	"	"			
452								4.5 V							DIR to A4	"	"	"			
453															DIR to A5	"	"	"			
454						4.5 V									DIR to A6	"	"	"			
455						4.5 V									DIR to A7	"	"	"			
456						4.5 V									DIR to A8	"	"	"			



See footnotes at end of device type 05. Pins 13 thru 24 on next page.

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

Subgroup	Symbol	MIL-STD-883 method	Case L		1	2	3	4	5	6	7	8	9	10	11	12	Test Limits		Unit				
			Test no.	Test no.	CLK AB	SEL AB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	Measured terminal	Min		Max			
10 $T_c = 125^\circ\text{C}$	$t_{pH1}$	Same tests and terminal conditions as subgroup 9, except $T_c = +125^\circ\text{C}$ .																					
	$t_{pH1.1}$																				2	39	ns
	$t_{pH1.2}$																				"	59	"
	$t_{pH2}$																				"	30	"
	$t_{pH3}$																				"	39	"
	$t_{pH4}$																				"	78	"
	$t_{pH5}$																				"	59	"
	$t_{pH6}$																				"	59	"
	$t_{pH7}$																				"	59	"
	$t_{pH8}$																				"	72	"
	$t_{pH9}$																				"	78	"
	$t_{pZ1}$																				"	59	"
	$t_{pZ2}$																				"	65	"
	$t_{pZ3}$																				"	52	"
	11 $T_c = -55^\circ\text{C}$																				Same tests, terminal conditions, and limits as subgroup 10, except $T_c = -55^\circ\text{C}$ .		

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

Subgroup	Symbol	MIL-STD-883 method	Case L		13	14	15	16	17	18	19	20	21	22	23	24	Test Limits		Unit																				
			Test no.	Test no.	B8	B7	B6	B5	B4	B3	B2	B1	G	SEL BA	CLK BA	V <sub>CC</sub>	Measured terminal	Min		Max																			
10 $T_c = 125^\circ\text{C}$	$t_{pH1}$	Same tests and terminal conditions as subgroup 9, except $T_c = +125^\circ\text{C}$ .																																					
	$t_{pH1.1}$																				2	39	ns																
	$t_{pH2}$																				"	59	"																
	$t_{pH3}$																				"	30	"																
	$t_{pH4}$																				"	39	"																
	$t_{pH5}$																				"	78	"																
	$t_{pH6}$																				"	59	"																
	$t_{pH7}$																				"	59	"																
	$t_{pH8}$																				"	72	"																
	$t_{pH9}$																				"	78	"																
	$t_{pZ1}$																				"	59	"																
	$t_{pZ2}$																				"	65	"																
	$t_{pZ3}$																				"	52	"																
	11 $T_c = -55^\circ\text{C}$																				Same tests, terminal conditions, and limits as subgroup 10, except $T_c = -55^\circ\text{C}$ .																		

- 1/ Tests shall be performed in sequence, attributes data only.
- 2/  $H > 1.5$  V;  $L < 1.5$  V.
- 3/  $A = 3.0$  V minimum;  $B = 0.0$  V or GND.
- 4/ Prior to test, bus registers are loaded high by placing 4.5 V on bus data and applying one clock pulse (  2.5 V/5.5 V); the bus is then placed at GND for the duration of the test.
- 5/ Prior to test, bus registers are loaded low by placing GND on bus data and applying one clock pulse (  2.5 V/5.5 V); the bus is then placed at 4.5 V for the duration of the test.

## 5. PACKAGING

5.1 Packaging requirements. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Service or Defense Agency, or within the military service's system command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## 6. NOTES

(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

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

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of the specification.
- b. PIN and compliance identifier, if applicable (see 1.2).
- c. Requirements for delivery of one copy of the conformance inspection data pertinent to the device inspection lot to be supplied with each shipment by the device manufacturer, if applicable.
- d. Requirements for certificate of compliance, if applicable.
- e. Requirements for notification of change of product or process to contracting activity in addition to notification to the qualifying activity, if applicable.
- f. Requirements for failure analysis (including required test condition of method 5003 of MIL-STD-883), corrective action, and reporting of results, if applicable.
- g. Requirements for product assurance options.
- h. Requirements for special carriers, lead lengths, or lead forming, if applicable. These requirements should not affect the part number. Unless otherwise specified, these requirements will not apply to direct purchase by or direct shipment to the Government.
- i. Requirements for "JAN" marking.
- j. Packaging requirements (see 5.1).

6.3 Superseding information. The requirements of MIL-M-38510 have been superseded to take advantage of the available Qualified Manufacturer Listing (QML) system provided by MIL-PRF-38535. Previous references to MIL-M-38510 in this document have been replaced by appropriate references to MIL-PRF-38535. All technical requirements now consist of this specification and MIL-PRF-38535. The MIL-M-38510 specification sheet number and PIN have been retained to avoid adversely impacting existing government logistics systems and contractor's parts lists.

6.4 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Manufacturers List QML-38535 whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from DSCC-VQ, 3990 E. Broad Street, Columbus, Ohio 43123-1199.

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

GND .....	Ground zero voltage potential.
$V_{IN}$ .....	Voltage level at an input terminal.
$I_{IN}$ .....	Current flowing into an input terminal.
$t_{PHZ}$ .....	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.
$t_{PLZ}$ .....	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.
$t_{PZH}$ .....	Output enable time (of a three state output) to high level. The time between the specified reference points on the input and output voltage waveforms with the three state output changing from a high impedance (off) state to the defined high level.
$t_{PZL}$ .....	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 Logistic support. 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 Substitutability. 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	54LS242
02	54LS243
03	54LS245
04	54LS646
05	54LS648

6.8 Manufacturers' designation. Manufacturers' circuits, which form a part of this specification, are designated with an "X" as shown in table IV herein.

TABLE IV. Manufacturer's designator.

Device types	Circuits				
	A Texas Instruments	B Signetics Corp.	C National Semiconductor	D Raytheon Co.	E Motorola Inc.
01	X	X	X	X	X
02	X	X	X	X	X
03	X	X			X
04	X				
05	X				

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

CONCLUDING MATERIAL

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

Preparing activity:  
 DLA - CC  
 (Project 5962-1997)

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

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