MILITARY SPECIFICATION

MICROCIRCUITS, DIGITAL, ECL, MULTIPLE NOR GATES, MONOLITHIC SILICON

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

1. SCOPE

1.1 Scope. This specification covers the detail requirements for monolithic, silicon, ECL, logic gating microcircuits. Two product assurance classes and a choice of case outlines and lead finishes are provided and are reflected in the complete part number.

1.2 Part number. The complete part number shall be in accordance with MIL-M-38510.

1.2.1 Device type. The device type shall be as follows:

Device type	Circuit
01	Quad OR/NOR gate with strobe
02	Triple NOR gate, single OR/NOR gate
03	Triple 2-3-2 OR/NOR gate
04	Triple 3-4-3 NOR gate
05	Triple exclusive OR/NOR gate
06	Dual 4-5 OR/NOR gate

1.2.2 Device class. The device class shall be the product assurance level as defined in MIL-M-38510.

1.2.3 Case outline. The case outline shall be designated as follows:

Outline letter	Case outline (see MIL-M-38510, appendix C)
E	D-2 (16 pin, 1/4" x 7/8"), dual-in-line package
F	F-5 (16 pin, 1/4" x 3/8"), flat-package
2	C-2 (20-terminal, .350" x .350"), square chip carrier package

1.3 Absolute maximum ratings.

Supply voltage range	0 V dc to -7.0 V dc
Input voltage range	0 V dc to -5.2 V dc
Storage temperature range	-65°C to +150°C
Maximum power dissipation (P_D) per gate	55 mW 1/
Lead temperature (soldering 10 seconds)	+260°C
Junction temperature (T_J)	165°C 2/
Maximum output current	-50 mA
Thermal resistance junction to case (θ_{JC}):	
Cases E and F	See MIL-M-38510, appendix C
Case 2	60°C/W 3/

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 per method 5004 of MIL-STD-883.
3/ When a thermal resistance value is included in MIL-M-38510 appendix C, it shall supersede the value stated herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent date which may be of use in improving this document should be addressed to: Rome Air Development Center (RBRD), Griffiss AFB, NY 13441, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

1.4 Recommended operating conditions.

Supply voltage (V_{EE})	-5.46 V minimum to -4.94 V maximum
Minimum high level input voltage (@ 500 linear feet per minute (ft/min))	-1.105 V at T_C = 25°C -1.000 V at T_C = 125°C -1.255 V at T_C = -55°C
Maximum low level input voltage (@ 500 linear ft/min)	-1.475 V at T_C = 25°C -1.400 V at T_C = 125°C -1.510 V at T_C = -55°C
Normalized fanout (each output)	10 4/
Operating temperature range (@ 500 linear ft/min)	-55°C to +125°C

2. APPLICABLE DOCUMENTS

2.1 Government specifications and standards. Unless otherwise specified, the following specifications and standards, of the issue listed in that issue of the Department of Defense Index of Specifications and Standards specified in the solicitation, form a part of this specification to the extent specified herein.

SPECIFICATION

MILITARY

MIL-M-38510 - Microcircuits, General Specification for.

STANDARDS

MILITARY

MIL-STD-883 - Test Methods and Procedures for Microelectronics.

(Copies of specifications, standards, handbooks, drawings, and publications required by the manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.2 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Detail specification. The individual item requirements shall be in accordance with MIL-M-38510, and as specified herein.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-M-38510 and herein.

3.2.1 Logic diagram and terminal connections. The logic diagram and terminal connections shall be as specified on figure 1.

3.2.2 Truth tables and logic equations. The truth tables and logic equations shall be specified on figure 2.

3.2.3 Schematic circuits. Schematic circuits shall be submitted to the preparing activity prior to inclusion of a manufacturer's device in the specification and shall be submitted to the qualifying activity and agent activity (DESC-ECS) as a prerequisite for qualification. All qualified manufacturers schematics shall be maintained by the agent activity and will be available upon request.

3.2.4 Case outlines. Case outlines shall be in accordance with 1.2.3.

3.3 Lead material and finish. Lead material and finish shall be in accordance with MIL-M-38510 (see 6.4).

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

3.4 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.

TABLE I. Electrical performance characteristics.

(Limits are valid provided circuit is in a test socket and transverse air flow of 500 linear ft/min is maintained.)

Test	Symbol	Conditions $-55°C \le T_C \le 125°C$				Device type	Limits		Units
			T_C	V_{IH1}	V_{IL1}		Min	Max	
High-level output voltage	V_{OH}	V_{EE} = -5.2 V V_{CC} = 0 V Load = 100Ω to -2 V	25°C	-0.720 V	-1.850 V	All	-0.930	-0.720	Volts
			125°C	-0.580 V	-1.820 V		-0.825	-0.580	
			-55°C	-0.830 V	-1.920 V		-1.080	-0.830	
			T_C	V_{IH1}	V_{IL1}				
Low-level output voltage	V_{OL}	V_{EE} = -5.2 V V_{CC} = 0 V Load = 100Ω to -2 V	25°C	-0.720 V	-1.850 V	All	-1.350	-1.620	Volts
			125°C	-0.580 V	-1.820 V		-1.820	-1.545	
			-55°C	-0.830 V	-1.920 V		-1.920	-1.655	
			T_C	V_{ITH}	V_{ITL}				
High-level threshold output voltage	V_{OTH}	V_{EE} = -5.2 V V_{CC} = 0 V Load = 100Ω to -2 V	25°C	-1.105 V	-1.475 V	All	-0.950	---	Volts
			125°C	-1.000 V	-1.400 V		-0.845	---	
			-55°C	-1.255 V	-1.510 V		-1.100	---	
			T_C	V_{ITH}	V_{ITL}				
Low-level threshold output voltage	V_{OTL}	V_{EE} = -5.2 V V_{CC} = 0 V Load = 100Ω to -2 V	25°C	-1.105 V	-1.475 V	All	---	-1.600	Volts
			125°C	-1.000 V	-1.400 V		---	-1.525	
			-55°C	-1.255 V	-1.510 V		---	-1.635	
Power supply drain current	I_{EE}	V_{EE} = -5.2 V V_{CC} = 0 V				01,02, 03,04, 05, 06	-29 -24 -31 -16	--- --- --- ---	mA
High-level input current	I_{IH1}	V_{EE} = -5.2 V, V_{CC} = 0 V V_{IH1} = -0.720 V @ 25°C, -0.580 V @ 125°C -0.830 V @ -55°C				All		450 1/	µA
High-level input current	I_{IH2}	V_{EE} = -5.2 V, V_{CC} = 0 V V_{IH1} = -0.720 V @ 25°C, -0.530 V @ 125°C -0.830 V @ -55°C				01		935 2/	µA
						05		375	µA
Low-level input current	I_{IL}	V_{EE} = -5.2 V, V_{CC} = 0 V V_{IL1} = -1.850 V @ 25°C, -1.820 V @ 125°C -1.920 V @ -55°C				All	0.3		µA

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.
(Limits are valid provided circuit is in a test socket and transverse air flow of 500 linear ft/min is maintained.)

Test	Symbol	Conditions $-55°C \leq T_C \leq 125°C$	Device type	Limits Min	Limits Max	Units
Transition time, Low-to-high-level	t_{TLH}	V_{EEL} = -3.2 V, V_{CC} = +2.0 V $\overline{RL}$ = 50Ω, CL ≤ 5 pF (output under test) $\overline{2}$ Load = 100Ω to GND (outputs not under test) Device type 05 only: V_{IH2} = +1.11 V V_{IL2} = +0.31 V	01,02 03,04, 06 05	1.0 1.0	4.0 4.3	ns ns
Transition time, high-to-low-level	t_{THL}	V_{EEL} = -3.2 V, V_{CC} = +2.0 V $\overline{RL}$ = 50Ω, CL ≤ 5 pF (output under test) $\overline{2}$ Load = 100Ω to GND (outputs not under test) Device type 05 only: V_{IH2} = +1.11 V V_{IL2} = +0.31 V	01,02 03,04, 06 05	1.0 1.0	4.0 4.3	ns ns
Propagation delay time, low-to-high-level	t_{PLH}	V_{EEL} = -3.2 V, V_{CC} = +2.0 V $\overline{RL}$ = 50Ω, CL ≤ 5 pF (output under test) $\overline{2}$ Load = 100Ω to GND (outputs not under test) Device type 05 only: V_{IH2} = +1.11 V V_{IL2} = +0.31 V	01,02 03,04, 06 05	1.0 1.0	3.7 4.5	ns ns
Propagation delay time, high-to-low-level	t_{PHL}	V_{EEL} = -3.2 V, V_{CC} = +2.0 V $\overline{RL}$ = 50Ω, CL ≤ 5 pF (output under test) $\overline{2}$ Load = 100Ω to GND (outputs not under test) Device type 05 only: V_{IH2} = +1.11 V V_{IL2} = +0.31 V	01,02 03,04, 06 05	1.0 1.0	3.7 4.5	ns ns

1/ Not applicable to "B" inputs of device types 01 and 05.

2/ Applicable to "B" inputs only.

3.5 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.

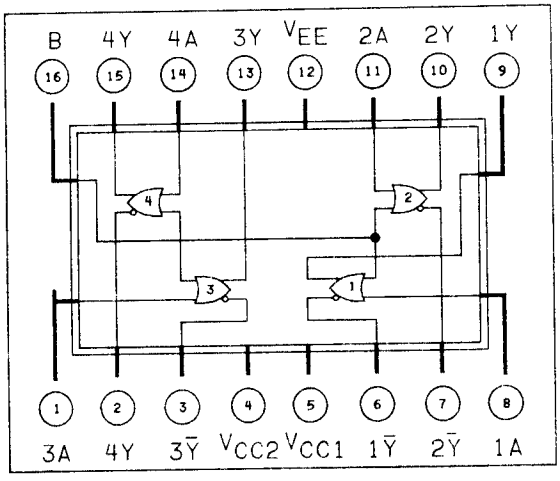
TABLE II. Electrical test requirements.

MIL-STD-883 test requirements	Subgroup (see table III) Class A devices	Class B devices
Interim electrical parameters (pre burn-in) (method 5004)	1	1
Final electrical test parameters (method 5004)	1*,2,3,9	1*,2,3,9
Group A test requirements (method 5005)	1,2,3,9, 10,11	1,2,3,9
Groups C and D end-point electrical parameters (method 5005)	1,2,3	1,2,3
Additional electrical subgroups for group C periodic inspections	None	10,11

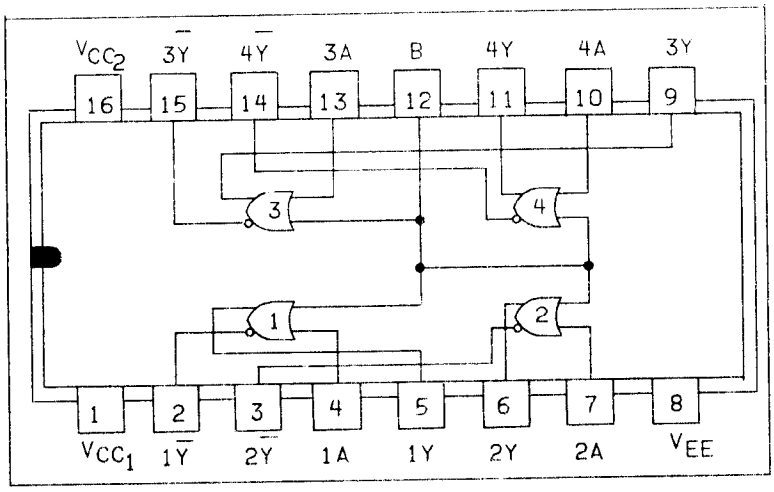
* PDA applies to subgroup 1 (see 4.2c).

Device type 01

Case F

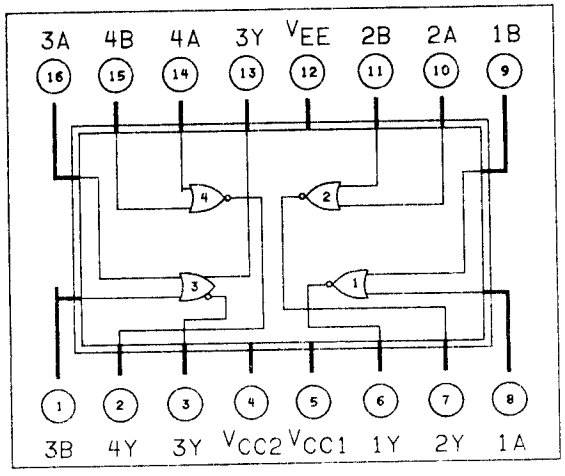


Case E



Device type 02

Case F



Case E

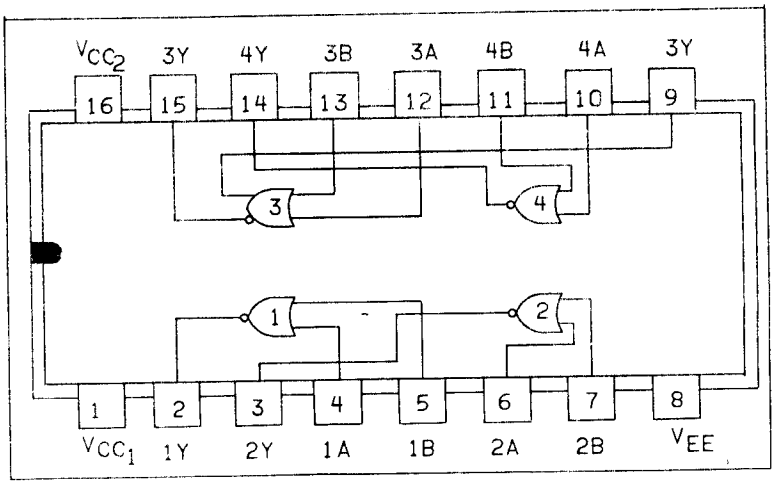
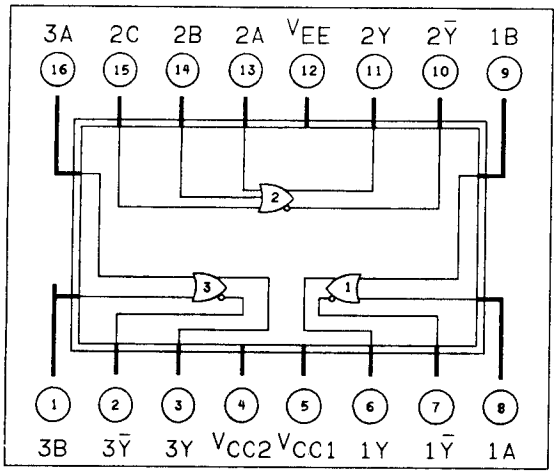


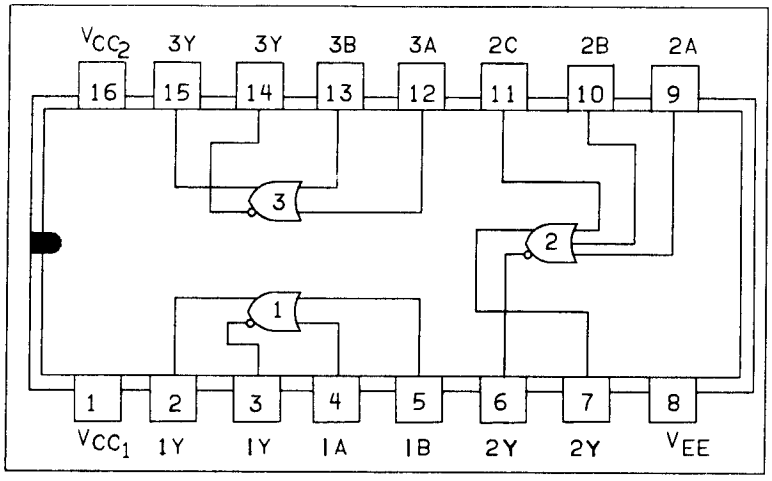
FIGURE 1. Logic diagram and terminal connections (top view).

Device type 03

Case F

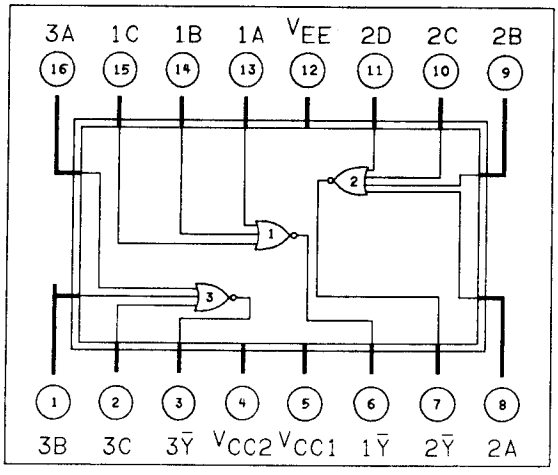


Case E



Device type 04

Case F



Case E

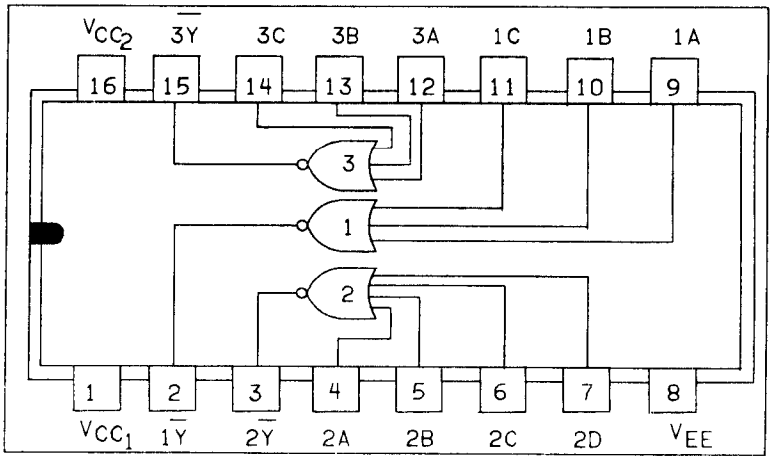
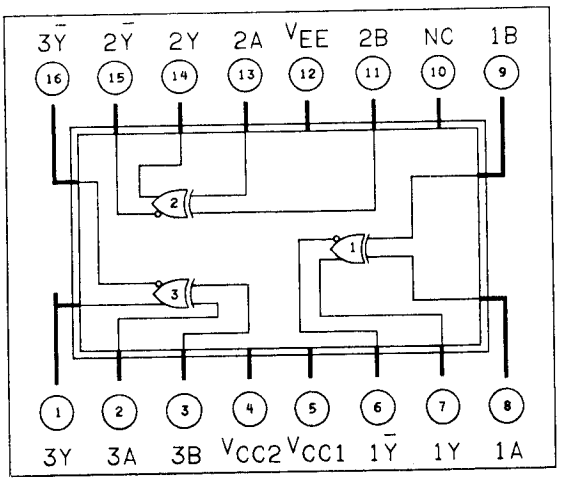


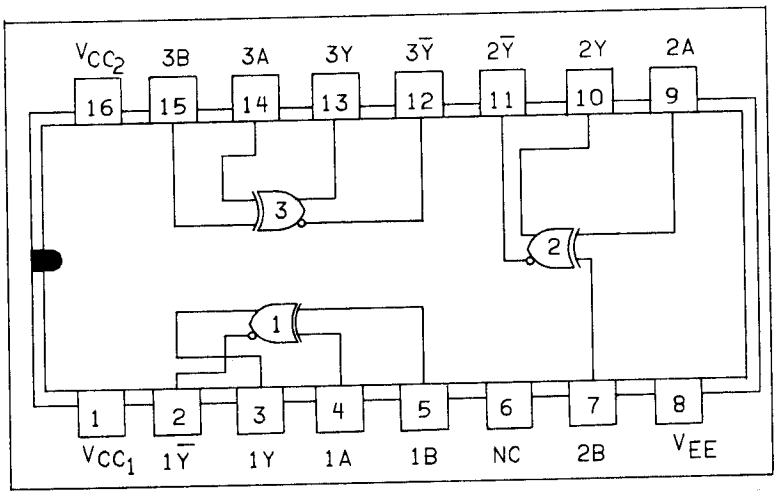
FIGURE 1. Logic diagram and terminal connections (top view) - Continued.

Device type 05

Case F

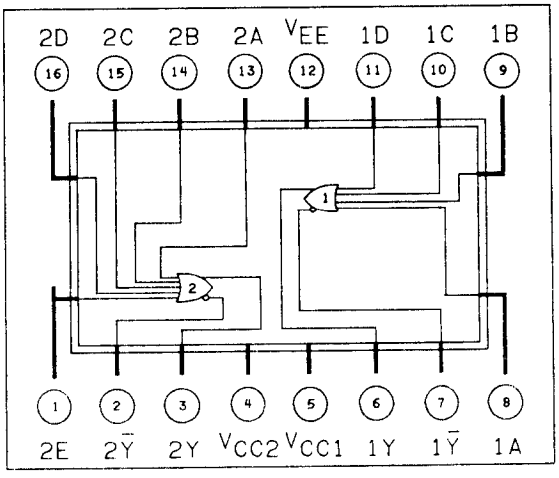


Case E



Device type 06

Case F



Case E

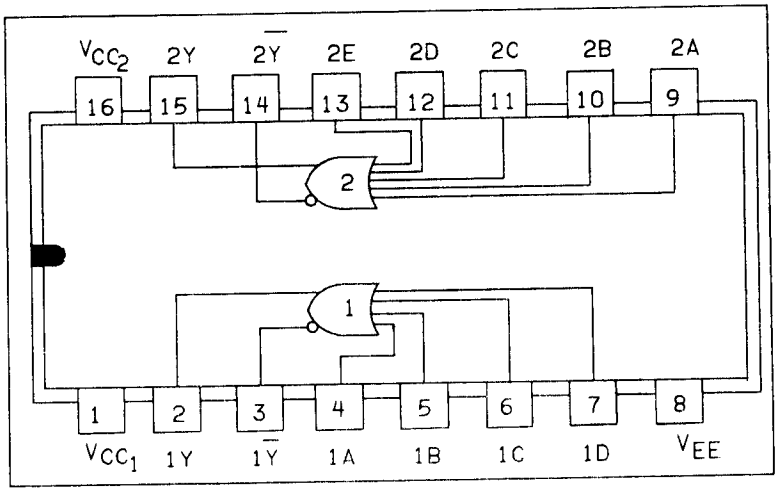
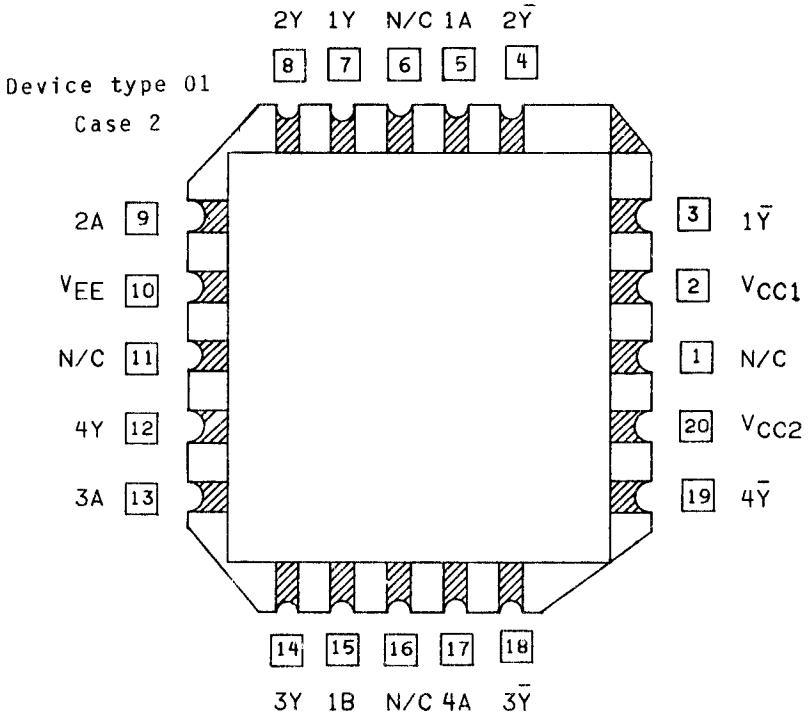


FIGURE 1. Logic diagram and terminal connections (top view) - Continued.



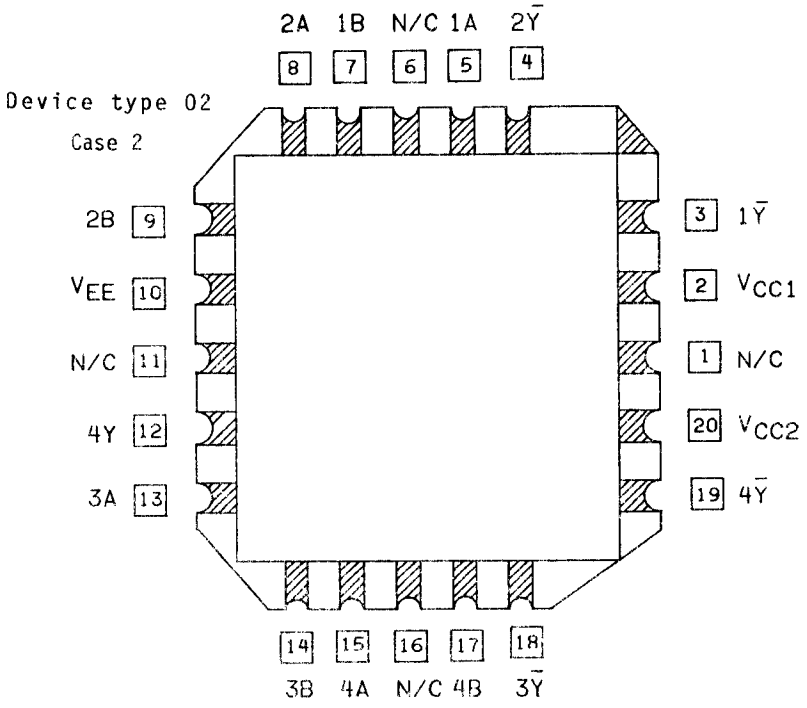
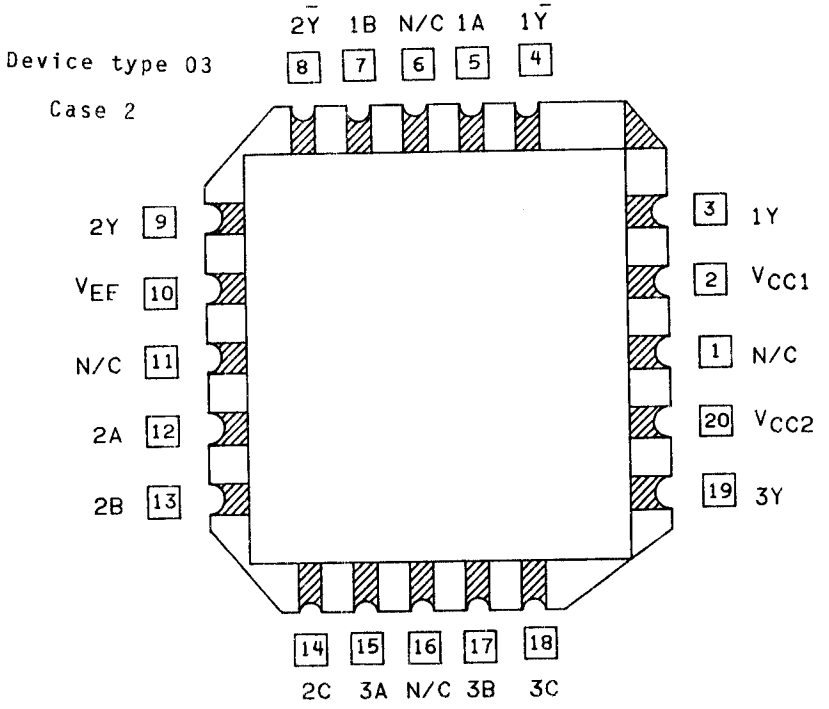


FIGURE 1. Terminal connections (top view) - Continued.



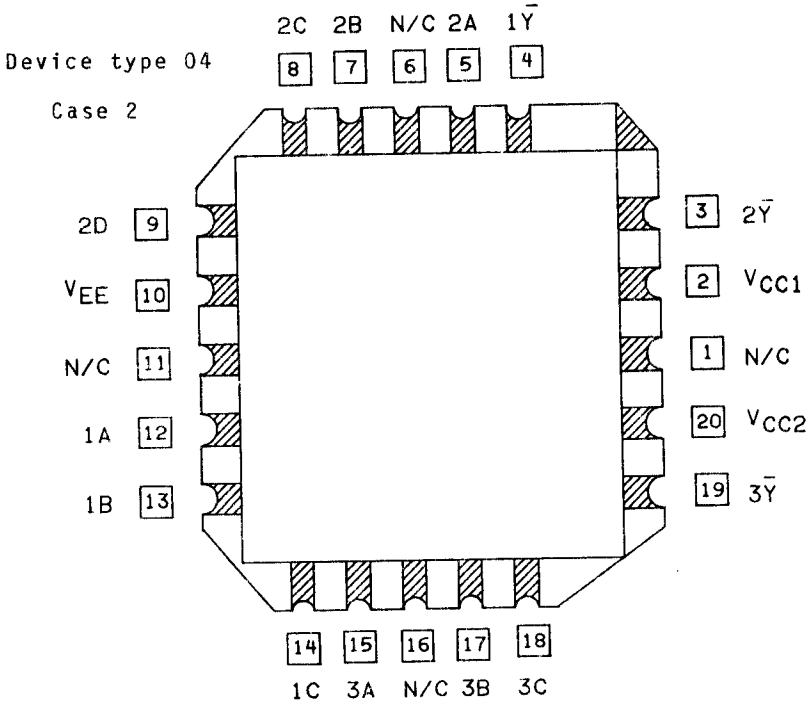
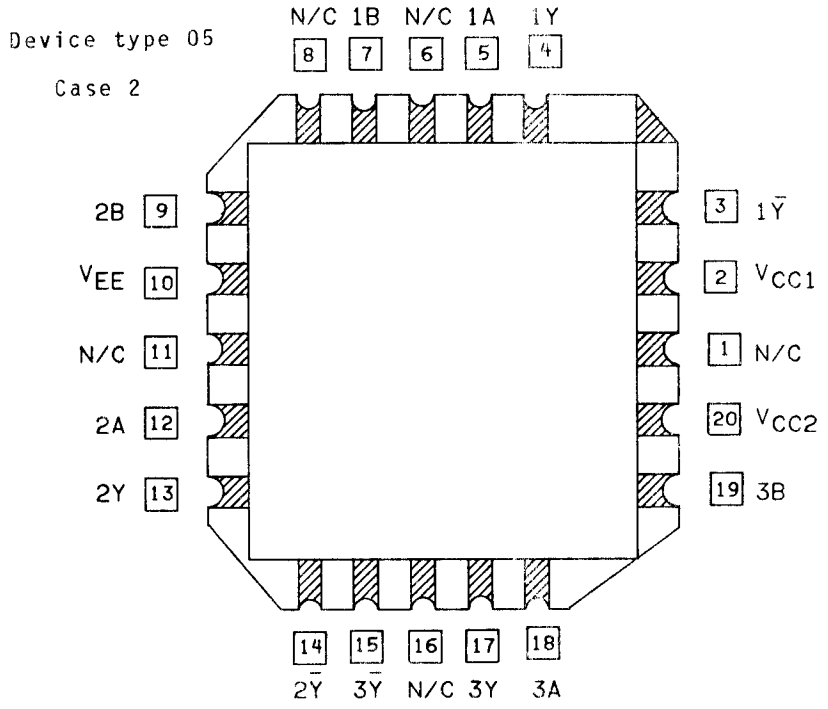


FIGURE 1. Terminal connections (top view) - Continued.



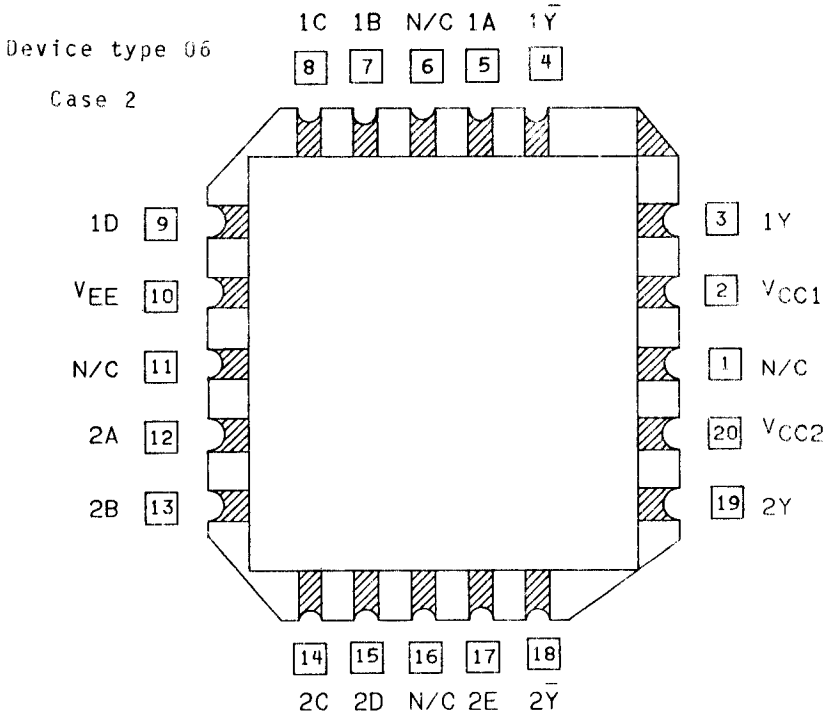


FIGURE 1. Terminal connections (top view) - Continued.

Device type 01
Truth Table
(EACH GATE)

INPUTS		OUTPUTS	
A	B	Y	$\overline{Y}$
L	L	L	H
H	X	H	L
X	H	H	L

H = high level
L = low level
X = irrelevent
positive logic:

$Y = A + B$

$\overline{Y} = \overline{A + B}$

Device type 02
Truth Table
(EACH GATE)

INPUTS		OUTPUTS	
A	B	Y†	$\overline{Y}$
L	L	L	H
H	X	H	L
X	H	H	L

H = high level
L = low level
X = irrelevent
†Y output is applicable for Gate 4 only.
positive logic:

$Y = A + B†$

$\overline{Y} = \overline{A + B}$

Device type 03
Truth Table
(EACH GATE)

INPUTS			OUTPUTS	
A	B	C†	Y	$\overline{Y}$
L	L	L	L	H
H	X	X	H	L
X	H	X	H	L
X	X	H	H	L

H = high level
L = low level
X = irrelevent
†C input and last line are applicable for Gate 2 only.
positive logic:

$Y = A + B + C†$

$\overline{Y} = \overline{A + B + C†}$

Device type 04
Truth Table
(EACH GATE)

INPUTS				OUTPUTS
A	B	C	D†	$\overline{Y}$
L	L	L	L	H
H	X	X	X	L
X	H	X	X	L
X	X	H	X	L
X	X	X	H	L

H = high level
L = low level
X = irrelevent
†D input and last line are applicable for Gate 2 only.
positive logic:

$Y = \overline{A + B + C + D†}$

Device type 05
Truth Table
(EACH GATE)

INPUTS		OUTPUTS	
A	B	Y	$\overline{Y}$
L	L	L	H
H	L	H	L
L	H	H	L
H	H	L	H

H = high level
L = low level
positive logic:

$Y = A\overline{B} + \overline{A}B$

$\overline{Y} = AB + \overline{A}\overline{B}$

Device type 06
Truth Table
(EACH GATE)

INPUTS					OUTPUTS	
A	B	C	D	E†	Y	$\overline{Y}$
L	L	L	L	L	L	H
H	X	X	X	X	H	L
X	H	X	X	X	H	L
X	X	H	X	X	H	L
X	X	X	H	X	H	L
X	X	X	X	H	H	L

H = high level
L = low level
X = irrelevent
†E input and last line are applicable for Gate 2 only.
positive logic:

$Y = A + B + C + D + E†$

$\overline{Y} = \overline{A + B + C + D + E†}$

FIGURE 2. Truth tables and logic equations.

3.6 Marking. The marking shall be in accordance with MIL-M-38510.

3.7 Microcircuit group assignment. The devices covered by this specification shall be in microcircuit group number 29 (see MIL-M-38510, appendix E).

4. QUALITY ASSURANCE PROVISIONS

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-M-38510 and method 5005 and 5007 of MIL-STD-883, as applicable, except as modified herein.

4.2 Screening. Screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to qualification and quality conformance inspection. The following additional criteria shall apply:

a. Burn-in test (method 1015 of MIL-STD-883).

(1) Test condition D or E using the circuit shown on figure 3, or equivalent.

(2) T_C = 125°C minimum.

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. The percent defective allowable (PDA) for class S devices shall be as specified in MIL-M-38510.

4.3 Qualification inspection. Qualification inspection shall be in accordance with MIL-M-38510. Inspections to be performed shall be those specified in method 5005 of MIL-STD-883 and herein for groups A, B, C, and D inspections (see 4.4.1 through 4.4.4).

4.4 Quality conformance inspection. Quality conformance inspection shall be in accordance with MIL-M-38510. Inspections to be performed shall be those specified in method 5005 of MIL-STD-883 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 I of method 5005 of MIL-STD-883 and as follows:

a. Tests shall be as specified in table II herein.

b. Subgroups 4, 5, 6, 7 and 8 of table I of method 5005 of MIL-STD-883 shall be omitted.

4.4.2 Group B inspection. Group B inspection shall be in accordance with table II of method 5005 of MIL-STD-883. Electrical parameters shall be as specified in table II herein.

4.4.3 Group C inspection. Group C inspection shall be in accordance with table III of method 5005 of MIL-STD-883 and as follows:

a. End-point electrical parameters shall be as specified in table II herein.

b. Steady-state life test (method 1005 of MIL-STD-883) conditions, or equivalent:

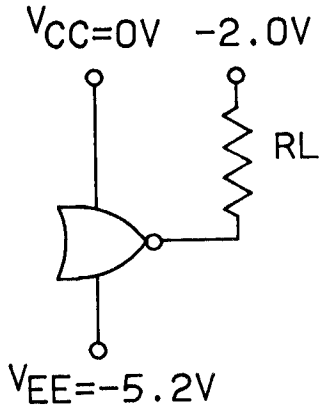
1. Test condition D or E using the circuit shown on figure 3, or equivalent.

2. T_C = 125°C minimum.

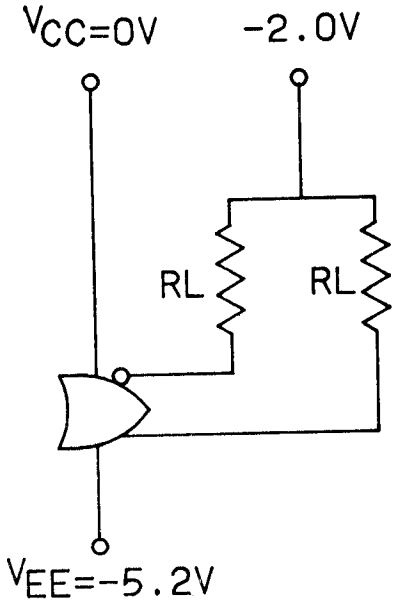
3. Test duration: 1,000 hours, except as permitted by appendix B of MIL-M-38510 and method 1005 of MIL-STD-883.

c. Subgroups 3 and 4 shall be added to the group C inspection requirements for class B devices and shall consist of the tests, conditions, and limits specified for subgroups 10 and 11 of group A.

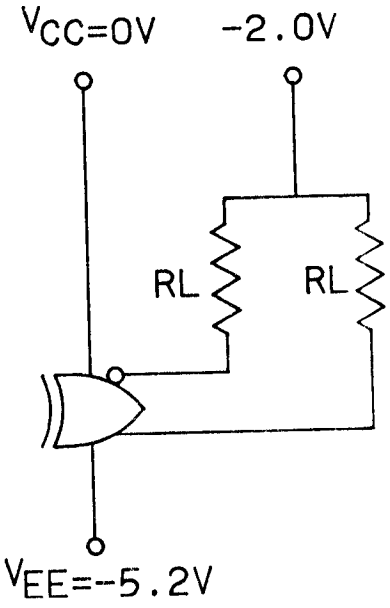
4.4.4 Group D inspection. Group D inspection shall be in accordance with table IV of method 5005 of MIL-STD-883. End-point electrical parameters shall be as specified in table II herein.



CIRCUIT A



CIRCUIT B



CIRCUIT C

NOTES:
1. Inputs are internally returned to V_{EE} through 50K ohm resistors.
2. R_L = 100 ohm (±5%) deposited carbon rated at 70 mW at 125°C (or equivalent).
3. Circuit A shall be used for device type 04 and gates 1, 2 and 3 of device type 02.
   Circuit B shall be used for device types 01, 03 and 06 and gate 4 of device type 02.
   Circuit C shall be used for device type 05.

FIGURE 3. Burn-in and life test circuits.

4.5 Method of inspection. Methods of inspection shall be specified 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.

TABLE IIIA. Test conditions for all devices, group A inspection.

Symbol	V_{IH1} (V)	V_{IL1} (V)	V_{IH2} (V)	V_{IL2} (V)	V_{ITL} (V)	V_{ITH} (V)	E_1 (V)	E_2 (V)	E_3 (V)	LD_1	LD_2	in / out
T_C = 25°C	-0.780	-1.850	+1.11	+0.31	-1.475	-1.105	-5.2	-3.2	+2.0	100Ω to -2 V	100Ω to GND	See Fig 4
T_C = 125°C	-0.630	-1.820	+1.11	+0.31	-1.400	-1.000	-5.2	-3.2	+2.0	100Ω to -2 V	100Ω to GND	See Fig 4
T_C = -55°C	-0.880	-1.920	+1.11	+0.31	-1.510	-1.255	-5.2	-3.2	+2.0	100Ω to -2 V	100Ω to GND	See Fig 4

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-M-38510.

6. NOTES

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

6.2 Ordering data. The acquisition document should specify the following:

a. Complete part number (see 1.2).

b. Requirements for delivery of one copy of the quality conformance inspection data pertinent to the device inspection lot to be supplied with each shipment by the device manufacturer, if applicable.

c. Requirements for certificate of compliance, if applicable.

d. Requirements for notification of change of product or process to the contracting activity in addition to notification to the qualifying activity, if applicable.

e. Requirements for failure analysis (including required test condition of method 5003 of MIL-STD-883), corrective action and reporting of results, if applicable.

f. Requirements for product assurance options.

g. Requirements for special carriers, lead lengths, or lead forming, if applicable. These requirements shall not affect the part number. Unless otherwise specified, these requirements shall not apply to direct purchase by or direct shipment to the Government.

h. Requirements for "JAN" marking.

TABLE III. Group A inspection f type 01.

Symbol	MIL-STD-883 method	Case E / Case F / Case 2	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																Measured terminal	Test limits						Unit
			1 / 5 / 2	2 / 6 / 3	3 / 7 / 4	4 / 8 / 5	5 / 9 / 7	6 / 10 / 8	7 / 11 / 9	8 / 12 / 10	9 / 13 / 12	10 / 14 / 13	11 / 15 / 14	12 / 16 / 15	13 / 1 / 17	14 / 2 / 18	15 / 3 / 19	16 / 4 / 20		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Symbol	V_{CC1}	$1\overline{Y}$	$2\overline{Y}$	1A	1Y	2Y	2A	V_{EE}	4Y	3A	3Y	B	4A	$3\overline{Y}$	$4\overline{Y}$	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																								
V_{OH}	3006	1	GND	$LD1_n$	$LD1_n$		$LD1_n$	$LD1_n$		$E1_n$	$LD1_n$		$LD1_n$	V_{IH1_B}		$LD1_n$	$LD1_n$	GND	1Y	-0.930	-0.780	-0.825	-0.630	-1.080	-0.880	V
		2																	2Y							
		3																	3Y							
		4																	4Y							
		5												V_{IL1_B}					$1\overline{Y}$							
		6																	$2\overline{Y}$							
		7																	$3\overline{Y}$							
		8																	$4\overline{Y}$							
		9				V_{IL1}													$1\overline{Y}$							
		10							V_{IL1}										$2\overline{Y}$							
		11										V_{IL1}							$3\overline{Y}$							
		12													V_{IL1}				$4\overline{Y}$							
		13				V_{IH1}													1Y							
		14							V_{IH1}										2Y							
		15										V_{IH1}							3Y							
		16													V_{IH1}				4Y							
V_{OL}	3007	17												V_{IH1_B}					$1\overline{Y}$	-1.850	-1.620	-1.820	-1.545	-1.920	-1.655	
		18																	$2\overline{Y}$							
		19																	$3\overline{Y}$							
		20																	$4\overline{Y}$							
		21												V_{IL1_B}					1Y							
		22																	2Y							
		23																	3Y							
		24																	4Y							
		25				V_{IL1}													1Y							
		26							V_{IL1}										2Y							
		27										V_{IL1}							3Y							
		28													V_{IL1}				4Y							
		29				V_{IH1}													$1\overline{Y}$							
		30							V_{IH1}										$2\overline{Y}$							
		31										V_{IH1}							$3\overline{Y}$							
		32													V_{IH1}				$4\overline{Y}$							
V_{OTH}		33												V_{ITL_B}					$1\overline{Y}$	-0.950		-0.845		-1.100		
		34																	$2\overline{Y}$							
		35																	$3\overline{Y}$							
		36																	$4\overline{Y}$							
		37												V_{ITH_B}					1Y							
		38																	2Y							
		39																	3Y							
		40																	4Y							
		41				V_{ITL}													$1\overline{Y}$							
		42							V_{ITL}										$2\overline{Y}$							
		43										V_{ITL}							$3\overline{Y}$							
		44													V_{ITL}				$4\overline{Y}$							
		45				V_{ITH}													1Y							
		46							V_{ITH}										2Y							
		47										V_{ITH}							3Y							
		48													V_{ITH}				4Y							
V_{OTL}		49												V_{ITL_B}					1Y		-1.600		-1.525		-1.635	
		50																	2Y							
		51																	3Y							
		52																	4Y							
		53												V_{ITH_B}					1Y							
		54																	2Y							
		55																	3Y							
		56																	4Y							
		57				V_{ITL}													1Y							
		58							V_{ITL}										2Y							
		59										V_{ITL}							3Y							
		60													V_{ITL}				4Y							
		61				V_{ITH}													1Y							
		62							V_{ITH}										2Y							
		63										V_{ITH}							3Y							
		64													V_{ITH}				4Y							

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TABLE III. Group A inspection for device type 01 - Continued.

Symbol	MIL-STD-883 method	Case E / Case F / Case 2	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																	Measured terminal	Test limits						Unit
			1 / 5 / 2	2 / 6 / 3	3 / 7 / 4	4 / 8 / 5	5 / 9 / 7	6 / 10 / 8	7 / 11 / 9	8 / 12 / 10	9 / 13 / 12	10 / 14 / 13	11 / 15 / 14	12 / 15 / 15	13 / 1 / 17	14 / 2 / 18	15 / 3 / 19	16 / 4 / 20			Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Symbol	V_{CC1}	$1\overline{Y}$	$2\overline{Y}$	1A	1Y	2Y	2A	V_{EE}	4Y	3A	3Y	B	4A	$3\overline{Y}$	$4\overline{Y}$	V_{CC2}			Min	Max	Min	Max	Min	Max	
		Test No.																									
I_{EE}	3005	65	GND							E_1									GND	V_{EE}		-26		-29		-29	mA
I_{IH1}	3010	66	"			V_{IH1}			V_{IH1}	"		V_{IH1}			V_{IH1}			"	1A		265		265		450	µA
	"	67	"							"								"	2A		"		"		"	
	"	68	"							"								"	3A		"		"		"	
	"	69	"							"								"	4A		"		"		"	
I_{IH2}	3010	70	"							"				V_{IH1}				"	B		550		550		935	"
I_{IIL}	3009	71	"			V_{IL1}			V_{IL1}	"		V_{IL1}			V_{IL1}			"	1A	0.5		0.3		0.5		"
	"	72	"							"								"	2A	"		"		"		"
	"	73	"							"								"	3A	"		"		"		"
	"	74	"							"								"	4A	"		"		"		"
	"	75	"							"				V_{IL1}				"	B	"		"		"		"
t_{TLH}	3004	76	E_3	LD_2	LD_2	IN	OUT	LD_2		E_2	LD_2					LD_2	LD_2	E_3	1Y	1.1	3.3	1.0	4.0	1.0	4.0	ns
	"	77	"	OUT	"	IN	LD_2	"		"	"					"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	78	"	LD_2	"		"	OUT		"	"					"	"	"	2Y	"	"	"	"	"	"	"
	"	79	"	"	OUT		"	LD_2		"	"					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	80	"	"	LD_2		"	"		"	"	IN	OUT			"	"	"	3Y	"	"	"	"	"	"	"
	"	81	"	"	"		"	"		"	"	IN	LD_2			OUT	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	82	"	"	"		"	"		"	"		"		IN	LD_2	"	"	4Y	"	"	"	"	"	"	"
	"	83	"	"	"		"	"		"	LD_2				IN	"	OUT	"	$4\overline{Y}$	"	"	"	"	"	"	"
t_{THL}	"	84	"	"	"	IN	OUT	"		"	"					"	LD_2	"	1Y	1.1	3.3	1.0	4.0	1.0	4.0	ns
	"	85	"	OUT	"	IN	LD_2	"		"	"					"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	86	"	LD_2	"		"	OUT		"	"					"	"	"	2Y	"	"	"	"	"	"	"
	"	87	"	"	OUT		"	LD_2		"	"					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	88	"	"	LD_2		"	"		"	"	IN	OUT			"	"	"	3Y	"	"	"	"	"	"	"
	"	89	"	"	"		"	"		"	"	IN	LD_2			OUT	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	90	"	"	"		"	"		"	OUT		"		IN	LD_2	"	"	4Y	"	"	"	"	"	"	"
	"	91	"	"	"		"	"		"	LD_2				IN	"	OUT	"	$4\overline{Y}$	"	"	"	"	"	"	"
t_{PLH}	3003	92	"	"	"	IN	OUT	"		"	"					"	LD_2	"	1Y	1.0	2.9	1.0	3.7	1.0	3.7	ns
	"	93	"	OUT	"	IN	LD_2	"		"	"					"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	94	"	LD_2	"		"	OUT		"	"					"	"	"	2Y	"	"	"	"	"	"	"
	"	95	"	"	OUT		"	LD_2		"	"					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	96	"	"	LD_2		"	"		"	"	IN	OUT			"	"	"	3Y	"	"	"	"	"	"	"
	"	97	"	"	"		"	"		"	"	IN	LD_2			OUT	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	98	"	"	"		"	"		"	OUT		"		IN	LD_2	"	"	4Y	"	"	"	"	"	"	"
	"	99	"	"	"		"	"		"	LD_2				IN	"	OUT	"	$4\overline{Y}$	"	"	"	"	"	"	"
t_{PHL}	3003	100	"	"	"	IN	OUT	"		"	"					"	LD_2	"	1Y	1.0	2.9	1.0	3.7	1.0	3.7	ns
	"	101	"	OUT	"	IN	LD_2	"		"	"					"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	102	"	LD_2	"		"	OUT		"	"					"	"	"	2Y	"	"	"	"	"	"	"
	"	103	"	"	OUT		"	LD_2		"	"					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	104	"	"	LD_2		"	"		"	"	IN	OUT			"	"	"	3Y	"	"	"	"	"	"	"
	"	105	"	"	"		"	"		"	"	IN	LD_2			OUT	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	106	"	"	"		"	"		"	OUT		"		IN	LD_2	"	"	4Y	"	"	"	"	"	"	"
	"	107	"	"	"		"	"		"	LD_2				IN	"	OUT	"	$4\overline{Y}$	"	"	"	"	"	"	"

TABLE III. Group A inspection for device type 02.

Symbol	MIL-STD-883 method	Case E / Case F / Case 2	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																	Measured terminal	Test limits						Unit
			1 / 5 / 2	2 / 6 / 3	3 / 7 / 4	4 / 8 / 5	5 / 9 / 7	6 / 10 / 8	7 / 11 / 9	8 / 12 / 10	9 / 13 / 12	10 / 14 / 13	11 / 15 / 14	12 / 16 / 15	13 / 1 / 17	14 / 2 / 18	15 / 3 / 19	16 / 4 / 20		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Symbol	V_{CC1}	$1\bar{Y}$	$2\bar{Y}$	1A	1B	2A	2B	V_{EE}	4Y	3A	3B	4A	4B	$3\bar{Y}$	$4\bar{Y}$	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																									
V_{OH}	3006	1	GND	$LD1_n$	$LD1_n$	V_{IL1}				$E1_n$	$LD1_n$					$LD1_n$	$LD1_n$	GND	$1\bar{Y}$	-0.930	-0.780	-0.825	-0.630	-1.080	-0.880	V
	"	2	"	"	"	"		V_{IL1}		"	"	V_{IL1}				"	"	"	$2\bar{Y}$	"	"	"	"	"	"	"
	"	3	"	"	"	"				"	"	"		V_{IL1}		"	"	"	$3\bar{Y}$	"	"	"	"	"	"	"
	"	4	"	"	"	"				"	"	"		V_{IH1}		"	"	"	$4\bar{Y}$	"	"	"	"	"	"	"
	"	5	"	"	"	"				"	"	"				"	"	"	4Y	"	"	"	"	"	"	"
	"	6	"	"	"	"	V_{IL1}			"	"	"				"	"	"	$1\bar{Y}$	"	"	"	"	"	"	"
	"	7	"	"	"	"			V_{IL1}	"	"	"	V_{IL1}			"	"	"	$2\bar{Y}$	"	"	"	"	"	"	"
	"	8	"	"	"	"				"	"	"			V_{IL1}	"	"	"	$3\bar{Y}$	"	"	"	"	"	"	"
	"	9	"	"	"	"				"	"	"			V_{IH1}	"	"	"	$4\bar{Y}$	"	"	"	"	"	"	"
	"	10	"	"	"	"				"	"	"				"	"	"	4Y	"	"	"	"	"	"	"
V_{OL}	3007	11	"	"	"	V_{IH1}				"	"			V_{IL1}		"	"	"	4Y	-1.850	-1.620	-1.820	-1.545	-1.920	-1.655	"
	"	12	"	"	"	"		V_{IH1}		"	"	V_{IH1}				"	"	"	$1\bar{Y}$	"	"	"	"	"	"	"
	"	13	"	"	"	"				"	"	"		V_{IH1}		"	"	"	$2\bar{Y}$	"	"	"	"	"	"	"
	"	14	"	"	"	"				"	"	"			V_{IL1}	"	"	"	$3\bar{Y}$	"	"	"	"	"	"	"
	"	15	"	"	"	"				"	"	"				"	"	"	$4\bar{Y}$	"	"	"	"	"	"	"
	"	16	"	"	"	"				"	"	"				"	"	"	4Y	"	"	"	"	"	"	"
	"	17	"	"	"	"	V_{IH1}			"	"	"				"	"	"	$1\bar{Y}$	"	"	"	"	"	"	"
	"	18	"	"	"	"			V_{IH1}	"	"	"	V_{IH1}			"	"	"	$2\bar{Y}$	"	"	"	"	"	"	"
	"	19	"	"	"	"				"	"	"			V_{IH1}	"	"	"	$3\bar{Y}$	"	"	"	"	"	"	"
	"	20	"	"	"	"				"	"	"				"	"	"	$4\bar{Y}$	"	"	"	"	"	"	"
V_{OTH}		21	"	"	"	V_{ITL}				"	"					"	"	"	$1\bar{Y}$	-0.950		-0.845		-1.100		V
		22	"	"	"	"		V_{ITL}		"	"	V_{ITL}				"	"	"	$2\bar{Y}$	"		"		"		"
		23	"	"	"	"				"	"	"		V_{ITL}		"	"	"	$3\bar{Y}$	"		"		"		"
		24	"	"	"	"				"	"	"		V_{ITH}		"	"	"	$4\bar{Y}$	"		"		"		"
		25	"	"	"	"				"	"	"				"	"	"	4Y	"		"		"		"
		26	"	"	"	"	V_{ITL}			"	"	"				"	"	"	$1\bar{Y}$	"		"		"		"
		27	"	"	"	"			V_{ITL}	"	"	"	V_{ITL}			"	"	"	$2\bar{Y}$	"		"		"		"
		28	"	"	"	"				"	"	"			V_{ITL}	"	"	"	$3\bar{Y}$	"		"		"		"
		29	"	"	"	"				"	"	"			V_{ITH}	"	"	"	$4\bar{Y}$	"		"		"		"
		30	"	"	"	"				"	"	"				"	"	"	4Y	"		"		"		"
V_{OTL}		31	"	"	"	V_{ITH}				"	"					"	"	"	4Y		-1.600		-1.525		-1.635	"
		32	"	"	"	"		V_{ITH}		"	"	V_{ITH}				"	"	"	$1\bar{Y}$		"		"		"	"
		33	"	"	"	"				"	"	"		V_{ITL}		"	"	"	$2\bar{Y}$		"		"		"	"
		34	"	"	"	"				"	"	"		V_{ITH}		"	"	"	$3\bar{Y}$		"		"		"	"
		35	"	"	"	"				"	"	"				"	"	"	$4\bar{Y}$		"		"		"	"
		36	"	"	"	"				"	"	"				"	"	"	4Y		"		"		"	"
		37	"	"	"	"	V_{ITH}			"	"	"				"	"	"	$1\bar{Y}$		"		"		"	"
		38	"	"	"	"			V_{ITH}	"	"	"	V_{ITH}			"	"	"	$2\bar{Y}$		"		"		"	"
		39	"	"	"	"				"	"	"			V_{ITH}	"	"	"	$3\bar{Y}$		"		"		"	"
		40	"	"	"	"				"	"	"				"	"	"	$4\bar{Y}$		"		"		"	"
I_{EE}		41	"							"								"	V_{EE}		-26		-29		-29	mA
I_{IH1}		42	"			V_{IH1}	V_{IH1}			"								"	1A		265		265		450	µA
		43	"			"	"	V_{IH1}		"								"	1B		"		"		"	"
		44	"			"	"	"	V_{IH1}	"								"	2A		"		"		"	"
		45	"			"	"	"	"	"								"	2B		"		"		"	"
		46	"			"	"	"	"	"		V_{IH1}						"	3A		"		"		"	"
		47	"			"	"	"	"	"		"	V_{IH1}					"	3B		"		"		"	"
		48	"			"	"	"	"	"		"	"	V_{IH1}				"	4A		"		"		"	"
		49	"			"	"	"	"	"		"	"	"	V_{IH1}			"	4B		"		"		"	"
I_{IL}		50	"			V_{IL1}				"								"	1A	0.5		0.3		0.5		"
		51	"			"	V_{IL1}			"								"	1B	"		"		"		"
		52	"			"	"	V_{IL1}		"								"	2A	"		"		"		"
		53	"			"	"	"	V_{IL1}	"								"	2B	"		"		"		"

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

Symbol	MIL-STD-883 method	Case E / Case F / Case 2	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																Measured terminal	Test limits						Unit
			1 / 5 / 2	2 / 6 / 3	3 / 7 / 4	4 / 8 / 5	5 / 9 / 7	6 / 10 / 8	7 / 11 / 9	8 / 12 / 10	9 / 13 / 12	10 / 14 / 13	11 / 15 / 14	12 / 16 / 15	13 / 1 / 17	14 / 2 / 18	15 / 3 / 19	16 / 4 / 20		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Symbol	V_{CC1}	$1\overline{Y}$	$2\overline{Y}$	1A	1B	2A	2B	V_{EE}	4Y	3A	3B	4A	4B	$3\overline{Y}$	$4\overline{Y}$	V_{CC2}		Min	Max	Min	Max	Min	Max	
I_{IL}		Test No. 54	GND							E_1		V_{IL1}						GND	3A	0.5		0.3		0.5		µA
		55	"							"			V_{IL1}					"	3B	"		"		"		"
		56	"							"				V_{IL1}				"	4A	"		"		"		"
		57	"							"					V_{IL1}			"	4B	"		"		"		"
																				Subgroup 9 T_C = 25°C		Subgroup 10 T_C = 125°C		Subgroup 11 T_C = -55°C		
																				Min	Max	Min	Max	Min	Max	
t_{TLH}	3004	58	E_3	OUT	LD_2		IN		IN	E_2	LD_2					LD_2	LD_2	E_3	$1\overline{Y}$	1.1	3.3	1.0	4.0	1.0	4.0	ns
	"	59	"	LD_2	OUT					"	"					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	60	"	"	LD_2					"	"		IN			OUT	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	61	"	"	"					"	"				IN	LD_2	OUT	"	$4\overline{Y}$	"	"	"	"	"	"	"
	"	62	"	"	"					"	OUT				IN	LD_2	LD_2	"	4Y	"	"	"	"	"	"	"
t_{THL}	3004	63	"	OUT	"		IN		IN	"	LD_2					"	"	"	$1\overline{Y}$	1.1	3.3	1.0	4.0	1.0	4.0	"
	"	64	"	LD_2	OUT					"	"					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	65	"	"	LD_2					"	"		IN			OUT	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	66	"	"	"					"	"				IN	LD_2	OUT	"	$4\overline{Y}$	"	"	"	"	"	"	"
	"	67	"	"	"					"	OUT				IN	LD_2	LD_2	"	4Y	"	"	"	"	"	"	"
t_{PLH}	3003	68	"	OUT	"		IN		IN	"	LD_2					"	"	"	1Y	1.0	2.9	1.0	3.7	1.0	3.7	"
	"	69	"	LD_2	OUT					"	"					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	70	"	"	LD_2					"	"		IN			OUT	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	71	"	"	"					"	"				IN	LD_2	OUT	"	$4\overline{Y}$	"	"	"	"	"	"	"
	"	72	"	"	"					"	OUT				IN	LD_2	LD_2	"	4Y	"	"	"	"	"	"	"
t_{PHL}	3003	73	"	OUT	"		IN		IN	"	LD_2					"	"	"	$1\overline{Y}$	1.0	2.9	1.0	3.7	1.0	3.7	"
	"	74	"	LD_2	OUT					"	"					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	75	"	"	LD_2					"	"		IN			OUT	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	76	"	"	"					"	"				IN	LD_2	OUT	"	$4\overline{Y}$	"	"	"	"	"	"	"
	"	77	"	"	"					"	OUT				IN	LD_2	LD_2	"	4Y	"	"	"	"	"	"	"

TABLE III. Group A inspection for type 03.

Symbol	MIL-STD-883 method	Case outline letter, terminal number. Terminal test conditions are listed in accordance with test method 5005, table IIIA. Terminals not designated are open.																	Measured terminal	Test limits						Unit
		Case E	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Case F	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20								
		Case 2	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20								
		Symbol	V_{CC1}	1Y	$1\overline{Y}$	1A	1B	$2\overline{Y}$	2Y	V_{EE}	2A	2B	2C	3A	3B	$3\overline{Y}$	3Y	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																								
V_{OH}	3006	1	GND	$LD1_n$	$LD1_n$	V_{IH1}	V_{IH1}	$LD1_n$	$LD1_n$	$E1_n$						$LD1_n$	$LD1_n$	GND	1Y	-0.930	-0.780	-0.825	-0.630	-1.080	-0.880	V
	"	2	"	"	"	V_{IL1}	V_{IL}	"	"	"						"	"	"	1Y	"	"	"	"	"	"	"
	"	3	"	"	"			"	"	"						"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	4	"	"	"			"	"	"						"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	5	"	"	"			"	"	"	V_{IL1}					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	6	"	"	"			"	"	"		V_{IL1}				"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	7	"	"	"			"	"	"						"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	8	"	"	"			"	"	"	V_{IH1}					"	"	"	2Y	"	"	"	"	"	"	"
	"	9	"	"	"			"	"	"		V_{IH1}				"	"	"	2Y	"	"	"	"	"	"	"
	"	10	"	"	"			"	"	"			V_{IL1}			"	"	"	2Y	"	"	"	"	"	"	"
	"	11	"	"	"			"	"	"					V_{IL1}	"	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	12	"	"	"			"	"	"			V_{IH1}			"	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	13	"	"	"			"	"	"					V_{IH1}	"	"	"	3Y	"	"	"	"	"	"	"
	"	14	"	"	"			"	"	"						"	"	"	3Y	"	"	"	"	"	"	"
V_{OL}	3007	15	"	"	"	V_{IL1}	V_{IL1}	"	"	"						"	"	"	1Y	-1.850	-1.620	-1.820	-1.545	-1.920	-1.655	"
	"	16	"	"	"	V_{IH1}		"	"	"						"	"	"	1Y	"	"	"	"	"	"	"
	"	17	"	"	"		V_{IH1}	"	"	"						"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	18	"	"	"			"	"	"						"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	19	"	"	"			"	"	"	V_{IH1}					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	20	"	"	"			"	"	"		V_{IH1}				"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	21	"	"	"			"	"	"						"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	22	"	"	"			"	"	"	V_{IL1}					"	"	"	2Y	"	"	"	"	"	"	"
	"	23	"	"	"			"	"	"		V_{IL1}				"	"	"	2Y	"	"	"	"	"	"	"
	"	24	"	"	"			"	"	"						"	"	"	2Y	"	"	"	"	"	"	"
	"	25	"	"	"			"	"	"			V_{IH1}			"	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	26	"	"	"			"	"	"					V_{IH1}	"	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	27	"	"	"			"	"	"						"	"	"	3Y	"	"	"	"	"	"	"
	"	28	"	"	"			"	"	"						"	"	"	3Y	"	"	"	"	"	"	"
V_{OTH}		29	"	"	"	V_{ITH}	V_{ITH}	"	"	"						"	"	"	1Y	-0.950		-0.850		-1.100		"
		30	"	"	"	V_{ITL}		"	"	"						"	"	"	1Y	"		"		"		"
		31	"	"	"		V_{ITL}	"	"	"						"	"	"	$1\overline{Y}$	"		"		"		"
		32	"	"	"			"	"	"						"	"	"	$1\overline{Y}$	"		"		"		"
		33	"	"	"			"	"	"	V_{ITL}					"	"	"	$2\overline{Y}$	"		"		"		"
		34	"	"	"			"	"	"		V_{ITL}				"	"	"	$2\overline{Y}$	"		"		"		"
		35	"	"	"			"	"	"						"	"	"	$2\overline{Y}$	"		"		"		"
		36	"	"	"			"	"	"	V_{ITH}					"	"	"	2Y	"		"		"		"
		37	"	"	"			"	"	"		V_{ITH}				"	"	"	2Y	"		"		"		"
		38	"	"	"			"	"	"						"	"	"	2Y	"		"		"		"
		39	"	"	"			"	"	"			V_{ITL}			"	"	"	$3\overline{Y}$	"		"		"		"
		40	"	"	"			"	"	"					V_{ITL}	"	"	"	$3\overline{Y}$	"		"		"		"
		41	"	"	"			"	"	"			V_{ITH}			"	"	"	3Y	"		"		"		"
		42	"	"	"			"	"	"					V_{ITH}	"	"	"	3Y	"		"		"		"
V_{OTL}		43	"	"	"	V_{ITL}	V_{ITL}	"	"	"						"	"	"	1Y		-1.600		-1.525		-1.635	"
		44	"	"	"	V_{ITH}		"	"	"						"	"	"	1Y		"		"		"	"
		45	"	"	"		V_{ITH}	"	"	"						"	"	"	$1\overline{Y}$		"		"		"	"
		46	"	"	"			"	"	"						"	"	"	$1\overline{Y}$		"		"		"	"
		47	"	"	"			"	"	"	V_{ITH}					"	"	"	$2\overline{Y}$		"		"		"	"
		48	"	"	"			"	"	"		V_{ITH}				"	"	"	$2\overline{Y}$		"		"		"	"
		49	"	"	"			"	"	"						"	"	"	$2\overline{Y}$		"		"		"	"
		50	"	"	"			"	"	"						"	"	"	2Y		"		"		"	"
		51	"	"	"			"	"	"						"	"	"	2Y		"		"		"	"
		52	"	"	"			"	"	"						"	"	"	2Y		"		"		"	"
		53	"	"	"			"	"	"					V_{ITH}	"	"	"	$3\overline{Y}$		"		"		"	"
		54	"	"	"			"	"	"						"	"	"	$3\overline{Y}$		"		"		"	"
		55	"	"	"			"	"	"					V_{ITL}	"	"	"	3Y		"		"		"	"
		56	"	"	"			"	"	"						"	"	"	3Y		"		"		"	"
I_{EE}	3005	57	"							"								GND	V_{EE}		-21		-24		-24	mA

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

Symbol	MIL-STD-883 method	Case E / Case F / Case 2	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																	Measured terminal	Test limits						Unit
			1 / 5 / 2	2 / 6 / 3	3 / 7 / 4	4 / 8 / 5	5 / 9 / 7	6 / 10 / 8	7 / 11 / 9	8 / 12 / 10	9 / 13 / 12	10 / 14 / 13	11 / 15 / 14	12 / 16 / 15	13 / 1 / 17	14 / 2 / 18	15 / 3 / 19	16 / 4 / 20		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Symbol	V_{CC1}	1Y	$1\overline{Y}$	1A	1B	$2\overline{Y}$	2Y	V_{EE}	2A	2B	2C	3A	3B	$3\overline{Y}$	3Y	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																									
I_{IH1}	3010	58	GND							E_1				V_{IH}	V_{IH}			GND	3B		265		265		450	μA
	"	59	"							"								"	3A		"		"		"	"
	"	60	"			V_{IH1}				"								"	1A		"		"		"	"
	"	61	"				V_{IH1}			"								"	1B		"		"		"	"
	"	62	"							"	V_{IH1}							"	2A		"		"		"	"
	"	63	"							"		V_{IH1}						"	2B		"		"		"	"
	"	64	"							"			V_{IH1}					"	2C		"		"		"	"
I_{IL}	3009	65	"							"				V_{IL}	V_{IL}			"	3B	0.5		0.3		0.5		"
	"	66	"							"								"	3A	"		"		"		"
	"	67	"			V_{IL1}				"								"	1A	"		"		"		"
	"	68	"				V_{IL1}			"								"	1B	"		"		"		"
	"	69	"							"	V_{IL1}							"	2A	"		"		"		"
	"	70	"							"		V_{IL1}						"	2B	"		"		"		"
	"	71	"							"			V_{IL1}					"	2C	"		"		"		"

Symbol	MIL-STD-883 method	Case E / Case F / Case 2	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																	Measured terminal	Test limits						Unit
			1 / 5 / 2	2 / 6 / 3	3 / 7 / 4	4 / 8 / 5	5 / 9 / 7	6 / 10 / 8	7 / 11 / 9	8 / 12 / 10	9 / 13 / 12	10 / 14 / 13	11 / 15 / 14	12 / 16 / 15	13 / 1 / 17	14 / 2 / 18	15 / 3 / 19	16 / 4 / 20		Subgroup 9 T_C = 25°C		Subgroup 10 T_C = 125°C		Subgroup 11 T_C = -55°C		
		Symbol	V_{CC1}	1Y	$1\overline{Y}$	1A	1B	$2\overline{Y}$	2Y	V_{EE}	2A	2B	2C	3A	3B	$3\overline{Y}$	3Y	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																									
t_{TLH}	3004	72	E_3	OUT	LD_2	IN		LD_2	LD_2	E_2						LD_2	LD_2	E_3	1Y	1.1	3.3	1.0	4.0	1.0	4.0	ns
	"	73	"	LD_2	OUT	IN		"	OUT	"	IN					"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	74	"	"	LD_2			OUT	LD_2	"	IN					"	OUT	"	2Y	"	"	"	"	"	"	"
	"	75	"	"	"			LD_2	"	"						"	LD_2	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	76	"	"	"			"	"	"				IN		"	"	"	3Y	"	"	"	"	"	"	"
	"	77	"	"	"			"	"	"				IN		OUT	LD_2	"	$3\overline{Y}$	"	"	"	"	"	"	"
t_{THL}	"	78	"	OUT	"	IN		"	"	"						LD_2	"	"	1Y	1.1	3.3	1.0	4.0	1.0	4.0	ns
	"	79	"	LD_2	OUT	IN		"	"	"						"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	80	"	"	LD_2			"	OUT	"	IN					"	"	"	2Y	"	"	"	"	"	"	"
	"	81	"	"	"			OUT	LD_2	"	IN					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	82	"	"	"			LD_2	"	"				IN		"	OUT	"	3Y	"	"	"	"	"	"	"
	"	83	"	"	"									IN		OUT	LD_2	"	$3\overline{Y}$	"	"	"	"	"	"	"
t_{PLH}	3003	84	"	OUT	"	IN		"	"	"						LD_2	"	"	1Y	1.0	2.9	1.0	3.7	1.0	3.7	ns
	"	85	"	LD_2	OUT	IN		"	"	"						"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	86	"	"	LD_2			"	OUT	"	IN					"	"	"	2Y	"	"	"	"	"	"	"
	"	87	"	"	"			OUT	LD_2	"	IN					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	88	"	"	"			LD_2	"	"				IN		"	OUT	"	3Y	"	"	"	"	"	"	"
	"	89	"	"	"									IN		OUT	LD_2	"	$3\overline{Y}$	"	"	"	"	"	"	"
t_{PHL}	"	90	"	OUT	"	IN		"	"	"						LD_2	"	"	1Y	1.0	2.9	1.0	3.7	1.0	3.7	ns
	"	91	"	LD_2	OUT	IN		"	"	"						"	"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	92	"	"	LD_2			"	OUT	"	IN					"	"	"	2Y	"	"	"	"	"	"	"
	"	93	"	"	"			OUT	LD_2	"	IN					"	"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	94	"	"	"			LD_2	"	"				IN		"	OUT	"	3Y	"	"	"	"	"	"	"
	"	95	"	"	"									IN		OUT	LD_2	"	$3\overline{Y}$	"	"	"	"	"	"	"

TABLE III. Group A inspection for device type 04.

Symbol	MIL-STD-883 method	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																	Measured terminal	Test limits						Unit
		Case E	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Case F	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4								
		Case 2	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20								
		Symbol	V_{CC1}	$1\overline{Y}$	$2\overline{Y}$	2A	2B	2C	2D	V_{EE}	1A	1B	1C	3A	3B	3C	3Y	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																								
V_{OH}	3006	1	GND	$LD1_n$	$LD1_n$					E_1				V_{IL1}	V_{IL1}		$LD1_n$	GND	$3\overline{Y}$	-1.930	-0.780	-0.825	-0.630	-1.080	-0.880	V
	"	2	"	"	"					"							"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	3	"	"	"					"						V_{IL1}	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	4	"	"	"					"	V_{IL1}						"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	5	"	"	"					"		V_{IL1}					"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	6	"	"	"					"			V_{IL1}				"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	7	"	"	"	V_{IL1}				"							"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	8	"	"	"		V_{IL1}			"							"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	9	"	"	"			V_{IL1}		"							"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	10	"	"	"				V_{IL1}	"							"	"	$2\overline{Y}$	"	"	"	"	"	"	"
V_{OL}	3007	11	"	"	"					"				V_{IH1}	V_{IH1}		"	"	$3\overline{Y}$	-1.850	-1.620	-1.820	-1.545	-1.920	-1.655	"
	"	12	"	"	"					"						V_{IH1}	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	13	"	"	"					"							"	"	$3\overline{Y}$	"	"	"	"	"	"	"
	"	14	"	"	"					"	V_{IH1}						"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	15	"	"	"					"		V_{IH1}					"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	16	"	"	"					"			V_{IH1}				"	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	17	"	"	"	V_{IH1}				"							"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	18	"	"	"		V_{IH1}			"							"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	19	"	"	"			V_{IH1}		"							"	"	$2\overline{Y}$	"	"	"	"	"	"	"
	"	20	"	"	"				V_{IH1}	"							"	"	$2\overline{Y}$	"	"	"	"	"	"	"
V_{OTH}		21	"	"	"					"				V_{ITL}	V_{ITL}		"	"	$3\overline{Y}$	-0.950		-0.845		-1.100		"
		22	"	"	"					"						V_{ITL}	"	"	$3\overline{Y}$	"		"		"		"
		23	"	"	"					"							"	"	$3\overline{Y}$	"		"		"		"
		24	"	"	"					"	V_{ITL}						"	"	$1\overline{Y}$	"		"		"		"
		25	"	"	"					"		V_{ITL}					"	"	$1\overline{Y}$	"		"		"		"
		26	"	"	"					"			V_{ITL}				"	"	$1\overline{Y}$	"		"		"		"
		27	"	"	"	V_{ITL}				"							"	"	$2\overline{Y}$	"		"		"		"
		28	"	"	"		V_{ITL}			"							"	"	$2\overline{Y}$	"		"		"		"
		29	"	"	"			V_{ITL}		"							"	"	$2\overline{Y}$	"		"		"		"
		30	"	"	"				V_{ITL}	"							"	"	$2\overline{Y}$	"		"		"		"
V_{OTL}		31	"	"	"					"				V_{ITH}	V_{ITH}		"	"	$3\overline{Y}$		-1.600		-1.525		-1.635	"
		32	"	"	"					"						V_{ITH}	"	"	$3\overline{Y}$		"		"		"	"
		33	"	"	"					"							"	"	$3\overline{Y}$		"		"		"	"
		34	"	"	"					"	V_{ITH}						"	"	$1\overline{Y}$		"		"		"	"
		35	"	"	"					"		V_{ITH}					"	"	$1\overline{Y}$		"		"		"	"
		36	"	"	"					"			V_{ITH}				"	"	$1\overline{Y}$		"		"		"	"
		37	"	"	"	V_{ITH}				"							"	"	$2\overline{Y}$		"		"		"	"
		38	"	"	"		V_{ITH}			"							"	"	$2\overline{Y}$		"		"		"	"
		39	"	"	"			V_{ITH}		"							"	"	$2\overline{Y}$		"		"		"	"
		40	"	"	"				V_{ITH}	"							"	"	$2\overline{Y}$		"		"		"	"
I_{EE}	3005	41	"							"								"	V_{EE}		-21		-24		-24	mA
I_{IH1}	3010	42	"							"				V_{IH1}	V_{IH1}			"	3A		265		265		450	µA
	"	43	"							"						V_{IH1}		"	3B		"		"		"	"
	"	44	"							"								"	3C		"		"		"	"
	"	45	"							"	V_{IH1}							"	1A		"		"		"	"
	"	46	"							"		V_{IH1}						"	1B		"		"		"	"
	"	47	"							"			V_{IH1}					"	1C		"		"		"	"
	"	48	"			V_{IH1}				"								"	2A		"		"		"	"
	"	49	"				V_{IH1}			"								"	2B		"		"		"	"
	"	50	"					V_{IH1}		"								"	2C		"		"		"	"
	"	51	"						V_{IH1}	"								"	2D		"		"		"	"

TABLE III. Group A inspection for device type 04 - Continued.

Symbol	MIL-STD-883 method	Case E / Case F / Case 2	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																	Measured terminal	Test limits						Unit
			1 / 5 / 2	2 / 6 / 3	3 / 7 / 4	4 / 8 / 5	5 / 9 / 7	6 / 10 / 8	7 / 11 / 9	8 / 12 / 10	9 / 13 / 12	10 / 14 / 13	11 / 15 / 14	12 / 16 / 15	13 / 17 / 17	14 / 18 / 18	15 / 19 / 19	16 / 20 / 20			Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Symbol	V_{CC1}	1Y	2Y	2A	2B	2C	2D	V_{EE}	1A	1B	1C	3A	3B	3C	3Y	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																									
I_{IL}	3009	52	GND							E_1								GND	3A	0.5		0.3		0.5		µA
	"	53	"							"								"	3B	"		"		"		"
	"	54	"							"								"	3C	"		"		"		"
	"	55	"							"								"	1A	"		"		"		"
	"	56	"							"								"	1B	"		"		"		"
	"	57	"							"								"	1C	"		"		"		"
	"	58	"			V_{IL1}				"								"	2A	"		"		"		"
	"	59	"				V_{IL1}			"								"	2B	"		"		"		"
	"	60	"					V_{IL1}		"								"	2C	"		"		"		"
	"	61	"						V_{IL1}	"									"	2D	"		"		"		"
																				Subgroup 9 T_C = 25°C		Subgroup 10 T_C = 125°C		Subgroup 11 T_C = -55°C		
																				Min	Max	Min	Max	Min	Max	
t_{TLH}	3004	62	E_3	LD_2	OUT			IN		E_2		IN			IN		$LD2_n$	E_3	2Y	1.1	3.3	1.0	4.0	1.0	4.0	ns
	"	63	"	OUT	LD_2					"							OUT	"	1Y	"	"	"	"	"	"	"
	"	64	"	LD_2														"	3Y	"	"	"	"	"	"	"
t_{THL}	"	65	"		OUT			IN		"		IN			IN		$LD2_n$	"	2Y	1.1	3.3	1.0	4.0	1.0	4.0	"
	"	66	"	OUT	LD_2					"							OUT	"	1Y	"	"	"	"	"	"	"
	"	67	"	LD_2						"								"	3Y	"	"	"	"	"	"	"
t_{PLH}	3003	68	"		OUT			IN		"		IN			IN		$LD2_n$	"	2Y	1.0	2.9	1.0	3.7	1.0	3.7	"
	"	69	"	OUT	LD_2					"							OUT	"	1Y	"	"	"	"	"	"	"
	"	70	"	LD_2	LD_2					"								"	3Y	"	"	"	"	"	"	"
t_{PHL}	"	71	"	"	OUT			IN		"		IN			IN		$LD2_n$	"	2Y	1.0	2.9	1.0	3.7	1.0	3.7	"
	"	72	"	OUT	LD_2					"							OUT	"	1Y	"	"	"	"	"	"	"
	"	73	"	LD_2	LD_2					"								"	3Y	"	"	"	"	"	"	"

TABLE III. Group A inspection for device type 05.

Symbol	MIL-STD-883 method	Case E / Case F / Case Z	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																Measured terminal	Test limits						Unit
			1 / 5 / 2	2 / 6 / 3	3 / 7 / 4	4 / 8 / 5	5 / 9 / 7	6 / 10 / 8	7 / 11 / 9	8 / 12 / 10	9 / 13 / 12	10 / 14 / 13	11 / 15 / 14	12 / 16 / 15	13 / 1 / 17	14 / 2 / 18	15 / 3 / 19	16 / 4 / 20		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Symbol	V_{CC1}	$1\bar{Y}$	1Y	1A	1B		2B	V_{EE}	2A	2Y	$2\bar{Y}$	$3\bar{Y}$	3Y	3A	3B	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																								
V_{OH}	3006	1	GND	$LD1_1$	$LD1_n$	V_{IH1}	V_{IH1}		V_{IH1}	E_1	V_{IH1}	$LD1_1$	$LD1_n$	$LD1_n$	$LD1_n$	V_{IH1}	V_{IH1}	GND	3Y	-0.930	-0.780	-0.825	-0.630	-1.080	-0.880	V
		2	"	"	"					"		"	"	"	"			"	3Y	"	"	"	"	"	"	"
		3	"	"	"					"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
		4	"	"	"					"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
		5	"	"	"					"		"	"	"	"			"	2Y	"	"	"	"	"	"	"
		6	"	"	"					"		"	"	"	"			"	2Y	"	"	"	"	"	"	"
		7	"	"	"					"		"	"	"	"			"	$3\bar{Y}$	"	"	"	"	"	"	"
		8	"	"	"					"		"	"	"	"			"	$3\bar{Y}$	"	"	"	"	"	"	"
		9	"	"	"	V_{IL1}				"		"	"	"	"	V_{IL1}		"	$1\bar{Y}$	"	"	"	"	"	"	"
		10	"	"	"		V_{IL1}			"		"	"	"	"			"	$1\bar{Y}$	"	"	"	"	"	"	"
		11	"	"	"					"		"	"	"	"			"	$2\bar{Y}$	"	"	"	"	"	"	"
		12	"	"	"				V_{IL1}	"		"	"	"	"			"	$2\bar{Y}$	"	"	"	"	"	"	"
		13	"	"	"					"	V_{IL1}	"	"	"	"	V_{IL1}	V_{IL1}	"	$3\bar{Y}$	"	"	"	"	"	"	"
		14	"	"	"	V_{IL1}	V_{IL1}			"		"	"	"	"			"	$1\bar{Y}$	"	"	"	"	"	"	"
		15	"	"	"				V_{IL1}	"		"	"	"	"			"	$2\bar{Y}$	"	"	"	"	"	"	"
V_{OL}	3007	16	"	"	"	V_{IH1}	V_{IH1}		V_{IH1}	"	V_{IH1}	"	"	"	"	V_{IH1}	V_{IH1}	"	$3\bar{Y}$	-1.850	-1.620	-1.820	-1.545	-1.920	-1.655	"
		17	"	"	"					"		"	"	"	"			"	$3\bar{Y}$	"	"	"	"	"	"	"
		18	"	"	"					"		"	"	"	"			"	$1\bar{Y}$	"	"	"	"	"	"	"
		19	"	"	"					"		"	"	"	"			"	$1\bar{Y}$	"	"	"	"	"	"	"
		20	"	"	"					"		"	"	"	"			"	$2\bar{Y}$	"	"	"	"	"	"	"
		21	"	"	"					"		"	"	"	"			"	$2\bar{Y}$	"	"	"	"	"	"	"
		22	"	"	"				V_{IH1}	"		"	"	"	"			"	3Y	"	"	"	"	"	"	"
		23	"	"	"					"	V_{IH1}	"	"	"	"	V_{IL1}	V_{IL1}	"	3Y	"	"	"	"	"	"	"
		24	"	"	"	V_{IL1}				"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
		25	"	"	"		V_{IL1}			"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
		26	"	"	"					"		"	"	"	"			"	2Y	"	"	"	"	"	"	"
		27	"	"	"				V_{IL1}	"		"	"	"	"			"	2Y	"	"	"	"	"	"	"
		28	"	"	"					"	V_{IL1}	"	"	"	"	V_{IH1}	V_{IH1}	"	3Y	"	"	"	"	"	"	"
		29	"	"	"	V_{IH1}	V_{IH1}			"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
		30	"	"	"				V_{IH1}	"		"	"	"	"			"	2Y	"	"	"	"	"	"	"
V_{OTH}		31	"	"	"	V_{ITH}	V_{ITH}		V_{ITH}	"	V_{ITH}	"	"	"	"	V_{ITH}	V_{ITH}	"	3Y	-.950		-.845		-1.100		"
		32	"	"	"					"		"	"	"	"			"	3Y	"		"		"		"
		33	"	"	"					"		"	"	"	"			"	1Y	"		"		"		"
		34	"	"	"					"		"	"	"	"			"	1Y	"		"		"		"
		35	"	"	"					"		"	"	"	"			"	2Y	"		"		"		"
		36	"	"	"					"		"	"	"	"			"	2Y	"		"		"		"
		37	"	"	"					"		"	"	"	"			"	$3\bar{Y}$	"		"		"		"
		38	"	"	"					"		"	"	"	"			"	$3\bar{Y}$	"		"		"		"
		39	"	"	"	V_{ITL}				"		"	"	"	"	V_{ITL}		"	$1\bar{Y}$	"		"		"		"
		40	"	"	"		V_{ITL}			"		"	"	"	"			"	$1\bar{Y}$	"		"		"		"
		41	"	"	"					"		"	"	"	"			"	$2\bar{Y}$	"		"		"		"
		42	"	"	"				V_{ITL}	"		"	"	"	"			"	$2\bar{Y}$	"		"		"		"
		43	"	"	"					"	V_{ITL}	"	"	"	"	V_{IL1}	V_{IL1}	"	$3\bar{Y}$	"		"		"		"
		44	"	"	"	V_{ITL}	V_{ITL}			"		"	"	"	"			"	$1\bar{Y}$	"		"		"		"
		45	"	"	"				V_{ITL}	"		"	"	"	"			"	$2\bar{Y}$	"		"		"		"
V_{OTL}		46	"	"	"	V_{ITH}	V_{ITH}		V_{ITH}	"	V_{ITH}	"	"	"	"	V_{ITH}	V_{ITH}	"	$3\bar{Y}$		-1.600		-1.525		-1.635	"
		47	"	"	"					"		"	"	"	"			"	$3\bar{Y}$		"		"		"	"
		48	"	"	"					"		"	"	"	"			"	$1\bar{Y}$		"		"		"	"
		49	"	"	"					"		"	"	"	"			"	$1\bar{Y}$		"		"		"	"
		50	"	"	"					"		"	"	"	"			"	$2\bar{Y}$		"		"		"	"
		51	"	"	"					"		"	"	"	"			"	$2\bar{Y}$		"		"		"	"
		52	"	"	"					"		"	"	"	"			"	3Y		"		"		"	"
		53	"	"	"					"		"	"	"	"			"	3Y		"		"		"	"
		54	"	"	"	V_{ITL}				"		"	"	"	"	V_{ITL}		"	1Y		"		"		"	"
		55	"	"	"		V_{ITL}			"		"	"	"	"			"	1Y		"		"		"	"
		56	"	"	"					"		"	"	"	"			"	2Y		"		"		"	"
		57	"	"	"				V_{ITL}	"		"	"	"	"			"	2Y		"		"		"	"
		58	"	"	"					"	V_{ITL}	"	"	"	"	V_{IH1}	V_{ITH}	"	3Y		"		"		"	"
		59	"	"	"	V_{ITH}	V_{IH1}			"		"	"	"	"			"	1Y		"		"		"	"
		60	"	"	"				V_{ITH}	"	V_{IH1}	"	"	"	"			"	2Y		"		"		"	"

TABLE III. Group A inspection for device type 05 - Continued.

Symbol	MIL-STD-883 method	Case E / Case F / Case 2	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																Measured terminal	Test limits						Unit
			1 / 5 / 2	2 / 6 / 3	3 / 7 / 4	4 / 8 / 5	5 / 9 / 7	6 / 10 / 8	7 / 11 / 9	8 / 12 / 10	9 / 13 / 12	10 / 14 / 13	11 / 15 / 14	12 / 15 / 15	13 / 1 / 17	14 / 2 / 18	15 / 3 / 19	16 / 4 / 20		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Symbol	V_{CC1}	$1\overline{Y}$	1Y	1A	1B		2B	V_{EE}	2A	2Y	$2\overline{Y}$	$3\overline{Y}$	3Y	3A	3B	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																								
I_{EE}	3005	61	GND				V_{IH1}		V_{IH1}	E_1							V_{IH1}	GND	V_{EE}		-28		-31		-31	mA
I_{IH1}	3010	62	"			V_{IH1}				"	V_{IH1}							"	1A		265		265		450	µA
"	"	63	"							"						V_{IH1}		"	2A		"		"		"	"
"	"	64	"							"								"	3A		"		"		"	"
"	"	65	"			V_{IH1}	V_{IH1}			"						"		"	1A		"		"		"	"
"	"	66	"						V_{IH1}	"	V_{IH1}							"	2A		"		"		"	"
"	"	67	"							"						V_{IH1}	V_{IH1}	"	3A		"		"		"	"
I_{IH2}	3010	68	"				V_{IH1}			"								"	1B		220		220		375	"
"	"	69	"						I_{IH1}	"								"	2B		"		"		"	"
"	"	70	"							"							V_{IH1}	"	3B		"		"		"	"
I_{IL}	3009	71	"			V_{IL1}	V_{IL1}			"								"	1A	0.5		0.3		0.5		"
"	"	72	"							"								"	1B	"		"		"		"
"	"	73	"							"								"	2B	"		"		"		"
"	"	74	"						V_{IL1}	"	V_{IL1}					V_{IL1}	V_{IL1}	"	2A	"		"		"		"
"	"	75	"							"								"	3A	"		"		"		"
"	"	76	"							"								"	3B	"		"		"		"
																				Subgroup 9 T_C = 25°C		Subgroup 10 T_C = 125°C		Subgroup 11 T_C = -55°C		
																				Min	Max	Min	Max	Min	Max	
t_{TLH}	3004	77	E_3	LD_2	OUT	IN	V_{IL2}			E_2		LD_2	LD_{2_n}	LD_{2_n}	LD_{2_n}			E_3	1Y	1.1	3.5	1.0	4.3	1.0	4.3	ns
"	"	78	"	OUT	LD_{2_n}	IN	V_{IL2}			"		OUT	"	"	"			"	$1\overline{Y}$	"	"	"	"	"	"	"
"	"	79	"	LD_{2_n}	"				IN	"	V_{IL2}	LD_2	"	"	"			"	2Y	"	"	"	"	"	"	"
"	"	80	"	"	"				IN	"		"	"	"	"			"	$2\overline{Y}$	"	"	"	"	"	"	"
"	"	81	"	"	"					"		LD_{2_n}	OUT	OUT	LD_2	IN	V_{IL2}	"	3Y	"	"	"	"	"	"	"
"	"	82	"	"	"					"		"				IN	V_{IL2}	"	$3\overline{Y}$	"	"	"	"	"	"	"
t_{THL}	"	83	"	"	OUT	V_{IL2}	IN			E_2		LD_2	LD_{2_n}	LD_{2_n}	"			"	1Y	1.1	3.5	1.0	4.3	1.0	4.3	"
"	"	84	"	OUT	LD_{2_n}	V_{IL2}	IN			"	IN	OUT	"	"	"			"	$1\overline{Y}$	"	"	"	"	"	"	"
"	"	85	"	LD_{2_n}	"				V_{IL2}	"	IN	LD_2	"	"	"			"	2Y	"	"	"	"	"	"	"
"	"	86	"	"	"				V_{IL2}	"		"	"	"	"			"	$2\overline{Y}$	"	"	"	"	"	"	"
"	"	87	"	"	"					"		LD_{2_n}	OUT	OUT	LD_2	V_{IL2}	IN	"	3Y	"	"	"	"	"	"	"
"	"	88	"	"	"					"		"				V_{IL2}	IN	"	$3\overline{Y}$	"	"	"	"	"	"	"
t_{PLH}	3003	89	"	"	OUT	IN	V_{IL2}			"		"	"	LD_{2_n}	"			"	1Y	1.1	3.7	1.0	4.5	1.0	4.5	"
"	"	90	"	"	"	IN	V_{IH2}			"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
"	"	91	"	"	"	V_{IH2}	IN			"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
"	"	92	"	"	"	V_{IL2}	"			"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
"	"	93	"	OUT	LD_{2_n}	V_{IH2}	"			"		"	"	"	"			"	$1\overline{Y}$	"	"	"	"	"	"	"
"	"	94	"	"	"	V_{IL2}	"			"		"	"	"	"			"	$1\overline{Y}$	"	"	"	"	"	"	"
"	"	95	"	"	"	IN	V_{IL2}			"		"	"	"	"			"	$1\overline{Y}$	"	"	"	"	"	"	"
"	"	96	"	"	"	IN	V_{IH2}			"		"	"	"	"			"	$1\overline{Y}$	"	"	"	"	"	"	"
"	"	97	"	LD_{2_n}	"				IN	"	V_{IL2}	OUT	"	"	"			"	2Y	"	"	"	"	"	"	"
"	"	98	"	"	"				IN	"	V_{IH2}	"	"	"	"			"	2Y	"	"	"	"	"	"	"
"	"	99	"	"	"				V_{IH2}	"	IN	"	"	"	"			"	2Y	"	"	"	"	"	"	"
"	"	100	"	"	"				V_{IL2}	"	"	"	"	"	"			"	2Y	"	"	"	"	"	"	"
"	"	101	"	"	"				V_{IH2}	"	"	"	"	"	"			"	$2\overline{Y}$	"	"	"	"	"	"	"
"	"	102	"	"	"				V_{IL2}	"	"	LD2	"	"	"			"	$2\overline{Y}$	"	"	"	"	"	"	"
"	"	103	"	"	"				IN	"	V_{IL2}	"	"	"	"			"	$2\overline{Y}$	"	"	"	"	"	"	"
"	"	104	"	"	"				IN	"	V_{IH2}	"	"	"	"			"	$2\overline{Y}$	"	"	"	"	"	"	"
"	"	105	"	"	"					"		"	"	"	"	IN	V_{IL2}	"	3Y	"	"	"	"	"	"	"
"	"	106	"	"	"					"		"	"	"	"	IN	V_{IH2}	"	3Y	"	"	"	"	"	"	"
"	"	107	"	"	"					"		"	"	"	"	V_{IH2}	IN	"	3Y	"	"	"	"	"	"	"
"	"	108	"	"	"					"		"	"	"	"	V_{IL2}	"	"	3Y	"	"	"	"	"	"	"
"	"	109	"	"	"					"		"	"	"	"	V_{IL2}	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
"	"	110	"	"	"					"		"	"	"	"	V_{IH2}	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
"	"	111	"	"	"					"		"	"	"	"	IN	V_{IH2}	"	$3\overline{Y}$	"	"	"	"	"	"	"
"	"	112	"	"	"					"		"	"	"	"	IN	V_{IL2}	"	$3\overline{Y}$	"	"	"	"	"	"	"

TABLE III. Group A inspection for device type 05 - Continued.

Symbol	MIL-STD-883 method	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																	Measured terminal	Test limits						Unit
		Case E	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Case F	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4								
		Case 2	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20								
		Symbol	V_{CC1}	$1\overline{Y}$	1Y	1A	1B		2B	V_{EE}	2A	2Y	$2\overline{Y}$	$3\overline{Y}$	3Y	3A	3B	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																									
t_{PHL}		113	E_3	LD_2	OUT	IN	V_{IH2}			E_2		LD_2	LD_2	LD_2	LD_2			E_3	1Y	1.1	3.7	1.0	4.5	1.0	4.5	ns
		114	"	"	"	IN	V_{IL2}			"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
		115	"	"	"	V_{IL2}	IN			"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
		116	"	"	"	V_{IH2}	"			"		"	"	"	"			"	1Y	"	"	"	"	"	"	"
		117	"	OUT	LD_2	V_{IL2}	"			"		"	"	"	"			"	$1\overline{Y}$	"	"	"	"	"	"	"
		118	"	"	"	V_{IH2}	"			"		"	"	"	"			"	$1\overline{Y}$	"	"	"	"	"	"	"
		119	"	"	"	IN	V_{IH2}			"		"	"	"	"			"	$1\overline{Y}$	"	"	"	"	"	"	"
		120	"	"	"	IN	V_{IL2}			"		"	"	"	"			"	$1\overline{Y}$	"	"	"	"	"	"	"
		121	"	LD_2	"				IN	"	V_{IH2}	OUT	"	"	"			"	2Y	"	"	"	"	"	"	"
		122	"	"	"				IN	"	V_{IL2}	"	"	"	"			"	2Y	"	"	"	"	"	"	"
		123	"	"	"				V_{IL2}	"	IN	"	"	"	"			"	2Y	"	"	"	"	"	"	"
		124	"	"	"				V_{IH2}	"	"	"	"	"	"			"	2Y	"	"	"	"	"	"	"
		125	"	"	"				V_{IL2}	"	"	LD_2	OUT	"	"			"	$2\overline{Y}$	"	"	"	"	"	"	"
		126	"	"	"				V_{IH2}	"	"	"	"	"	"			"	$2\overline{Y}$	"	"	"	"	"	"	"
		127	"	"	"				IN	"	V_{IH2}	"	"	"	"			"	$2\overline{Y}$	"	"	"	"	"	"	"
		128	"	"	"				IN	"	V_{IL2}	"	"	"	"			"	$2\overline{Y}$	"	"	"	"	"	"	"
		129	"	"	"					"		"	LD_2	"	OUT	IN	V_{IL2}	"	3Y	"	"	"	"	"	"	"
		130	"	"	"					"		"	"	"	"	IN	V_{IH2}	"	3Y	"	"	"	"	"	"	"
		131	"	"	"					"		"	"	"	"	V_{IL2}	IN	"	3Y	"	"	"	"	"	"	"
		132	"	"	"					"		"	"	"	"	V_{IH2}	"	"	3Y	"	"	"	"	"	"	"
		133	"	"	"					"		"	"	OUT	LD_2	V_{IL2}	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
		134	"	"	"					"		"	"	"	"	V_{IH2}	"	"	$3\overline{Y}$	"	"	"	"	"	"	"
		135	"	"	"					"		"	"	"	"	IN	V_{IH2}	"	$3\overline{Y}$	"	"	"	"	"	"	"
		136	"	"	"					"		"	"	"	"	IN	V_{IL2}	"	$3\overline{Y}$	"	"	"	"	"	"	"

TABLE III. Group A inspection for device type 06.

Symbol	MIL-STD-883 method	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																Measured terminal	Test limits						Unit
		Case E	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Case F	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4								
		Case 2	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20								
		Symbol	V_{CC1}	1Y	1$\overline{Y}$	1A	1B	1C	1D	V_{EE}	2A	2B	2C	2D	2E	2$\overline{Y}$	2Y	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																								
V_{OH}	3006	1	GND	LD_1	LD_1	V_{IH1}	V_{IH1}			E_1						LD_1	LD_1	GND	1Y	-0.930	-0.780	-0.825	-0.630	-1.080	-0.880	V
		2	"	"	"	"	"			"						"	"	"	1Y	"	"	"	"	"	"	"
		3	"	"	"	"	"	V_{IH1}		"						"	"	"	1Y	"	"	"	"	"	"	"
		4	"	"	"	"	"		V_{IH1}	"						"	"	"	1Y	"	"	"	"	"	"	"
		5	"	"	"	"	"			"	V_{IH1}					"	"	"	2Y	"	"	"	"	"	"	"
		6	"	"	"	"	"			"		V_{IH1}				"	"	"	2Y	"	"	"	"	"	"	"
		7	"	"	"	"	"			"			V_{IH1}			"	"	"	2Y	"	"	"	"	"	"	"
		8	"	"	"	"	"			"				V_{IH1}		"	"	"	2Y	"	"	"	"	"	"	"
		9	"	"	"	"	"			"					V_{IH1}	"	"	"	2Y	"	"	"	"	"	"	"
		10	"	"	"	V_{IL1}				"						"	"	"	1$\overline{Y}$	"	"	"	"	"	"	"
		11	"	"	"	"	V_{IL1}			"						"	"	"	1$\overline{Y}$	"	"	"	"	"	"	"
		12	"	"	"	"	"	V_{IL1}		"						"	"	"	1$\overline{Y}$	"	"	"	"	"	"	"
		13	"	"	"	"	"		V_{IL1}	"						"	"	"	1$\overline{Y}$	"	"	"	"	"	"	"
		14	"	"	"	"	"			"	V_{IL1}					"	"	"	2$\overline{Y}$	"	"	"	"	"	"	"
		15	"	"	"	"	"			"		V_{IL1}				"	"	"	2$\overline{Y}$	"	"	"	"	"	"	"
		16	"	"	"	"	"			"			V_{IL1}			"	"	"	2$\overline{Y}$	"	"	"	"	"	"	"
		17	"	"	"	"	"			"				V_{IL1}		"	"	"	2$\overline{Y}$	"	"	"	"	"	"	"
		18	"	"	"	"	"			"					V_{IL1}	"	"	"	2$\overline{Y}$	"	"	"	"	"	"	"
V_{OL}	3007	19	"	"	"	V_{IL1}	V_{IL1}			"						"	"	"	1Y	-1.850	-1.620	-1.820	-1.545	-1.920	-1.655	"
		20	"	"	"	"	"			"						"	"	"	1Y	"	"	"	"	"	"	"
		21	"	"	"	"	"	V_{IL1}		"						"	"	"	1Y	"	"	"	"	"	"	"
		22	"	"	"	"	"		V_{IL1}	"						"	"	"	1Y	"	"	"	"	"	"	"
		23	"	"	"	"	"			"	V_{IL1}					"	"	"	2Y	"	"	"	"	"	"	"
		24	"	"	"	"	"			"		V_{IL1}				"	"	"	2Y	"	"	"	"	"	"	"
		25	"	"	"	"	"			"			V_{IL1}			"	"	"	2Y	"	"	"	"	"	"	"
		26	"	"	"	"	"			"				V_{IL1}		"	"	"	2Y	"	"	"	"	"	"	"
		27	"	"	"	"	"			"					V_{IL1}	"	"	"	2Y	"	"	"	"	"	"	"
		28	"	"	"	V_{IH1}				"						"	"	"	1$\overline{Y}$	"	"	"	"	"	"	"
		29	"	"	"	"	V_{IH1}			"						"	"	"	1$\overline{Y}$	"	"	"	"	"	"	"
		30	"	"	"	"	"	V_{IH1}		"						"	"	"	1$\overline{Y}$	"	"	"	"	"	"	"
		31	"	"	"	"	"		V_{IH1}	"						"	"	"	1$\overline{Y}$	"	"	"	"	"	"	"
		32	"	"	"	"	"			"	V_{IH1}					"	"	"	2$\overline{Y}$	"	"	"	"	"	"	"
		33	"	"	"	"	"			"		V_{IH1}				"	"	"	2$\overline{Y}$	"	"	"	"	"	"	"
		34	"	"	"	"	"			"			V_{IH1}			"	"	"	2$\overline{Y}$	"	"	"	"	"	"	"
		35	"	"	"	"	"			"				V_{IH1}		"	"	"	2$\overline{Y}$	"	"	"	"	"	"	"
		36	"	"	"	"	"			"					V_{IH1}	"	"	"	2$\overline{Y}$	"	"	"	"	"	"	"
V_{OTH}		37	"	"	"	V_{ITH}	V_{ITH}			"						"	"	"	1Y	-0.950		-0.845		-1.100		"
		38	"	"	"	"	"			"						"	"	"	1Y	"		"		"		"
		39	"	"	"	"	"	V_{ITH}		"						"	"	"	1Y	"		"		"		"
		40	"	"	"	"	"		V_{ITH}	"						"	"	"	1Y	"		"		"		"
		41	"	"	"	"	"			"	V_{ITH}					"	"	"	2Y	"		"		"		"
		42	"	"	"	"	"			"		V_{ITH}				"	"	"	2Y	"		"		"		"
		43	"	"	"	"	"			"			V_{ITH}			"	"	"	2Y	"		"		"		"
		44	"	"	"	"	"			"				V_{ITH}		"	"	"	2Y	"		"		"		"
		45	"	"	"	"	"			"					V_{ITH}	"	"	"	2Y	"		"		"		"
		46	"	"	"	V_{ITL}				"						"	"	"	1$\overline{Y}$	"		"		"		"
		47	"	"	"	"	V_{ITL}			"						"	"	"	1$\overline{Y}$	"		"		"		"
		48	"	"	"	"	"	V_{ITL}		"						"	"	"	1$\overline{Y}$	"		"		"		"
		49	"	"	"	"	"		V_{ITL}	"						"	"	"	1$\overline{Y}$	"		"		"		"
		50	"	"	"	"	"			"	V_{ITL}					"	"	"	2$\overline{Y}$	"		"		"		"
		51	"	"	"	"	"			"		V_{ITL}				"	"	"	2$\overline{Y}$	"		"		"		"
		52	"	"	"	"	"			"			V_{ITL}			"	"	"	2$\overline{Y}$	"		"		"		"
		53	"	"	"	"	"			"				V_{ITL}		"	"	"	2$\overline{Y}$	"		"		"		"
		54	"	"	"	"	"			"					V_{ITL}	"	"	"	2$\overline{Y}$	"		"		"		"

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

Symbol	MIL-STD-883 method	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																	Measured terminal	Test limits						Unit
		Case E	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
		Case F	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4								
		Case 2	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20								
		Symbol	V_{CC1}	1Y	$1\overline{Y}$	1A	1B	1C	1D	V_{EE}	2A	2B	2C	2D	2E	$2\overline{Y}$	2Y	V_{CC2}		Min	Max	Min	Max	Min	Max	
		Test No.																								
V_{OTL}		55	GND	$LD1_{11}$	$LD1_{11}$	V_{ITL}	V_{ITL}	V_{ITL}	V_{ITL}	E_1	V_{ITL}	V_{ITL}	V_{ITL}	V_{ITL}	V_{ITL}	$LD1_{11}$	$LD1_{11}$	GND	1Y		-1.600		-1.525		-1.635	V
		56	"	"	"					"						"	"	"	1Y		"		"		"	"
		57	"	"	"					"						"	"	"	1Y		"		"		"	"
		58	"	"	"					"						"	"	"	1Y		"		"		"	"
		59	"	"	"					"						"	"	"	2Y		"		"		"	"
		60	"	"	"					"						"	"	"	2Y		"		"		"	"
		61	"	"	"					"						"	"	"	2Y		"		"		"	"
		62	"	"	"					"						"	"	"	2Y		"		"		"	"
		63	"	"	"					"						"	"	"	$1\overline{Y}$		"		"		"	"
		64	"	"	"	V_{ITH}	V_{ITH}			"						"	"	"	$1\overline{Y}$		"		"		"	"
		65	"	"	"					"						"	"	"	$1\overline{Y}$		"		"		"	"
		66	"	"	"			V_{ITH}		"						"	"	"	$1\overline{Y}$		"		"		"	"
		67	"	"	"				V_{ITH}	"						"	"	"	$2\overline{Y}$		"		"		"	"
		68	"	"	"					"	V_{ITH}					"	"	"	$2\overline{Y}$		"		"		"	"
		69	"	"	"					"		V_{ITH}	V_{ITH}	V_{ITH}	V_{ITH}	"	"	"	$2\overline{Y}$		"		"		"	"
		70	"	"	"					"						"	"	"	$2\overline{Y}$		"		"		"	"
		71	"	"	"					"						"	"	"	$2\overline{Y}$		"		"		"	"
		72	"	"	"					"						"	"	"	$2\overline{Y}$		"		"		"	"
I_{EE}	3005	73	"							"								"	V_{EE}		-14		-16		-16	mA
I_{IH1}	3009	74	"			V_{IH1}	V_{IH1}	V_{IH1}	V_{IH1}	"	V_{IH1}	V_{IH1}	V_{IH1}	V_{IH1}	V_{IH1}			"	1A		265		265		450	μA
	"	75	"							"								"	1B		"		"		"	"
	"	76	"							"								"	1C		"		"		"	"
	"	77	"							"								"	1D		"		"		"	"
	"	78	"							"								"	2A		"		"		"	"
	"	79	"							"								"	2B		"		"		"	"
	"	80	"							"								"	2C		"		"		"	"
	"	81	"							"								"	2D		"		"		"	"
	"	82	"							"								"	2E		"		"		"	"
I_{IL}	"	83	"			V_{IL1}	V_{IL1}	V_{IL1}	V_{IL1}	"	V_{IL1}	V_{IL1}	V_{IL1}	V_{IL1}	V_{IL1}			"	1A	0.5		0.3		0.5		"
	"	84	"							"								"	1B	"		"		"		"
	"	85	"							"								"	1C	"		"		"		"
	"	86	"							"								"	1D	"		"		"		"
	"	87	"							"								"	2A	"		"		"		"
	"	88	"							"								"	2B	"		"		"		"
	"	89	"							"								"	2C	"		"		"		"
	"	90	"							"								"	2D	"		"		"		"
	"	91	"							"								"	2E	"		"		"		"
																				Subgroup 9 T_C = 25°C		Subgroup 10 T_C = 125°C		Subgroup 11 T_C = -55°C		
																				Min	Max	Min	Max	Min	Max	
t_{TLH}	3004	92	E_3	OUT	$LD2_{11}$			IN		E_2						$LD2_{11}$	$LD2_{11}$	E_3	1Y	1.1	3.3	1.0	4.0	1.0	4.0	ns
	"	93	"	$LD2_{11}$	OUT			IN		"						"	OUT	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	94	"	"	$LD2_{11}$					"						$LD2_{11}$	$LD2_{11}$	"	2Y	"	"	"	"	"	"	"
	"	95	"	"	"					"						OUT	OUT	"	$2\overline{Y}$	"	"	"	"	"	"	"
t_{THL}	"	96	"	OUT	"			IN		"						$LD2_{11}$	"	"	1Y	1.1	3.3	1.0	4.0	1.0	4.0	ns
	"	97	"	$LD2_{11}$	OUT			IN		"						$LD2_{11}$	OUT	"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	98	"	"	$LD2_{11}$					"						$LD2_{11}$	$LD2_{11}$	"	2Y	"	"	"	"	"	"	"
	"	99	"	"	"					"						OUT	OUT	"	$2\overline{Y}$	"	"	"	"	"	"	"

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

Symbol	MIL-STD-883 method	Case E / Case F / Case 2	Case outline letter, terminal number and function and test sequence. Terminal test conditions are listed in table IIIA. Terminals not designated are open.																Measured terminal	Test limits						Unit
																				Subgroup 1 T_C = 25°C		Subgroup 2 T_C = 125°C		Subgroup 3 T_C = -55°C		
			1 / 5 / 2	2 / 6 / 3	3 / 7 / 4	4 / 8 / 5	5 / 9 / 7	6 / 10 / 8	7 / 11 / 9	8 / 12 / 10	9 / 12 / 12	10 / 14 / 13	11 / 15 / 14	12 / 16 / 15	13 / 1 / 17	14 / 2 / 18	15 / 3 / 19	16 / 4 / 20		Min	Max	Min	Max	Min	Max	
		Symbol	V_{CC1}	1Y	$1\overline{Y}$	1A	1B	1C	1D	V_{EE}	2A	2B	2C	2D	2E	$2\overline{Y}$	2Y	V_{CC2}								
		Test No.																									
t_{PLH}	3003	100	E_3	OUT	LD_2			IN		E_2						LD_{2_n}	LD_{2_n}	E_3	1Y	1.0	2.9	1.0	3.7	1.0	3.7	ns
	"	101	"	LD_{2_n}	OUT			IN		"						"		"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	102	"	"	LD_{2_n}					"			IN			"	OUT	"	2Y	"	"	"	"	"	"	"
	"	103	"	"						"			IN			OUT	LD_2	"	$2\overline{Y}$	"	"	"	"	"	"	"
t_{PHL}	"	104	"	OUT	"			IN		"						LD_{2_n}	"	"	1Y	1.0	2.9	1.0	3.7	1.0	3.7	"
	"	105	"	LD_{2_n}	OUT			IN		"						"		"	$1\overline{Y}$	"	"	"	"	"	"	"
	"	106	"	"	LD_{2_n}					"			IN			"	OUT	"	2Y	"	"	"	"	"	"	"
	"	107	"	"						"			IN			OUT	LD_2	"	$2\overline{Y}$	"	"	"	"	"	"	"

6.3 Abbreviations, symbols, and definitions. The abbreviations, symbols, and definitions used herein are defined in MIL-M-38510, MIL-STD-1331, and as follows:

GND	Ground zero voltage potential
V_{OTH}	High-level threshold output voltage
V_{OTL}	Low-level threshold output voltage
V_{ITH}	High-level threshold input voltage
V_{ITL}	Low-level threshold input voltage
V_{EEL}	Shifted power supply voltage for the purpose of ac testing
T_J	Circuit junction temperature
T_C	Case operating temperature
P_D	Circuit power dissipation
θ_{JA}	Junction to ambient thermal resistance in °C per watt
θ_{JC}	Junction to case thermal resistance

6.4 Logistic support. Lead materials and finishes (see 3.3) are interchangeable. Unless otherwise specified, microcircuits acquired for Government logistic support will be acquired to device class B (see 1.2.2), lead material and finish C (see 3.3). Longer length leads and lead forming shall not affect the part number.

6.5 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 shall 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-M-38510.

Device type	Commerical type
01	10501
02	10502
03	10505
04	10506
05	10507
06	10509

6.6 Environmental variations versus device testing and operation. Different nominal values of air velocity and temperature may be selected for device tests and in-system operation. However, when this occurs or when air velocity and temperature gradients cause a shift in device junction temperature greater than ±2°C, the device output voltages and input forcing functions assume significant new values. Based on the typical thermal resistance curve of figure 8, the new values can be determined from the procedures in 6.6.1.

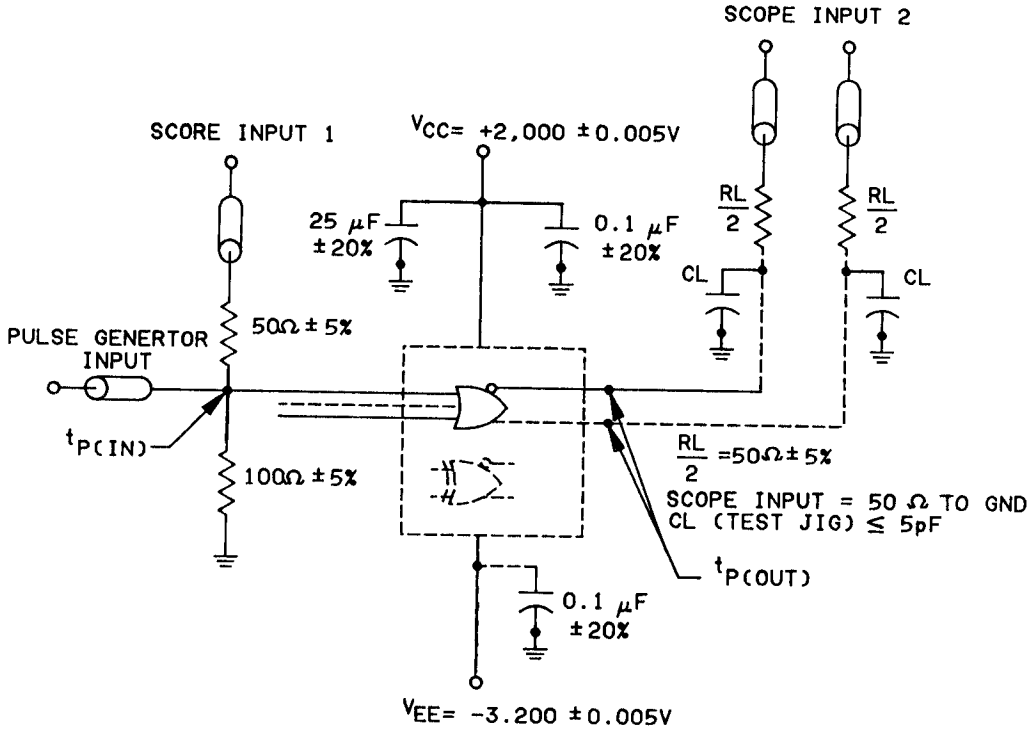
6.6.1 Procedures for determining new values of device output voltage and input forcing function.

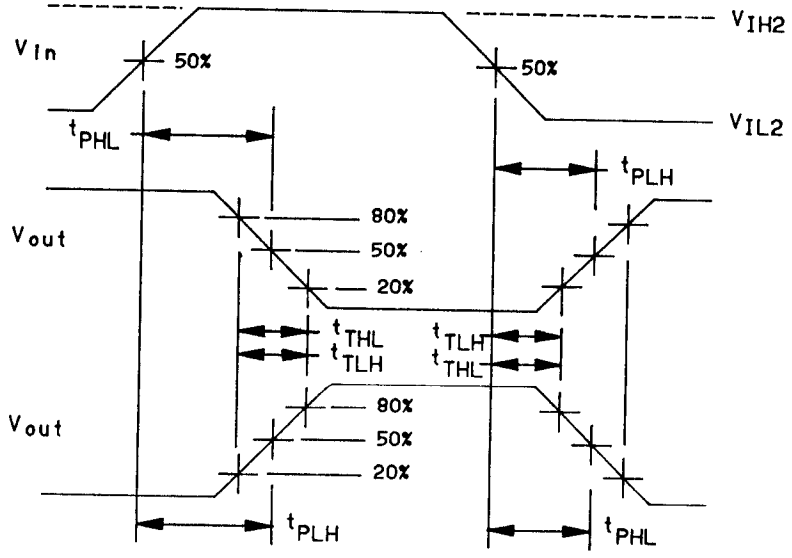
a. Determine device power dissipation by power supply drain current and the following equation: P_D (max) = I_{EE}(max) x V_{EE} +9.7 mW x number of outputs.

b. Using this maximum power dissipation, enter figures 5 and 6 as applicable for the case outline and determine the junction temperature deviation (ΔT_J) for the selected nominal air velocity.

c. If the actual ambient test or system temperatures are other than those specified (-55°C, 25°C, 125°C), the difference between the actual and specified values shall be algebraically added to the ΔT_J for the air velocity determined in (b) above to obtain a ΔT_J (total).

d. Using the appropriate adjustment coefficients from figure 7 multiplied by the ΔT_J (total), determine the correct amount of compensation to be applied to each of the forcing functions and voltage limits under the actual test or system conditions. (see 6.6.2 for two examples of determining compensation.)



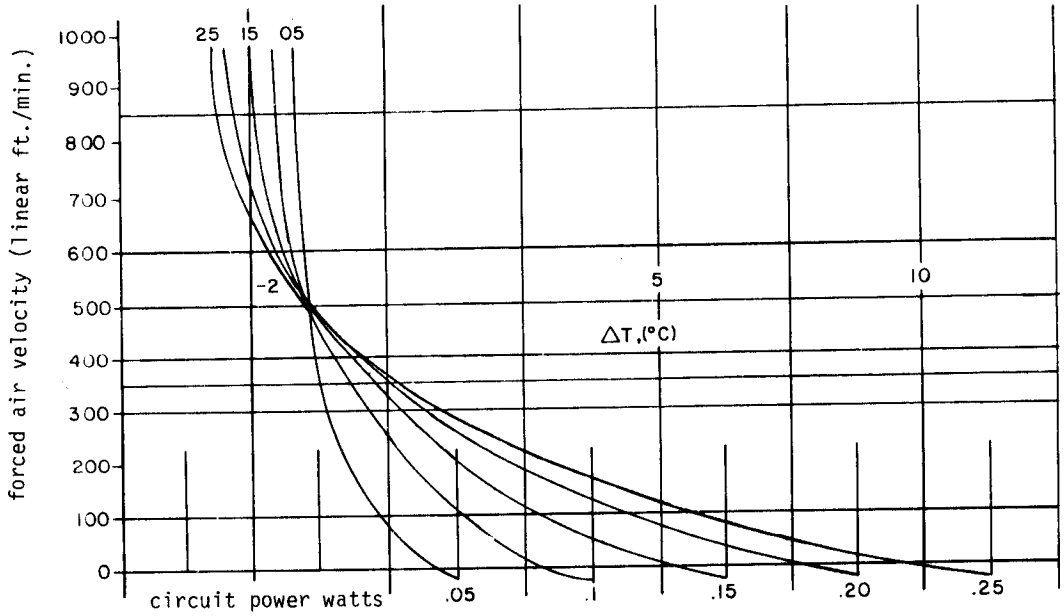


T_C	V_{IH2} (±10 mV)	V_{IL2} (±10 mV)
25°C	+1.11 V	+0.31 V
125°C	+1.24 V	+0.36 V
-55°C	+1.01 V	+0.28 V

t_p = 40 ns ± 1 ns
$Z_{OUT} \approx 50\Omega$
t_{THL} = 2.0 ns (20% - 80%) ± 0.2 ns
t_{TLH} = 2.0 ns (20% - 80%) ± 0.2 ns
PRR = 1.00 MHz ±0.05 MHz

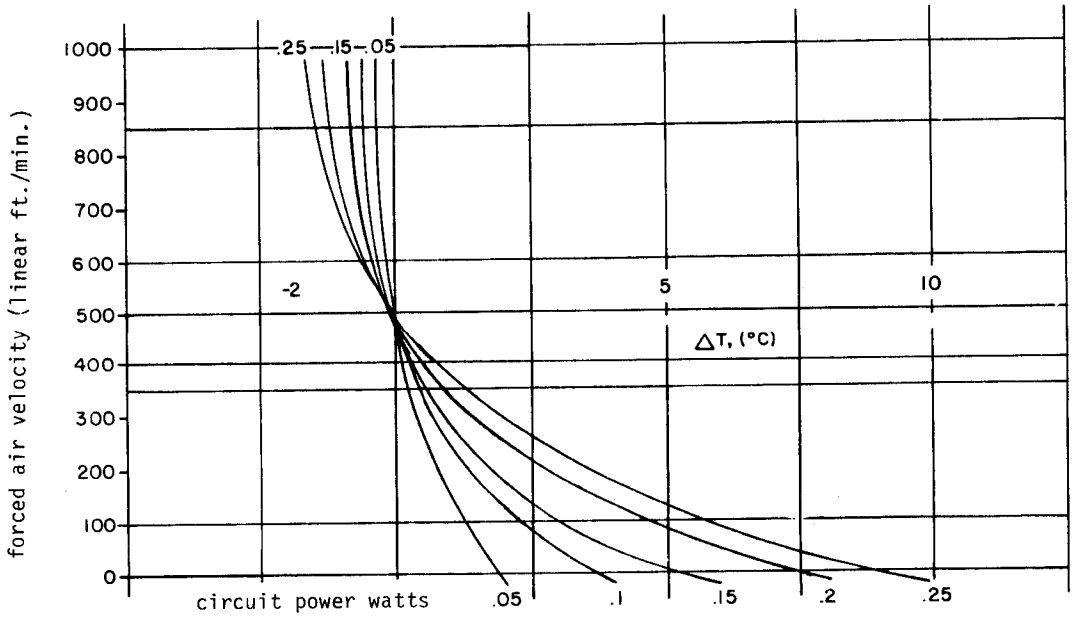
NOTES:
1. Perform test in accordance with test table; each output is tested separately.
2. All input and output cables to the scope are equal lengths of 50 ohm coaxial cables. Wire length should be ≤ 0.250 (6.35 mm) from $t_{P(IN)}$ to input pin and $t_{P(OUT)}$ to output pin.
3. Outputs not under test connected to 100 ohm resistor to ground.

FIGURE 4. Switching time test circuit and waveforms.



NOTE: Change in junction temperature versus forced air velocity, ref. to 500 linear ft./min. circuit power as variable parameter 100 Ω load.

FIGURE 5. Junction temperature versus air velocity case E.

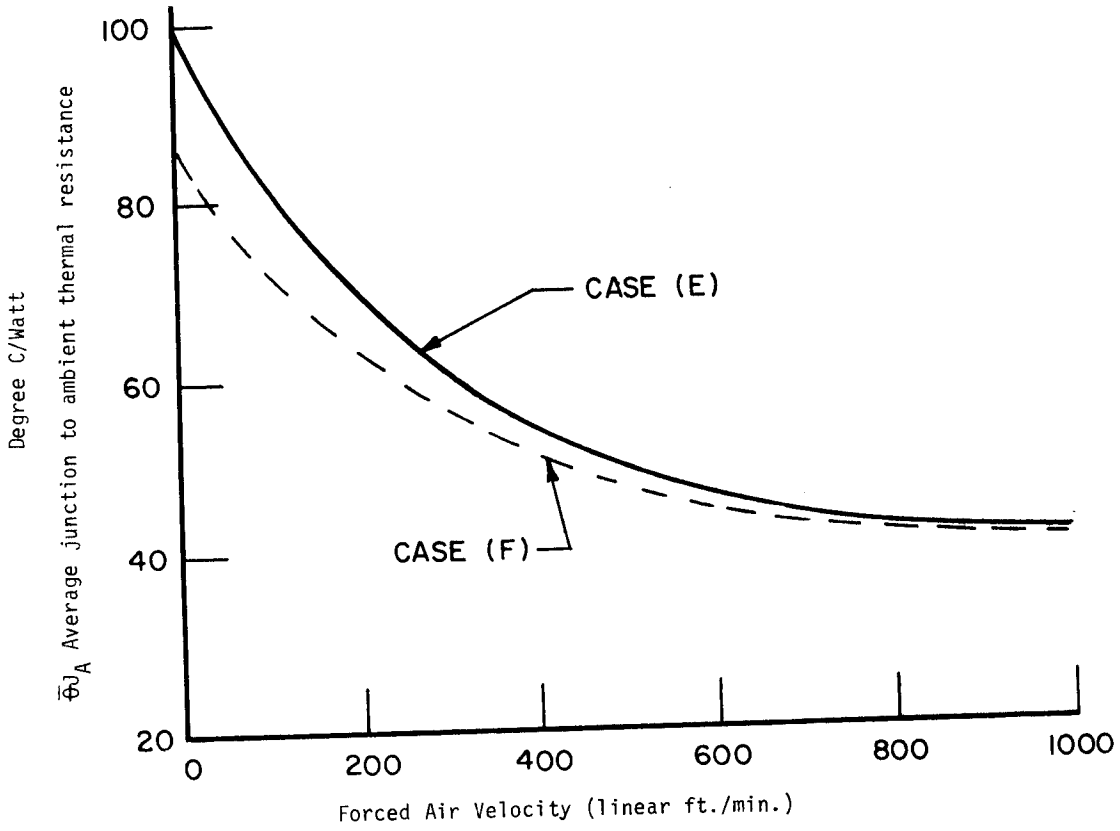


NOTE: Change in junction temperature versus forced air velocity, ref. to 500 linear ft./min. circuit power as variable parameter 100 Ω load.

FIGURE 6. Junction temperature versus air velocity case F.

	-55°C (mV/°C)		+25°C (mV/°C)		+125°C (mV/°C)	
PARAMETER	$+\Delta T_J$	$-\Delta T_J$	$+\Delta T_J$	$-\Delta T_J$	$+\Delta T_J$	$-\Delta T_J$
V_{OH} max, V_{IH}	1.38	1.38	1.40	1.38	1.40	1.40
V_{OH} min, V_{OTH}	1.88	1.88	1.05	1.88	1.05	1.05
V_{OL} max, V_{OTL}	0.44	0.44	0.75	0.44	0.75	0.75
V_{OL} min, V_{IL}	0.88	0.88	0.30	0.88	0.30	0.30
V_{ITH}	1.88	1.88	1.05	1.88	1.05	1.05
V_{ITL}	0.44	0.44	0.75	0.44	0.75	0.75

FIGURE 7. Adjustment coefficients for forcing function and test limit compensation.



NOTE:
(θJ_A -vs- Forced Air Velocity) For case (E) and (F)
T_J T_c + $\theta J_A x P_D$ (max).

FIGURE 8. Air velocity vs thermal resistance.

6.6.2 Test limit compensation examples.

a. A device which has a power dissipation of 100 mW in case E is to be tested under a zero air flow condition. On figure 5 ΔT_J between 500 linear ft/min and zero air flow is +4°C. In order to adjust the various parameter limits, use figure 7 which defines the limit adjustment coefficients for ΔT_J. To adjust V_{OH}(max) at -55°C, use the $+\Delta T_J$ column of the -55°C portion of figure 7 and locate the coefficient corresponding to V_{OH}(max). This value is 1.38 mV/°C. Multiply the ΔT_J by the coefficient and algebraically add it to the -55°C V_{OH}(max) limit from table III.

V_{OH}(max) (adjusted limit) = (+4°C) x (1.38 mV/°C) + (-830 mV)
= 5.52 mV - 830 mV = 824.48 mV
Use - 824 mV

Follow the same procedure to adjust the remaining parameters at -55 as well as all parameters at 25°C and 125°C.

b. A device with a power dissipation of 150 mW in case E is to be tested at an air flow of 200 linear ft/min and the 25°C testing is to be accomplished at an ambient temperature of +20°C. On figure 5 ΔT_J due to air flow is +2°C. The ΔT_J due to ambient temperature change is -5°C (25-20). Therefore the total ΔT_J = -5 +2 = -3°C. Using figure 7, find the 25°C, $-\Delta T_J$ column. To adjust V_{OL}(max) locate the limit coefficient corresponding to V_{OL}(max) for a negative ΔT_J, this value is 0.44 mV/°C. Multiply the ΔT_J by the coefficient and algebraically add it to the +25°C V V_{OL}(max) limit from table III.

V_{OL}(max) (adjusted limit) = (-3°C) x (0.44 mV/°C) + (-1620 mV)
= 1.32 mV - 1620 mV = 1621.32 mV
Use - 1621 mV

Follow the same procedure to adjust the remaining parameters at 25°C.

6.6.3 Maximum junction temperature. Under no circumstance should the devices be operated in an environment such that T_J as calculated by the following equation be allowed to exceed the maximum junction temperature rating of 1.2.4. $T_J = T_C + \theta J_A$ (TYP) x P_D (max). Typical junction to ambient thermal resistance θJ_A (TYP) varies as a function of air velocity as shown on figure 8.

6.7 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.

Custodians:
Army - ER
Navy - EC
Air Force - 17

Review activities:
Army - AR, MI
Navy - SH, OS, TD
Air Force - 11, 19, 85, 99
DLA - ES

User activities:
Army - SM
Navy - AS, CG, MC

Agent:
DLA - ES

Preparing activity:
Air Force - 17

(Project 5962-0784-1)