

MILITARY SPECIFICATION
 MICROCIRCUITS, DIGITAL, CMOS, NOR GATES
 MONOLITHIC SILICON, POSITIVE LOGIC

Inactive for new design after 9 August 1996

This amendment forms a part of MIL-M-38510/52D, dated 30 April 1984,
 and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

1.2.3, add new case outline as follows:

“T F-2A (14-lead, .390” x .260” x .115”), flat package”.

PAGE 3

4.2a: Delete “3.1.9 through 3.1.13”, and substitute “initial (pre burn-in) electrical parameters (3.1.10) through interim (post burn-in) electrical parameters (3.1.14)”.

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4.4.1, insert d and e as follows:

- “d. Subgroups 9 and 11 shall be measured only for initial qualification and after process or design changes which may affect dynamic performance.
- e. When device types 01 through 03 are qualified by extension (see 4.3.1), these device types will be inspected (QCI) according to the requirements for device types 51 through 53, respectively.”

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TABLE I, t_{PHL} and t_{PLH} , delete and substitute as follows:

“

Test	Symbol	Conditions	Device	Limits		Unit
				Min	Max	
Propagation delay times High to low level	t_{PHL}	$V_{DD} = 5\text{ V dc}$ $C_L = 50\text{ pF}$ See figure 5	All	10	315	ns
			01, 51	10	415	
	02, 52		13	315		
	03, 04, 53, 54		10	315		
Low to high level	t_{PLH}					

”

TABLE I, t_{THL} and t_{TLH} , Min limits column: Delete “15”, “23”, and “21” and substitute “10” (3 places).

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TABLE II, Line no. 9, Class B devices, Table III subgroups column: Insert "10 and 11"; Line no. 12: Delete in its entirety.

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FIGURE 1: Delete "Cases A, C and D" and substitute "Cases A, C, D, T, X, and Y" (4 places).

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*TABLE III, I_{L} , Max limits column: Change "-7.0" to "-700.0", "-1.0" to "-100.0", and "-45" to "-100.0", respectively.
*TABLE III, I_{H} , Max limits column: Change "7.0" to "700.0", "1.0" to "100.0", and "45" to "100.0", respectively.

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TABLE III, t_{PHL} , t_{PLH} , t_{THL} , t_{TLH} , Subgroup 9, Min limits column: Delete "11", "14", "15", and "23" and substitute "10" (4 places). Subgroup 10 Min limits column: Delete "16", "21", "23", and "34" and substitute "14" (4 places). Subgroup 11, Min limits column: Delete "11", "14", "15", and "23" and substitute "10" (4 places).

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*TABLE III, I_{L} , Max limits column: Change "-8.0" to "-800.0", "-1.0" to "-100.0", and "-45" to "-100.0", respectively.
*TABLE III, I_{H} , Max limits column: Change "8.0" to "800.0", "1.0" to "100.0", and "45" to "100.0", respectively.

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TABLE III, I_{H} , Max limits column: change "1.0" to "100.0", and "45" to "100.0", respectively.
TABLE III, t_{PHL} and t_{PLH} , Subgroup 9, Min limits column: Delete "30" and substitute "13". Subgroup 10, Min limits Column: Delete "39" and substitute "18". Subgroup 11, Min limits column: Delete "15" and "22" and substitute "13" (2 places).
TABLE III, t_{THL} and t_{TLH} , Subgroup 9, Min limits column: Delete "40" and "50" and substitute "10" (2 places). Subgroup 10, Min limits column: Delete "52" and "65" and substitute "14" (2 places). Subgroup 11, Min limits column: Delete "30" and "37" and substitute "10" (2 places).

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TABLE III, device types 03 and 04: Delete "Cases A, C, D, X, and Y" and substitute "Cases A, C, D, T, X, and Y" (3 places)

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TABLE III, device types 03 and 04: Delete "Cases A, C, D, X, and Y" and substitute "Cases A, C, D, T, X, and Y"
TABLE III, t_{PHL} , t_{PLH} , t_{THL} , t_{TLH} , Subgroup 9, Min limits column: Delete "11", "15", and "21" and substitute "10" (3 places). Subgroup 10 Min limits column: Delete "16", "23", and "31" and substitute "14" (3 places). Subgroup 11, Min limits column: Delete "11", "15", and "21" and substitute "10" (3 places).

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TABLE III, device types 03 and 04: Delete "Cases A, C, D, X, and Y" and substitute "Cases A, C, D, T, X, and Y" (2 places).

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TABLE III, device types 03 and 04: Delete “Cases A, C, D, X, and Y” and substitute “Cases A, C, D, T, X, and Y”.
*TABLE III, I_{IL} , Max limits column: change “-9.0” to “-900.0”, “-1.0” to “-100.0”, and “-45” to “-100.0”, respectively.
*TABLE III, I_{IH} , Max limits column: change “9.0” to “900.0”, “1.0” to “100.0”, and “45” to “100.0”, respectively.

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TABLE III, device types 03 and 04: Delete “Cases A, C, D, X, and Y” and substitute “Cases A, C, D, T, X, and Y”.
TABLE III, t_{PHL} and t_{PLH} , Subgroup 9, Min limits column: Delete “11” and substitute “10”. Subgroup 10, Min limits Column: Delete “16” and substitute “14”. Subgroup 11, Min limits column: Delete “11” and substitute “10”.

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TABLE III, device types 03 and 04: Delete “Cases A, C, D, X, and Y” and substitute “Cases A, C, D, T, X, and Y”.
TABLE III heading, Subgroup 1, Subgroup 2, and Subgroup 3: Delete “1”, “2”, and “3” and substitute “9”, “10”, and “11”, respectively.
TABLE III, t_{THL} and t_{TLH} , Subgroup 9, Min limits column: Delete “15” and “21” and substitute “10” (2 places). Subgroup 10, Min limits column: Delete “23” and “31” and substitute “14” (2 places). Subgroup 11, Min limits column: Delete “15” and “21” and substitute “10” (2 places).

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TABLE III, t_{PHL} , Subgroup 9, Min limits column: Delete “11” and substitute “10”. Subgroup 10, Min limits Column: Delete “16” and substitute “14”. Subgroup 11, Min limits column: Delete “11” and substitute “10”.

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TABLE III heading, Subgroup 1, Subgroup 2, and Subgroup 3: Delete “1”, “2”, and “3” and substitute “9”, “10”, and “11”, respectively.
TABLE III, t_{PLH} , t_{THL} , t_{TLH} , Subgroup 9, Min limits column: Delete “14”, “15”, and “23” and substitute “10” (3 places). Subgroup 10, Min limits column: Delete “21”, “23”, and “34” and substitute “14” (3 places). Subgroup 11, Min limits column: Delete “14”, “15”, and “23” and substitute “10” (3 places).

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*TABLE III, I_{IL} , Max limits column: change “-8.0” to “-800.0”, “-1.0” to “-100.0”, and “-45” to “-100.0”, respectively.
*TABLE III, I_{IH} , Max limits column: change “8.0” to “800.0”, “+1.0” to “100.0”, and “45” to “100.0”, respectively.

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TABLE III, t_{PHL} and t_{PLH} , Subgroup 9, Min limits column: Delete “11” (2 places) and substitute “13” (2 places). Subgroup 10, Min limits column: Delete “16” (2 places) and substitute “18” (2 places). Subgroup 11, Min limits column: Delete “11” (2 places) and substitute “13” (2 places).
TABLE III, t_{THL} and t_{TLH} , Subgroup 9, Min limits column: Delete “15” and “21” and substitute “10” (2 places). Subgroup 10, Min limits column: Delete “23” and “31” and substitute “14” (2 places). Subgroup 11, Min limits column: Delete “15” and “21” and substitute “10” (2 places).

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TABLE III, device types 53 and 54: Delete “Cases A, C, D, X, and Y” and substitute “Cases A, C, D, T, X, and Y” (2 places).

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TABLE III, device types 53 and 54: Delete "Cases A, C, D, X, and Y" and substitute "Cases A, C, D, T, X, and Y".
TABLE III, Test No. 78, pin 13: Delete "5 V".
TABLE III, Test No. 79, pin 1: Delete "5 V".
TABLE III, Test No. 80, pin 13: Delete "5 V".
TABLE III, Test No. 81, pin 1: Delete "5 V".

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TABLE III, device types 53 and 54: Delete "Cases A, C, D, X, and Y" and substitute "Cases A, C, D, T, X, and Y" (2 places).
TABLE III, t_{PHL} , t_{PLH} , t_{THL} , t_{TLH} , Subgroup 9, Min limits column: Delete "11" (2 places), "15" and "21" and substitute "10" (4 places). Subgroup 10, Min limits column: Delete "16" (2 places), "23", and "31" and substitute "14" (4 places). Subgroup 11, Min limits column: Delete "11" (2 places), "15", and "21" and substitute "10" (4 places).

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TABLE III, device types 53 and 54: Delete "Cases A, C, D, X, and Y" and substitute "Cases A, C, D, T, X, and Y".
TABLE III, Test limits, Subgroup 1 and Subgroup 2 columns, Test Nos. 23 through 25: Delete "-25" and "-750", respectively.

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TABLE III, device types 53 and 54: Delete "Cases A, C, D, X, and Y" and substitute "Cases A, C, D, T, X, and Y" (2 places).

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TABLE III, device types 53 and 54: Delete "Cases A, C, D, X, and Y" and substitute "Cases A, C, D, T, X, and Y".
TABLE III, I_{OH1} , Test Nos. 92, 93, and 94: Delete input conditions of "10 V" and substitute "15 V" (18 places).
*TABLE III, I_{IL} , Max limits column: change "-9.0" to "-900.0", "-1.0" to "-100.0", and "-45" to "-100.0", respectively.
*TABLE III, I_{IH} , Max limits column: change "9.0" to "900.0", "1.0" to "100.0", and "45" to "100.0", respectively.

PAGES 50 AND 51

TABLE III, device types 53 and 54: Delete "Cases A, C, D, X, and Y" and substitute "Cases A, C, D, T, X, and Y" (2 places).
TABLE III, t_{PHL} , t_{PLH} , t_{THL} , t_{TLH} , Subgroup 9, Min limits column: Delete "11" (2 places), "15" and "21" and substitute "10" (4 places). Subgroup 10, Min limits column: Delete "16" (2 places), "23", and "31" and substitute "14" (4 places). Subgroup 11, Min limits column: Delete "11" (2 places), "15", and "21" and substitute "10" (4 places).

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4.4.3: Delete 4.4.3c and substitute as follows:

- "c. When device types 01 through 03 are qualified by extension (see 4.3.1), these device types will be inspected (QCI) according to the requirements for device types 51 through 53, respectively."

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The margins of this amendment are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment.

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force - 11
NASA - NA
DLA - CC

Preparing activity:

DLA - CC

Review activities:

Navy - AS, CG, MC, OS, SH
Army - AR, MI, SM
Air Force - 19, 85, 99

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