

MILITARY SPECIFICATION

MICROCIRCUITS, DIGITAL, TTL, DATA SELECTORS/MULTIPLEXERS,
MONOLITHIC SILICON

This amendment forms a part of Military Specification MIL-M-38510/14D,
dated 2 August 1982, and is approved for use by all Departments and
Agencies of the Department of Defense.

PAGE 1

1.1, line 2: Delete "Three" and substitute "Two".

- * 1.1, second sentence: Delete "for each type".

PAGE 2

- * 1.3, "Thermal resistance," delete and substitute:

"Thermal resistance, junction to case (θ_{JC}):
Cases E, F, J, K, and Z) - - - - - (See MIL-M-38510, Appendix C)".

- * 1.3, following "Junction temperature": Add "3".

- * 1.4, following "Supply voltage": Add " (V_{CC}) ".

1.4, following "Case operating temperature range" add: " (T_C) ".

- * Add footnote 3/ at bottom of page:

"3/ Maximum junction temperature shall not be exceeded except for allowable
short-duration burn-in screening conditions per method 5004 of MIL-STD-883."

PAGE 3

- * 3.2.3, last sentence: Delete "all manufacturers" and substitute "all qualified
manufacturers."

TABLE I, under conditions column heading, add " $-55^{\circ}\text{C} \leq T_C \leq +125^{\circ}\text{C}$ ". Make
this same change on pages 4 and 5.

TABLE I, I_{IL}, device type column: Make separate line for 01 with minimum
limit of "-0.6".

PAGE 4

TABLE I: Delete and substitute new table I as printed on page 5 of this
amendment.

PAGE 5

- * 3.6, delete and substitute:

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

- * TABLE I, conditions column: Delete "(figure 7)" and "(figure 8)" and substitute
"(figure 6)" and "(figure 7)" respectively.

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PAGE 6

TABLE II: Delete class C devices column in its entirety.

* TABLE II, group A electrical tests, class B devices column: Add "8".

4.2a(1): Delete: "or E".

4.2c, delete paragraph in its entirety and substitute:

"The percent defective allowable (PDA) shall be as specified in MIL-M-38510."

* 4.2d: Delete in its entirety.

PAGE 7

4.4.3b: Delete in its entirety.

4.4.3c(1): Delete "or E".

* 4.4.3d: Delete in its entirety.

4.4.5: Delete in its entirety.

* 6.1: Delete in its entirety.

* 6.3 Delete "contract or order" and substitute "acquisition document".

PAGE 23

* NOTES: Note 1/, Delete "PRR = 1 MHz" and substitute "PRR < 1 MHz". After "duty cycle = 50%", add "*15%". Make this same change to pages 24 and 25.

PAGE 26

* TABLE III, device 01, tests 24 - 44, minimum limits column: Add "1/".

PAGE 27

* TABLE III, device 01, tests 89 - 121, pins 9 and 10: Add "2/" and "3/", respectively.

* TABLE III, device 01, tests 89 - 121, minimum/maximum limits column: Delete "see note 1" and substitute "3/".

* TABLE III, device 01, subgroup 9, MIL-STD-883 method column: Delete "(Fig 6)" and substitute "(Fig 5)"; make this same change to subgroups 9 and 10 on pages 28 and 29.

PAGE 29

TABLE III, device 01, Footnote 1, delete in its entirety and substitute:

"Notes:

1/ I_{IL} minimum limit for CKT E is -0.6 mA.

2/ A = 3.0 V minimum; B = 0.0 V or GND.

3/ H > 1.5 V; L < 1.5 V.

Only attributes data is required for subgroups 7 and 8."

PAGE 31

TABLE III, device 02, test 56, column G, add "1".

TABLE III, device 02, test 56, column W, add "2".

TABLE III, test limits column, delete "See note 1" and substitute "2".

- * TABLE III, test 73 - 96, MIL-STD-883 method column: Delete "(Fig 6)" and substitute "(Fig 5)"; make this same change for all subgroups on pages 32 and 33.

PAGE 33

TABLE III, device 02, Note 1, delete in its entirety and substitute:

"Notes:

1/ A = 3.0 V minimum; B = 0.0 V or GND.

2/ H > 1.5 V; L < 1.5 V.

Only attributes data is required for subgroups 7 and 8."

PAGE 35

TABLE III, device 03, test 56, column 1G, add "1".

TABLE III, device 03, test 56, column 1Y, and "2".

TABLE III, device 03, test limits column, delete "See note 1" and substitute "2".

- * TABLE III, device 03, test numbers 65 - 84, MIL-STD-883 column: Delete "(Fig 7)" and substitute "(Fig 6)"; make this same change to all subgroups on page 36.

PAGE 36

TABLE III, device 03, Note 1, delete in its entirety and substitute:

"Notes:

1/ A = 3.0 V minimum; B = 0.0 V or GND.

2/ H > 1.5 V; L < 1.5 V.

Only attributes data is required for subgroups 7 and 8."

PAGE 38

TABLE III, device 04, test 54, column 2Y, add "2".

TABLE III, device 04, test 54, column B, add "1".

TABLE III, device 04, test limits column, delete "See note 1" and substitute "2".

- * TABLE III, device 04, tests 62 - 93, MIL-STD-883 column: Delete "(Fig 7)" and substitute "(Fig 6)"; make this same change to all subgroups on pages 39 and 40.

PAGE 40

TABLE III, device 04, Note 1, delete in its entirety and substitute:

"Notes:

1/ A = 3.0 V minimum; B = 0.0 V or GND.

2/ H > 1.5 V; L < 1.5 V.

Only attributes data is required for subgroups 7 and 8."

PAGE 42

TABLE III, device 05, test 54, column A, add "1".

TABLE III, device 05, test 54, column 1Y, add "2".

TABLE III, device 05, test limits column, delete "See note 1" and substitute "2".

- * TABLE III, device 05, tests 54 - 66, MIL-STD-883 method column: Delete "(Fig 8)" and substitute "(Fig 7)"; make this same change to all subgroups on pages 43 and 44.

PAGE 44

TABLE III, Note 1, delete in its entirety and substitute:

"Notes:

1/ A = 3.0 V minimum; B = 0.0 V or GND.

2/ H > 1.5 V; L < 1.5 V.

Only attributes data is required for subgroups 7 and 8."

PAGE 46

TABLE III, device 06, test 56, column D0, add "1".

TABLE III, device 06, test 56, column Y, add "2".

TABLE III, device 06, test limits column, delete "See note 1" and substitute "2".

- * TABLE III, device 06, tests 73 - 92, MIL-STD-883 column: Delete "(Fig 6)" and substitute "(Fig 5)"; make this same change to all subgroups on pages 47 and 48.

PAGE 48

TABLE III, Note 1, delete in its entirety and substitute:

"Notes:

1/ A = 3.0 V minimum; B = 0.0 V or GND.

2/ H > 1.5 V; L < 1.5 V.

Only attributes data is required for subgroups 7 and 8."

PAGE 49

6.3g, delete in its entirety and substitute:

"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."

- * 6.4, GND: Delete "Electrical ground (common terminal)" and substitute "Ground zero voltage potential".

6.7 TABLE IV, Device types 01, 02, 04, under circuit E; Add "X".

The margins of this amendment are marked with asterisks or vertical lines 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.

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Custodians:

Army - ER
Navy - EC
Air Force - 17

Preparing activity:
Air Force - 17

(Project 5962-0760)

Review activities:

Army - AR, MI
Navy - OS, SH, TD
Air Force - 11, 19, 85, 99

User activities:

Army - SM
Navy - AS, CG, MC

Agent:

DLA - ES

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TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions -55°C ≤ T _C ≤ +125°C	Device type	Limits		Units
				Min	Max	
Propagation delay time high-to-low level output from A, B, or C to W	t _{PHL1}	R _L = 390Ω±5%, C _L = 50 pF minimum (figure 5)	02	6	40	ns
			06	6	48	
Propagation delay time low-to-high level output from A, B, or C to W	t _{PLH1}		02	6	38	ns
			06	6	43	
Propagation delay time high-to-low level output from A, B, or C to Y	t _{PHL2}		02	8	49	ns
			06	8	60	
Propagation delay time low-to-high level output from A, B, or C to Y	t _{PLH2}		02	8	45	ns
			06	8	58	
Propagation delay time high-to-low level output from strobe to W	t _{PHL3}		02	6	37	ns
			06	6	38	
Propagation delay time low-to-high level output from strobe to W	t _{PLH3}		02, 06	6	35	ns
Propagation delay time high-to-low level output from strobe to Y	t _{PHL4}		02	8	46	ns
			06	8	52	
Propagation delay time low-to-high level output from strobe to Y	t _{PLH4}		02	8	42	ns
			06	8	52	
Propagation delay time high-to-low level output from D ₀ -D ₇ to W	t _{PHL5}		02, 06	3	32	ns
Propagation delay time low-to-high level output from D ₀ -D ₇ to W	t _{PLH5}		02, 06	3	26	ns
Propagation delay time high-to-low level output from D ₀ -D ₇ to Y	t _{PHL6}		02	6	41	ns
			06	6	44	
Propagation delay time low-to-high level output from D ₀ -D ₇ to Y	t _{PLH6}		02	6	33	ns
			06	6	36	
Propagation delay time high-to-low level output from data to Y	t _{PHL1}	R _L = 390Ω±5%, C _L = 50 pF minimum (figure 6)	03	3	29	ns
Propagation delay time low-to-high level output from data to Y	t _{PLH1}		03	3	28	ns
Propagation delay time high-to-low level output from A or B to Y	t _{PHL2}		03	6	44	ns
Propagation delay time low-to-high level output from A or B to Y	t _{PLH2}		03	6	42	ns
Propagation delay time high-to-low level output from strobe to Y	t _{PHL3}		03	6	32	ns
Propagation delay time low-to-high level output from strobe to Y	t _{PLH3}		03	6	42	ns