

PERFORMANCE SPECIFICATION SHEET

DELAY LINES, ACTIVE, 14-PIN SURFACE MOUNT, 5 TAP

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

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-PRF-83532.

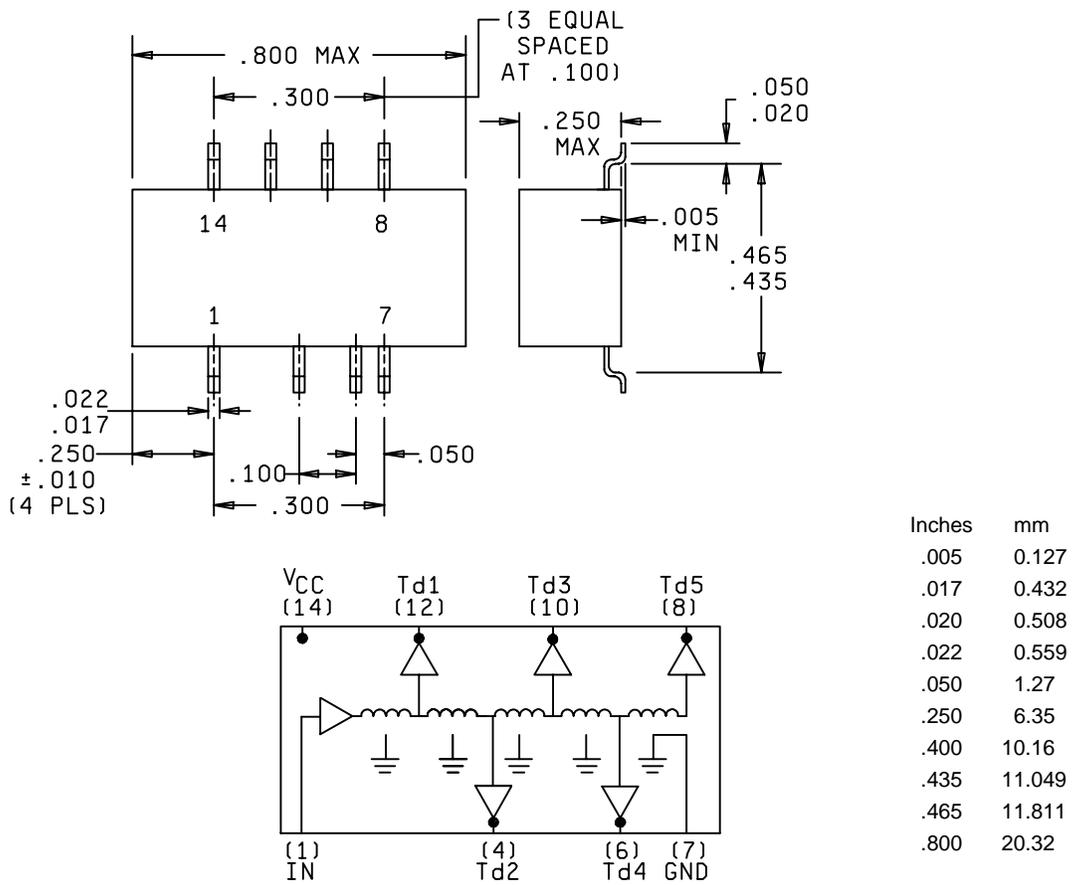


FIGURE 1. Outline drawing and schematic.

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Schematic is for general information only.
4. Pins 2, 3, 5, 9, 11, and 13 are omitted on level A delay lines.
5. All pins are installed on level B delay lines.
6. Pin 7 is ground.

FIGURE 1. Outline drawing and schematic – Continued.

REQUIREMENTS:

Dimensions and configuration: See figure 1.

Input pulse: Delay lines must be capable of meeting applicable table I and table II requirements with an input pulse having the following characteristics:

- A - leading edge of a positive-going pulse.
- B - minimum pulse width of 50 percent of total delay time.
- C - fixed pulse repetition rate equal to ten times the total delay time.
- D - duty cycle not to exceed 50 percent.

Delay times: Delay time from input to all taps shall be as specified in table I (+25°C) and table II (-55°C and +125°C).

TABLE I. Dash numbers and delay characteristics at +25°C, $V_{CC} = 5.00 \pm .01$ volts.

Dash Number	Delay and tolerances (ns)				
	Tap 1 Pin 12	Tap 2 Pin 4	Tap 3 Pin 10	Tap 4 Pin 6	Output Pin 8
001	5 ±2 ns	10 ±2 ns	15 ±2 ns	20 ±2 ns	25 ±2 ns
002	6 ±2 ns	12 ±2 ns	18 ±2 ns	24 ±2 ns	30 ±2 ns
003	7 ±2 ns	14 ±2 ns	21 ±2 ns	28 ±2 ns	35 ±2 ns
004	8 ±2 ns	16 ±2 ns	24 ±2 ns	32 ±2 ns	40 ±2 ns
005	9 ±2 ns	18 ±2 ns	27 ±2 ns	36 ±2 ns	45 ±5%
006	10 ±2 ns	20 ±2 ns	30 ±2 ns	40 ±2 ns	50 ±5%
007	11 ±2 ns	22 ±2 ns	33 ±2 ns	44 ±5%	55 ±5%
008	12 ±2 ns	24 ±2 ns	36 ±2 ns	48 ±5%	60 ±5%
009	13 ±2 ns	26 ±2 ns	39 ±2 ns	52 ±5%	65 ±5%
010	14 ±2 ns	28 ±2 ns	42 ±5%	56 ±5%	70 ±5%
011	15 ±2 ns	30 ±2 ns	45 ±5%	60 ±5%	75 ±5%
012	16 ±2 ns	32 ±2 ns	48 ±5%	64 ±5%	80 ±5%
013	18 ±2 ns	36 ±2 ns	54 ±5%	72 ±5%	90 ±5%
014	20 ±2 ns	40 ±2 ns	60 ±5%	80 ±5%	100 ±5%
015	25 ±2 ns	50 ±5%	75 ±5%	100 ±5%	125 ±5%
016	30 ±2 ns	60 ±5%	90 ±5%	120 ±5%	150 ±5%
017	35 ±2 ns	70 ±5%	105 ±5%	140 ±5%	175 ±5%
018	40 ±2 ns	80 ±5%	120 ±5%	160 ±5%	200 ±5%
019	45 ±5%	90 ±5%	135 ±5%	180 ±5%	225 ±5%
020	50 ±5%	100 ±5%	150 ±5%	200 ±5%	250 ±5%
021	55 ±5%	110 ±5%	165 ±5%	210 ±5%	275 ±5%
022	60 ±5%	120 ±5%	180 ±5%	240 ±5%	300 ±5%
023	70 ±5%	140 ±5%	210 ±5%	280 ±5%	350 ±5%
024	80 ±5%	160 ±5%	240 ±5%	320 ±5%	400 ±5%
025	90 ±5%	180 ±5%	270 ±5%	360 ±5%	450 ±5%
026	100 ±5%	200 ±5%	300 ±5%	400 ±5%	500 ±5%
027	120 ±5%	240 ±5%	360 ±5%	480 ±5%	600 ±5%
028	140 ±5%	280 ±5%	420 ±5%	560 ±5%	700 ±5%
029	160 ±5%	320 ±5%	480 ±5%	640 ±5%	800 ±5%
030	180 ±5%	360 ±5%	540 ±5%	720 ±5%	900 ±5%
031	200 ±5%	400 ±5%	600 ±5%	800 ±5%	1,000 ±5%

TABLE II. Dash numbers and delay characteristics at -55°C and +125°C, $V_{CC} = 5.00 \pm .01$ volts.

Dash number	Delay and tolerances (ns)				
	Tap 1 Pin 12	Tap 2 Pin 4	Tap 3 Pin 10	Tap 4 Pin 6	Output Pin 8
001	5 ±3 ns	10 ±3 ns	15 ±3 ns	20 ±3 ns	25 ±3 ns
002	6 ±3 ns	12 ±3 ns	18 ±3 ns	24 ±3 ns	30 ±3 ns
003	7 ±3 ns	14 ±3 ns	21 ±3 ns	28 ±3 ns	35 ±3 ns
004	8 ±3 ns	16 ±3 ns	24 ±3 ns	32 ±3 ns	40 ±3 ns
005	9 ±3 ns	18 ±3 ns	27 ±3 ns	36 ±3 ns	45 ±8%
006	10 ±3 ns	20 ±3 ns	30 ±3 ns	40 ±3 ns	50 ±8%
007	11 ±3 ns	22 ±3 ns	33 ±3 ns	44 ±8%	55 ±8%
008	12 ±3 ns	24 ±3 ns	36 ±3 ns	48 ±8%	60 ±8%
009	13 ±3 ns	26 ±3 ns	39 ±3 ns	52 ±8%	65 ±8%
010	14 ±3 ns	28 ±3 ns	42 ±8%	56 ±8%	70 ±8%
011	15 ±3 ns	30 ±3 ns	45 ±8%	60 ±8%	75 ±8%
012	16 ±3 ns	32 ±3 ns	48 ±8%	64 ±8%	80 ±8%
013	18 ±3 ns	36 ±3 ns	54 ±8%	72 ±8%	90 ±8%
014	20 ±3 ns	40 ±3 ns	60 ±8%	80 ±8%	100 ±8%
015	25 ±3 ns	50 ±8%	75 ±8%	100 ±8%	125 ±8%
016	30 ±3 ns	60 ±8%	90 ±8%	120 ±8%	150 ±8%
017	35 ±3 ns	70 ±8%	105 ±8%	140 ±8%	175 ±8%
018	40 ±3 ns	80 ±8%	120 ±8%	160 ±8%	200 ±8%
019	45 ±8%	90 ±8%	135 ±8%	180 ±8%	225 ±8%
020	50 ±8%	100 ±8%	150 ±8%	200 ±8%	250 ±8%
021	55 ±8%	110 ±8%	165 ±8%	210 ±8%	275 ±8%
022	60 ±8%	120 ±8%	180 ±8%	240 ±8%	300 ±8%
023	70 ±8%	140 ±8%	210 ±8%	280 ±8%	350 ±8%
024	80 ±8%	160 ±8%	240 ±8%	320 ±8%	400 ±8%
025	90 ±8%	180 ±8%	270 ±8%	360 ±8%	450 ±8%
026	100 ±8%	200 ±8%	300 ±8%	400 ±8%	500 ±8%
027	120 ±8%	240 ±8%	360 ±8%	480 ±8%	600 ±8%
028	140 ±8%	280 ±8%	420 ±8%	560 ±8%	700 ±8%
029	160 ±8%	320 ±8%	480 ±8%	640 ±8%	800 ±8%
030	180 ±8%	360 ±8%	540 ±8%	720 ±8%	900 ±8%
031	200 ±8%	400 ±8%	600 ±8%	800 ±8%	1,000 ±8%

Output rise time (applied to leading edge only): 4 ns maximum for dash numbers 001 through 025; 5 ns maximum for dash numbers 026 through 031. Measurement conditions ($-55^{\circ}\text{C} \leq T_C \leq +125^{\circ}\text{C}$): $V_{CC} = 5.0\text{ V dc}$; $TR_1 \leq 3\text{ ns}$; $C_L = 50\text{ pF}$; $R_L = 500\Omega$.

DC parameters (over operating temperature range): See table III.

TABLE III. DC characteristics.

Test	Symbol	Conditions $-55^{\circ}\text{C} \leq T_C \leq +125^{\circ}\text{C}$	Limits		Unit
			Min	Max	
High level output voltage	V_{OH}	$V_{CC} = 4.5\text{ V}$ $V_{IH} = 2.0\text{ V}$ $I_{OH} = -1\text{ mA}$	2.5		V
Low level output voltage	V_{OL}	$V_{CC} = 4.5\text{ V}$ $V_{IL} = 0.8\text{ V}$ $I_{OL} = 20\text{ mA}$		0.5	V
Input clamp voltage	V_{IC}	$V_{CC} = 4.5\text{ V}$ $I_I = -18\text{ mA}$ $T_C = +25^{\circ}\text{C}$		-1.2	V
High level input current	I_{IH1}	$V_{CC} = 5.5\text{ V}$, $V_{IH} = 2.7\text{ V}$		50	μA
	I_{IH2}	$V_{CC} = 5.5\text{ V}$, $V_{IH} = 5.5\text{ V}$		1,000	μA
Low level input current	I_{IL}	$V_{CC} = 5.5\text{ V}$, $V_{IL} = 0.5$		-2.0	mA
Short circuit output current	I_{OS}	$V_{CC} = 5.5\text{ V}$, $V_{OS} = 0.0\text{ V}$ (not more than one output shorted at a time)	-40	-150	mA
Low level supply current	I_{CCL}	$V_{CC} = 5.5\text{ V}$ $V_I = 0.0\text{ V}$		75	mA

Rated maximum load (fan-out): Ten TTL Schottky loads per tap (no more than 20 TTL Schottky loads per unit).

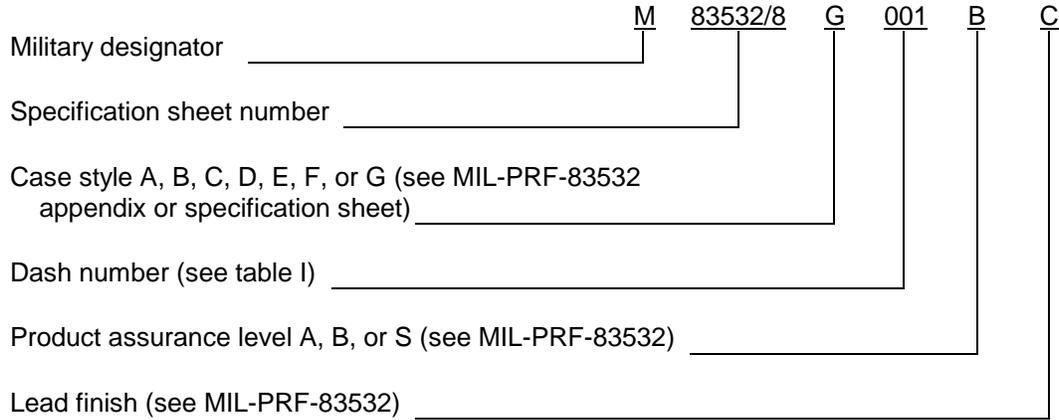
Terminations: Part terminations shall be printed-circuit pin type in accordance with MIL-PRF-38534.

Operating temperature: Operating temperature range shall be -55°C to $+125^{\circ}\text{C}$.

Number of sections: Five sections minimum, except for dash numbers 001 through 005 which shall have four sections minimum.

MIL-PRF-83532/8

Part or Identifying Number (PIN): The PIN shall be in the following format:



QUALITY ASSURANCE PROVISIONS:

Extent of qualification: The extent of qualification shall be as specified in MIL-PRF-83532, for example:

Qualification and testing of M83532/08G001A* 1/ and M83532/08G031A* 1/ shall be sufficient to grant qualification to all dash numbers with case style G contained in this specification sheet. Similarly, for case styles A, B, C, D, E, F, and G, qualification and testing of dash numbers 001 and 031 shall be sufficient to grant qualification to all dash numbers in this specification sheet having the same case style as the components tested.

Product assurance levels: Product assurance level A shall not extend to level B. Level B shall not extend to level A.

1/ * - Asterisk represents any of the applicable finishes.

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

Preparing activity:
DLA - CC

(Project 5999-1008)