

# 16 Pin 10-Tap TTL Buffered Delay Modules

## OPERATING SPECIFICATIONS

$V_{CC}$  Supply Voltage Commercial Grade.....5.00 $\pm$ 0.25VDC  
 $V_{CC}$  Supply Voltage Military Grade.....5.00 $\pm$ 0.50VDC  
 $I_{CC}$  Supply Current.....120 mA typical  
Logic "1" Input:  $V_{IH}$ .....2.00V min., 5.50V max.  
 $I_{IH}$ .....50 $\mu$ A max. @ 2.4V  
Logic "0" Input:  $V_{IL}$ .....0.80V max.  
 $I_{IL}$ .....-2mA max.  
 $V_{OH}$  Logic "1" Voltage Out.....2.40V min.  
 $V_{OL}$  Logic "0" Voltage Out.....0.50V max.  
 $T_{RO}$  Output Rise Time.....4.00ns max.  
 $P_{WI}$  Input Pulse Width.....20% of total delay min.  
Operating Temperature Range Commercial Grade.....0 $^{\circ}$  to 70 $^{\circ}$ C  
Operating Temperature Range Military Grade.....-55 $^{\circ}$  to +125 $^{\circ}$ C  
Storage Temperature Range.....-65 $^{\circ}$  to +150 $^{\circ}$ C

## PART NUMBER DESCRIPTION

**D2TZM2 - XXX X**

16 Pin 10-Tap Schottky TTL Delay Module

Total Delay in nanoseconds (ns)

Grade

Blank = Commercial Grade

M = Military Grade

## TEST CONDITIONS

(Measurements made at 25 $^{\circ}$ C)

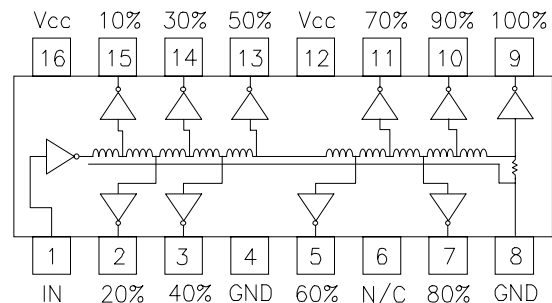
$V_{CC}$  Supply Voltage.....5.00VDC  
Input Pulse Voltage.....3.20V  
Input Pulse Rise Time.....3.00ns max.  
Input Pulse Period.....5.0 x Total Delay  
Input Pulse Duty Cycle.....50%  
10pF Load on Outputs

| Part Number | Nominal Tap Delays (ns) $\pm$ 5% or 2ns whichever is greater |     |      |     |      |     |      |     |      | OUTPUT (ns)      | Tap-to-Tap (ns) |
|-------------|--------------------------------------------------------------|-----|------|-----|------|-----|------|-----|------|------------------|-----------------|
|             | 1                                                            | 2   | 3    | 4   | 5    | 6   | 7    | 8   | 9    |                  |                 |
| D2TZM2-10   | 5                                                            | 6   | 7    | 8   | 9    | 10  | 11   | 12  | 13   | 14 $\pm$ 1.50    | 1 $\pm$ 0.5     |
| D2TZM2-20   | 5                                                            | 7   | 9    | 11  | 13   | 15  | 17   | 19  | 21   | 23 $\pm$ 1.50    | 2 $\pm$ 0.8     |
| D2TZM2-50   | 5                                                            | 10  | 15   | 20  | 25   | 30  | 35   | 40  | 45   | 50 $\pm$ 2.50    | 5 $\pm$ 2.0     |
| D2TZM2-60   | 6                                                            | 12  | 18   | 24  | 30   | 36  | 42   | 48  | 54   | 60 $\pm$ 3.00    | 6 $\pm$ 2.0     |
| D2TZM2-70   | 7                                                            | 14  | 21   | 28  | 35   | 42  | 49   | 56  | 63   | 70 $\pm$ 3.50    | 7 $\pm$ 2.0     |
| D2TZM2-75   | 7.5                                                          | 15  | 22.5 | 30  | 37.5 | 45  | 52.5 | 60  | 67.5 | 75 $\pm$ 3.75    | 7.5 $\pm$ 2.0   |
| D2TZM2-80   | 8                                                            | 16  | 24   | 32  | 40   | 48  | 56   | 64  | 72   | 80 $\pm$ 4.00    | 8 $\pm$ 2.0     |
| D2TZM2-90   | 9                                                            | 18  | 27   | 36  | 45   | 54  | 63   | 72  | 81   | 90 $\pm$ 4.50    | 9 $\pm$ 2.0     |
| D2TZM2-100  | 10                                                           | 20  | 30   | 40  | 50   | 60  | 70   | 80  | 90   | 100 $\pm$ 5.00   | 10 $\pm$ 2.0    |
| D2TZM2-120  | 12                                                           | 24  | 36   | 48  | 60   | 72  | 84   | 96  | 108  | 120 $\pm$ 6.00   | 12 $\pm$ 2.5    |
| D2TZM2-150  | 15                                                           | 30  | 45   | 60  | 75   | 90  | 105  | 120 | 135  | 150 $\pm$ 7.50   | 15 $\pm$ 3.0    |
| D2TZM2-200  | 20                                                           | 40  | 60   | 80  | 100  | 120 | 140  | 160 | 180  | 200 $\pm$ 10.00  | 20 $\pm$ 3.0    |
| D2TZM2-250  | 25                                                           | 50  | 75   | 100 | 125  | 150 | 175  | 200 | 225  | 250 $\pm$ 12.50  | 25 $\pm$ 3.0    |
| D2TZM2-300  | 30                                                           | 60  | 90   | 120 | 150  | 180 | 210  | 240 | 270  | 300 $\pm$ 15.00  | 30 $\pm$ 3.0    |
| D2TZM2-350  | 35                                                           | 70  | 105  | 140 | 175  | 210 | 245  | 280 | 315  | 350 $\pm$ 17.50  | 35 $\pm$ 4.0    |
| D2TZM2-400  | 40                                                           | 80  | 120  | 160 | 200  | 240 | 280  | 320 | 360  | 400 $\pm$ 20.00  | 40 $\pm$ 4.0    |
| D2TZM2-500  | 50                                                           | 100 | 150  | 200 | 250  | 300 | 350  | 400 | 450  | 500 $\pm$ 25.00  | 50 $\pm$ 5.0    |
| D2TZM2-600  | 60                                                           | 120 | 180  | 240 | 300  | 360 | 420  | 480 | 540  | 600 $\pm$ 30.00  | 60 $\pm$ 6.0    |
| D2TZM2-1000 | 100                                                          | 200 | 300  | 400 | 500  | 600 | 700  | 800 | 900  | 1000 $\pm$ 50.00 | 100 $\pm$ 10.0  |

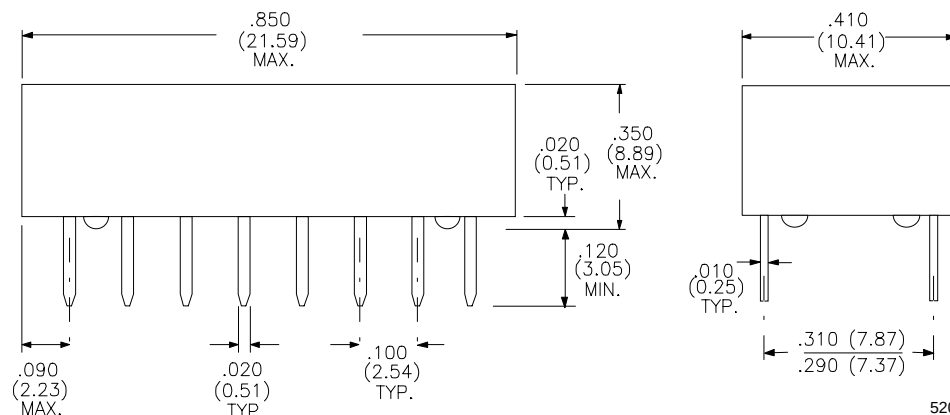
1. Rise Times are measured from 0.75V to 2.40V
2. Delays measured 1.50V level of leading edge.
3. Delays change  $\approx$  2% per 5% change in  $V_{CC}$ .

**VARIATIONS AVAILABLE. FOR INTERMEDIATE VALUES AND/ OR CUSTOM DESIGNS PLEASE CONSULT THE FACTORY.**

Schematic Diagram



**PHYSICAL DIMENSIONS**  
inches (mm)



520D2TZM -1/96



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