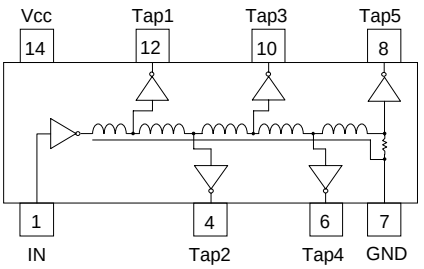
# *DTZM* Series FAST / TTL Buffered 5-Tap Delay Modules

- *14-Pin Package Commercial and Mil-Grade Versions*
- *FAST/TTL Logic Buffered*
- *5 Equal Delay Taps*
- *Operating Temperature Ranges 0°C to +70°C, or -55°C to +125°C*
- *8-Pin Versions: FAMDM Series SIP Versions: FSIDM Series*
- *Low Voltage CMOS Versions refer to LVMDM / LVIDM Series*

*DTZM* 14-Pin Schematic




Electrical Specifications at 25°C

| TTL Buffered 5 Tap Modules | | Tap Delay Tolerances +/- 5% or 2ns (+/- 1ns <13ns) | | | | | Tap-to-Tap (ns) |
|---|---|---|---|---|---|---|---|
| Part Number | Mil-Grade P/N | Tap 1 | Tap 2 | Tap 3 | Tap 4 | Total - Tap 5 | |
| DTZM1-9 | DTZM3-9M | 5.0 | 6.0 | 7.0 | 8.0 | 9 ± 1.0 | ** 1.0 ± 0.5 |
| DTZM1-13 | DTZM3-13M | 5.0 | 7.0 | 9.0 | 11.0 | 13 ± 1.5 | ** 2.0 ± 0.8 |
| DTZM1-17 | DTZM3-17M | 5.0 | 8.0 | 11.0 | 14.0 | 17 ± 1.5 | 3.0 ± 1.0 |
| DTZM1-20 | DTZM3-20M | 4.0 | 8.0 | 12.0 | 16.0 | 20 ± 1.5 | 4.0 ± 1.5 |
| DTZM1-25 | DTZM3-25M | 5.0 | 10.0 | 15.0 | 20.0 | 25 ± 2.0 | 5.0 ± 2.0 |
| DTZM1-30 | DTZM3-30M | 6.0 | 12.0 | 18.0 | 24.0 | 30 ± 2.0 | 6.0 ± 2.0 |
| DTZM1-35 | DTZM3-35M | 7.0 | 14.0 | 21.0 | 28.0 | 35 ± 2.0 | 7.0 ± 2.0 |
| DTZM1-40 | DTZM3-40M | 8.0 | 16.0 | 24.0 | 32.0 | 40 ± 2.0 | 8.0 ± 2.0 |
| DTZM1-45 | DTZM3-45M | 9.0 | 18.0 | 27.0 | 36.0 | 45 ± 2.25 | 9.0 ± 2.0 |
| DTZM1-50 | DTZM3-50M | 10.0 | 20.0 | 30.0 | 40.0 | 50 ± 2.5 | 10 ± 2.0 |
| DTZM1-60 | DTZM3-60M | 12.0 | 24.0 | 36.0 | 48.0 | 60 ± 3.0 | 12 ± 2.0 |
| DTZM1-75 | DTZM3-75M | 15.0 | 30.0 | 45.0 | 60.0 | 75 ± 3.75 | 15 ± 2.5 |
| DTZM1-80 | DTZM3-80M | 16.0 | 32.0 | 48.0 | 64.0 | 80 ± 4.0 | 16 ± 2.5 |
| DTZM1-100 | DTZM3-100M | 20.0 | 40.0 | 60.0 | 80.0 | 100 ± 5.0 | 20 ± 3.0 |
| DTZM1-125 | DTZM3-125M | 25.0 | 50.0 | 75.0 | 100.0 | 125 ± 6.25 | 25 ± 3.0 |
| DTZM1-150 | DTZM3-150M | 30.0 | 60.0 | 90.0 | 120.0 | 150 ± 7.5 | 30 ± 3.0 |
| DTZM1-200 | DTZM3-200M | 40.0 | 80.0 | 120.0 | 160.0 | 200 ± 10.0 | 40 ± 4.0 |
| DTZM1-250 | DTZM3-250M | 50.0 | 100.0 | 150.0 | 200.0 | 250 ± 12.5 | 50 ± 5.0 |
| DTZM1-300 | DTZM3-300M | 60.0 | 120.0 | 180.0 | 240.0 | 300 ± 15.0 | 60 ± 6.0 |
| DTZM1-350 | DTZM3-350M | 70.0 | 140.0 | 210.0 | 280.0 | 350 ± 17.5 | 70 ± 7.0 |
| DTZM1-400 | DTZM3-400M | 80.0 | 160.0 | 240.0 | 320.0 | 400 ± 20.0 | 80 ± 8.0 |
| DTZM1-500 | DTZM3-500M | 100.0 | 200.0 | 300.0 | 400.0 | 500 ± 25.0 | 100 ± 10.0 |
| DTZM1-800 | DTZM3-800M | 160.0 | 320.0 | 480.0 | 640.0 | 800 ± 40.0 | 160 ± 16.0 |

** These part numbers do not have 5 equal taps.
Tap-to-Tap Delays reference Tap 1.

## TEST CONDITIONS -- FAST / TTL

$V_{CC}$ Supply Voltage ..... 5.00VDC
Input Pulse Voltage ..... 3.20V
Input Pulse Rise Time ..... 3.0 ns max.
Input Pulse Width / Period ..... 1000 / 2000 ns

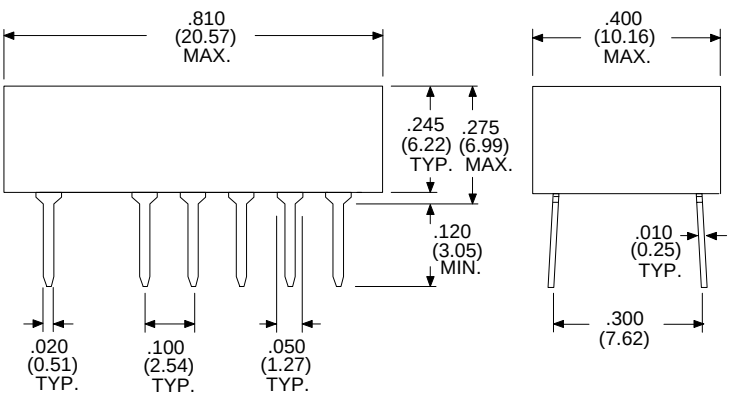
1. Measurements made at 25°C
2. Delay Times measured at 1.50V level of leading edge.
3. Rise Times measured from 0.75V to 2.40V.
4. 10pf probe and fixture load on output under test.

## OPERATING SPECIFICATIONS

$V_{CC}$ Supply Voltage ..... 5.00 ± 0.25 VDC
$I_{CC}$ Supply Current ..... 48 mA Maximum
Logic "1" Input: $V_{IH}$ ..... 2.00 V min., 5.50 V max.
$I_{IH}$ ..... 20 µA max. @ 2.70V
Logic "0" Input: $V_{IL}$ ..... 0.80 V max.
$I_{IL}$ ..... -0.6 mA mA
$V_{OH}$ Logic "1" Voltage Out ..... 2.40 V min.
$V_{OL}$ Logic "0" Voltage Out ..... 0.50 V max.
$P_{WI}$ Input Pulse Width ..... 40% of Delay min.
Operating Temperature Range ..... 0° to 70°C
Storage Temperature Range ..... -65° to +150°C

Dimensions in Inches (mm)

Commercial Grade 14-Pin Package with Unused Leads Removed as per Schematic. (For Mil-Grade DTZM3 the Height is 0.335")




**P/N Description** ***DTZM1 - XXX X***

Buffered 5 Tap Delays:
*14-pin Com'l:* DTZM1
*14-pin MIL:* DTZM3
Total Delay in nanoseconds (ns)
Temp. Range Blank = Commercial
M = Mil-Grade

Examples: DTZM1-25 = 25ns (5ns per tap)
74F, 14-Pin Thru-hole
DTZM3-50M = 50ns (10ns per tap)
74F, 14-Pin, Mil-Grade

**MIL-GRADE:** DTZM3 Military Grade delay lines use integrated circuits screened to MIL-STD-883B with an operating temperature range of -55 to +125°C. These devices have a package height of .335"

*Auto-Insertable DIP and Surface Mount Versions:*
*Refer to **FAIDM** Series, same 14-pin footprint.*
*For space saving, refer to **FAMDM** 8-pin Series*

Specifications subject to change without notice. *For other values & Custom Designs, contact factory.* DTZM13 9901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