

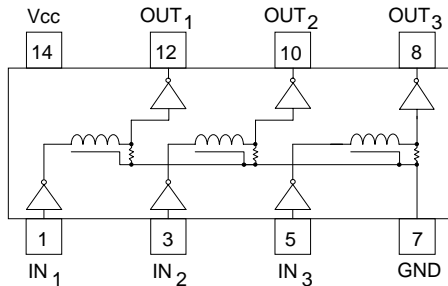
# MSDM Series FAST / TTL Buffered Triple Independent Delays

- 14-Pin Package Commercial and Mil-Grade Versions
- FAST/TTL Logic Buffered
- 3 Independent Equal Delay Lines  
\*\*\* Unique Delays Per Line are Available \*\*\*
- Operating Temperature Ranges  
0°C to +70°C, or -55°C to +125°C
- 8-pin DIP/SMD Versions: FAM3D Series  
14-pin DIP/SMD Versions: FAI3D Series

Electrical Specifications at 25°C

Delay Tolerance (ns)	14 Pin DIL TTL Buffered Triple Independent Delays	
	Commercial Part Number	MIL-Grade Part Number
5 ± 1.00	MSDM-5	MSDM3-5M
6 ± 1.00	MSDM-6	MSDM3-6M
7 ± 1.00	MSDM-7	MSDM3-7M
8 ± 1.00	MSDM-8	MSDM3-8M
9 ± 1.00	MSDM-9	MSDM3-9M
10 ± 1.50	MSDM-10	MSDM3-10M
15 ± 2.00	MSDM-15	MSDM3-15M
20 ± 2.00	MSDM-20	MSDM3-20M
25 ± 2.00	MSDM-25	MSDM3-25M
30 ± 2.00	MSDM-30	MSDM3-30M
35 ± 2.00	MSDM-35	MSDM3-35M
40 ± 2.00	MSDM-40	MSDM3-40M
45 ± 2.25	MSDM-45	MSDM3-45M
50 ± 2.50	MSDM-50	MSDM3-50M
60 ± 3.00	MSDM-60	MSDM3-60M
70 ± 3.50	MSDM-70	MSDM3-70M
75 ± 3.75	MSDM-75	MSDM3-75M
80 ± 4.00	MSDM-80	MSDM3-80M
90 ± 4.50	MSDM-90	MSDM3-90M
100 ± 5.0	MSDM-100	MSDM3-100M

MSDM 14-Pin Schematic

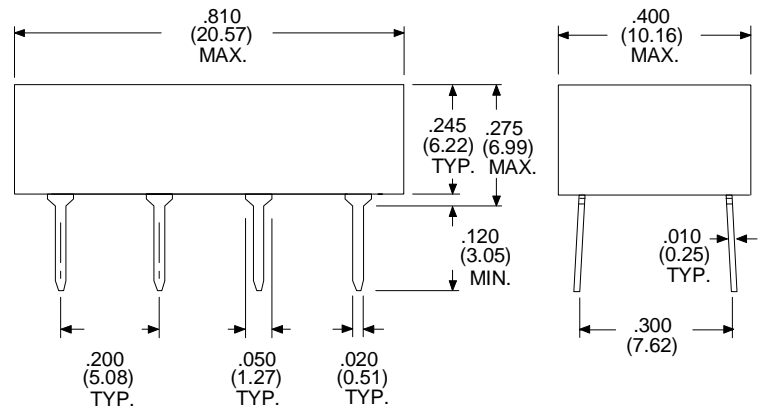


## TEST CONDITIONS -- FAST / TTL

- V<sub>CC</sub> 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.

Dimensions in Inches (mm)

Commercial Grade 14-Pin Package with Unused Leads Removed as per Schematic. (For Mil-Grade MSDM3 the Height is 0.335")



## OPERATING SPECIFICATIONS

- V<sub>CC</sub> Supply Voltage ..... 5.00 ± 0.25 VDC  
 I<sub>CC</sub> Supply Current ..... 45 mA typ, 95 mA max.  
 Logic "1" Input: V<sub>IH</sub> ..... 2.00 V min., 5.50 V max.  
                   I<sub>IH</sub> ..... 20 µA max. @ 2.70V  
 Logic "0" Input: V<sub>IL</sub> ..... 0.80 V max.  
                   I<sub>IL</sub> ..... -0.6 mA mA  
 V<sub>OH</sub> Logic "1" Voltage Out ..... 2.40 V min.  
 V<sub>OL</sub> Logic "0" Voltage Out ..... 0.50 V max.  
 P<sub>VI</sub> Input Pulse Width ..... 100% of Delay min.  
 Operating Temperature Range ..... 0° to 70°C  
 Storage Temperature Range ..... -65° to +150°C

**MIL-GRADE:** MSDM3 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"

P/N Description	<b>MSDM - XXX X</b>
Buffered Triple Delays:	
14-pin Com'l: MSDM	_____
14-pin MIL: MSDM3	_____
Total Delay in nanoseconds (ns)	_____
Temp. Range Blank = Commercial	_____
M = Mil-Grade	_____

- Examples: MSDM-25 = 25ns (25ns per Line)  
 74F, 14-Pin Thru-hole  
 MSDM3-50M = 50ns (50ns per Line)  
 74F, 14-Pin, Mil-Grade

**Auto-Insertable DIP and Surface Mount Versions:**  
 Refer to **FAI3D Series**, same 14-pin footprint.  
 For space saving, refer to **FAM3D 8-pin Series**

Specifications subject to change without notice.

For other values & Custom Designs, contact factory.

MSDM 9901



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