

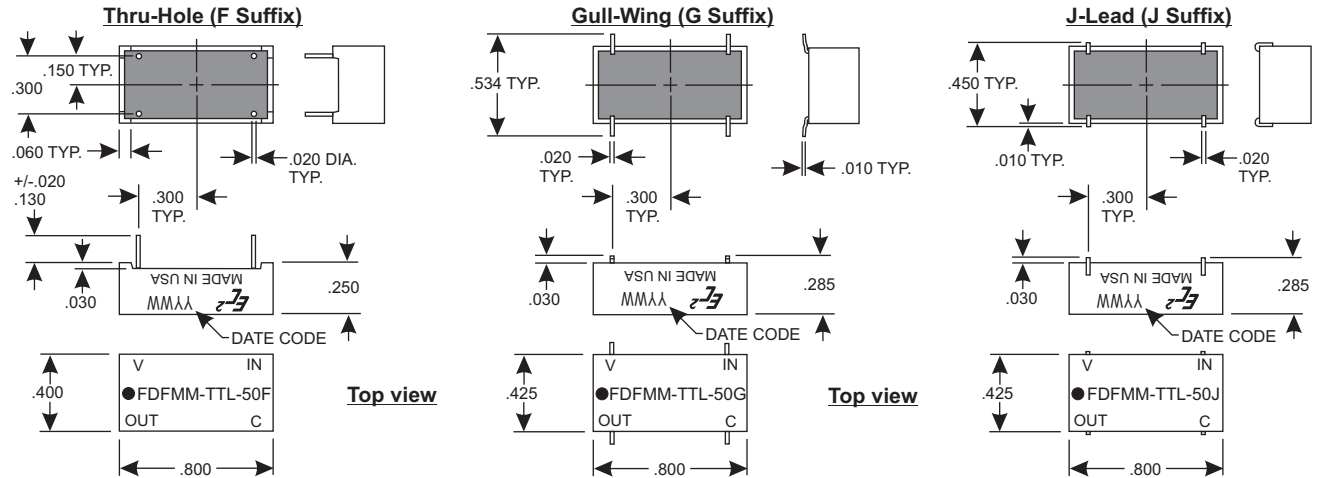
FAST TTL Digital Frequency Multiplier Module

The FAST TTL Digital Frequency Multiplier Modules manufactured by Engineered Components Company are designed to provide a square wave output at a given frequency which can be synchronized by square wave inputs at sub-harmonic frequencies. The falling edge of the output waveform is synchronized to the falling edge of the input waveform. If no synchronizing input is present, the unit will free-run, producing a continuous output square wave. Phase jitter at the output will increase as higher orders of multiplication are used.

The MTBF on these modules, when calculated per MIL-HDBK-217, for a 50 deg.C ground fixed environment and with 50VDC applied, is in excess of 3 million hours. The temperature coefficient of delay is less than 500 ppm/deg.C over the operating temperature range of 0 to +70 deg. C.

The module is provided in a 14-pin DIP package, fully encapsulated in epoxy resin and is housed in a Diallyl Phthalate case, blue in color. The case marking is applied by silkscreen using white epoxy paint. The 4 copper leads are tin-lead plated and meet the solderability requirements of MIL-STD-202, Method 208.

MECHANICAL DIAGRAM



Product Selection Table

(Add F Suffix for Thru-Hole Leads, G Suffix for Gull-Wing Leads, or J Suffix for J-Leads)

Part Number	Nominal Output Frequency	Output Frequency Tolerance
FDMM-TTL-2	2.0 MHz	+/-2%
FDMM-TTL-3	3.0 MHz	+/-2%
FDMM-TTL-4	4.0 MHz	+/-2%
FDMM-TTL-5	5.0 MHz	+/-2%
FDMM-TTL-6	6.0 MHz	+/-2%
FDMM-TTL-7	7.0 MHz	+/-2%
FDMM-TTL-8	8.0 MHz	+/-2%
FDMM-TTL-9	9.0 MHz	+/-2%
FDMM-TTL-10	10.0 MHz	+/-2%
FDMM-TTL-11	11.0 MHz	+/-2%
FDMM-TTL-12	12.0 MHz	+/-2%
FDMM-TTL-13	13.0 MHz	+/-2%
FDMM-TTL-14	14.0 MHz	+/-2%
FDMM-TTL-15	15.0 MHz	+/-2%
FDMM-TTL-20	20.0 MHz	+/-2%
FDMM-TTL-25	25.0 MHz	+/-2%
FDMM-TTL-30	30.0 MHz	+/-2%
FDMM-TTL-35	35.0 MHz	+/-2%
FDMM-TTL-40	40.0 MHz	+/-2%
FDMM-TTL-45	45.0 MHz	+/-2%
FDMM-TTL-50	50.0 MHz	+/-2%
FDMM-TTL-60	60.0 MHz	+/-2%
FDMM-TTL-70	70.0 MHz	+/-2%
FDMM-TTL-80	80.0 MHz	+/-2%
FDMM-TTL-90	90.0 MHz	+/-2%
FDMM-TTL-100	100.0 MHz	+/-2%

Special modules can often be manufactured to provide for customer specific applications.

Operating Specifications:

All measurements made at 25 deg. C
 All measurements made with Vcc = +5VDC
 All measurements made with (1) FAST TTL output load

Operating Temperature: 0 to +70 deg. C
 Storage Temperature: -55 to +125 deg. C

Vcc Supply Voltage: 4.75 to 5.25VDC

Vcc Supply Current:

FDMM-TTL-2X = 30mA typical

FDMM-TTL-100X = 60mA typical

Logic "High" Input:

Voltage: 2.0VDC min. ; Vcc max.

Current: 2.7VDC = 20uA max. ; 5.5VDC = 1mA max.

Logic "Low" Input:

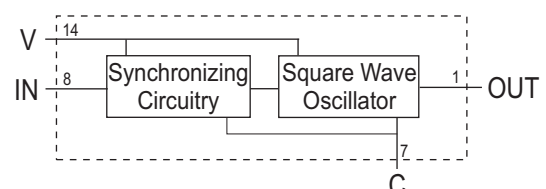
Voltage: 0.8 VDC max.

Current: -0.6mA max.

Logic "High" Voltage Out: 2.7VDC min.

Logic "Low" Voltage Out: 0.5VDC max.

BLOCK DIAGRAM



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