FAST TTL Manchester Decoder Module

The FAST TTL Manchester Decoder Modules manufactured by Engineered Components Company are designed to accept a TTL Manchester encoded data stream at a given bit rate and output the recovered clock signal and the original data signal. Manchester data with a rising edge in the center of the bit period will interpreted as a "1" and will result in a "high" output. Manchester data with a falling edge in the center of the bit period will be interpreted as a "low" at the output. Minor edge skewing in the transmission cycle will be tolerated without producing output errors. Skewing should not exceed that which would change a 50% duty cycle square wave at the module's bit rate by more than 6%.

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 1.5 million hours. These modules will decode input frequency errors of +/- 5% with no significant effect on the output error rate.

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 5 copper leads are tin-lead plated and meet the solderability requirements of MIL-STD-202, Method 208.

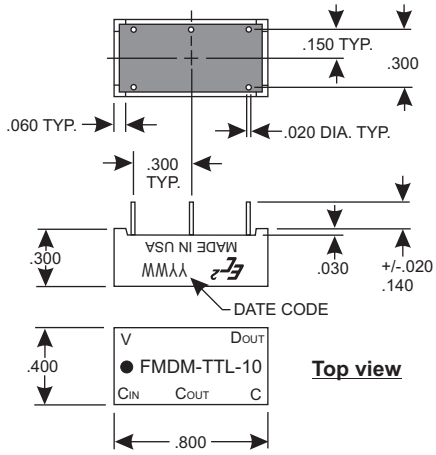
Operating Specifications:

All measurements made at 25 deg. C
All measurements made with Vcc = +5VDC
All measurements made with (1) FAST TTL output load
Input is a Manchester data stream at the module's nominal bit rate (Output Frequency)

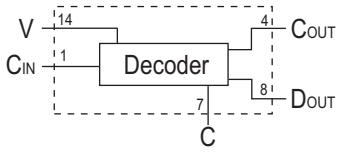
Operating Temperature: 0 to +70 deg. C
Storage Temperature: -55 to +125 deg. C

Vcc Supply Voltage: 4.75 to 5.25VDC
Vcc Supply Current: 80mA typical
Logic "High" Input:
  Voltage: 2.0VDC min. ; Vcc max.
  Current: 2.7VDC = 40uA max. ; 5.5VDC = 2mA max.
Logic "Low" Input:
  Voltage: 0.8 VDC max.
  Current: -1.2mA max.
Logic "High" Voltage Out: 2.7VDC min.
Logic "Low" Voltage Out: 0.5VDC max.

MECHANICAL DIAGRAM



BLOCK DIAGRAM



Product Selection Table

Part Number	Output Frequency (Mhz)	Part Number	Output Frequency in MHz)	Part Number	Output Frequency (Mhz)	Part Number	Output Frequency (MHz)
FMDM-TTL-2	2.0	FMDM-TTL-5.5	5.5	FMDM-TTL-12	12.0	FMDM-TTL-19	19.0
FMDM-TTL-2.5	2.5	FMDM-TTL-6	6.0	FMDM-TTL-13	13.0	FMDM-TTL-20	20.0
FMDM-TTL-3	3.0	FMDM-TTL-7	7.0	FMDM-TTL-14	14.0	FMDM-TTL-21	21.0
FMDM-TTL-3.5	3.5	FMDM-TTL-8	8.0	FMDM-TTL-15	15.0	FMDM-TTL-22	22.0
FMDM-TTL-4	4.0	FMDM-TTL-9	9.0	FMDM-TTL-16	16.0	FMDM-TTL-23	23.0
FMDM-TTL-4.5	4.5	FMDM-TTL-10	10.0	FMDM-TTL-17	17.0	FMDM-TTL-24	24.0
FMDM-TTL-5	5.0	FMDM-TTL-11	11.0	FMDM-TTL-18	18.0	FMDM-TTL-25	25.0

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

EC2 engineered components company
A Division of Cornucopia Tool & Plastics, Inc. PO Box 1915, 448 Sherwood Rd., Paso Robles CA 93447
Phone: 805-369-0034
Fax: 805-369-0033
Web: www.ec2.com