

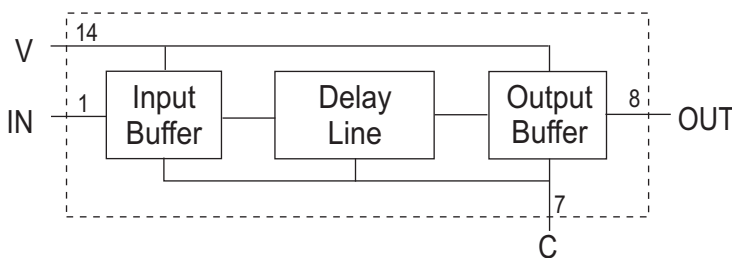
# TTL Military Logic Delay Line (Thinny)

The TTL Military Logic Delay Lines (Thinny) manufactured by Engineered Components Company are designed to provide an output waveform that reproduces the input waveform after a set amount of delay time has elapsed. These delay lines are non-inverting. The delay times are calibrated to the listed tolerances on the rising edge delays.

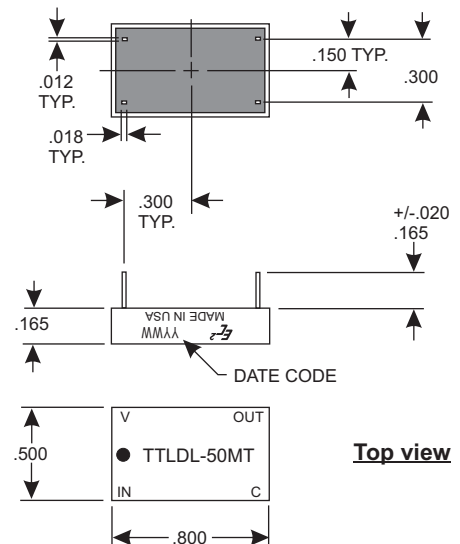
The MTBF on these modules, when calculated per MIL-HDBK-217, for a 50 deg.C ground fixed environment and with 50VDC applied, is in excess of 3 million hours. The temperature coefficient of delay is less than 1200 ppm/deg.C over a temperature range of -55 to +100 deg. C. These modules are designed to operate over the full military temperature range of -55 to +125 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, red 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.

## BLOCK DIAGRAM



## MECHANICAL DIAGRAM



Product Selection Table

Part Number	Output Delay and Tolerance (in ns)
TTLDL-6MT	6.0+/-1.0
TTLDL-7MT	7.0+/-1.0
TTLDL-8MT	8.0+/-1.0
TTLDL-9MT	9.0+/-1.0
TTLDL-10MT	10.0+/-1.0
TTLDL-11MT	11.0+/-1.0
TTLDL-12MT	12.0+/-1.0
TTLDL-13MT	13.0+/-1.0
TTLDL-14MT	14.0+/-1.0
TTLDL-15MT	15.0+/-1.0
TTLDL-16MT	16.0+/-1.0
TTLDL-17MT	17.0+/-1.0
TTLDL-18MT	18.0+/-1.0
TTLDL-19MT	19.0+/-1.0
TTLDL-20MT	20.0+/-1.0
TTLDL-21MT	21.0+/-1.0
TTLDL-22MT	22.0+/-1.0
TTLDL-23MT	23.0+/-1.0
TTLDL-24MT	24.0+/-1.0
TTLDL-25MT	25.0+/-1.0
TTLDL-30MT	30.0+/-1.5
TTLDL-35MT	35.0+/-1.5
TTLDL-40MT	40.0+/-1.5
TTLDL-45MT	45.0+/-2.0

Product Selection Table (Cont.)

Part Number	Output Delay and Tolerance (in ns)
TTLDL-50ML	50.0+/-2.0
TTLDL-55ML	55.0+/-2.0
TTLDL-60ML	60.0+/-2.0
TTLDL-65ML	65.0+/-2.5
TTLDL-70ML	70.0+/-2.5
TTLDL-75ML	75.0+/-3.5
TTLDL-80ML	80.0+/-3.5
TTLDL-85ML	85.0+/-3.0
TTLDL-90ML	90.0+/-3.0
TTLDL-95ML	95.0+/-3.0
TTLDL-100ML	100.0+/-3.0
TTLDL-125ML	125.0+/-4.0
TTLDL-150ML	150.0+/-4.5
TTLDL-175ML	175.0+/-5.0
TTLDL-200ML	200.0+/-6.0
TTLDL-225ML	225.0+/-7.0
TTLDL-250ML	250.0+/-8.0
TTLDL-275ML	275.0+/-9.0
TTLDL-300ML	300.0+/-10.0
TTLDL-350ML	350.0+/-11.0
TTLDL-400ML	400.0+/-12.0
TTLDL-450ML	450.0+/-14.0
TTLDL-500ML	500.0+/-15.0

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) TTL output load

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

Vcc Supply Voltage: 4.75 to 5.25VDC

Vcc Supply Current:

Constant "0" in = 60mA typical

Constant "1" in = 20mA typical

Logic "High" Input:

Voltage: 2.0VDC min. ; Vcc max.

Current: 2.4VDC = 50uA max. ; 5.5VDC = 1mA max.

Logic "Low" Input:

Voltage: 0.8 VDC max.

Current: -2.0mA max.

Logic "High" Voltage Out: 2.4VDC min.

Logic "Low" Voltage Out: 0.4VDC max.



**engineered components company**

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