

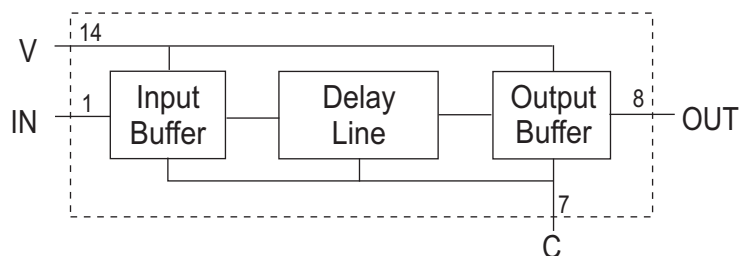
TTL Military Logic Delay Line (Low Profile)

The TTL Military Logic Delay Lines (Low Profile) 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.

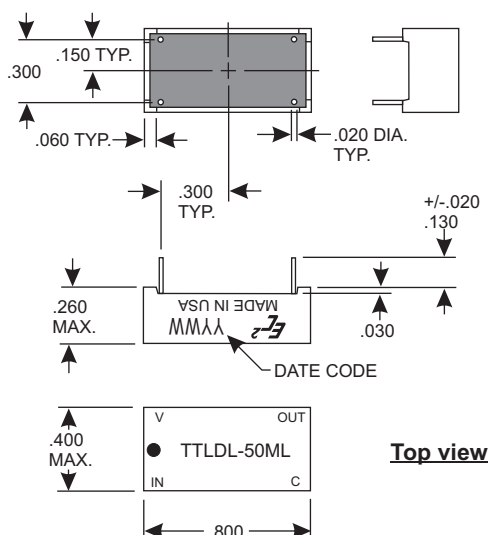
The MTBF on these modules, when calculated per MIL-HDBK-217, for a 50 deg.C ground fixed environment and with 50VDC applied, is in excess of 3 million hours. The temperature coefficient of delay is less than 1200 ppm/deg.C over a temperature range of -55 to +100 deg. C. These modules are designed to 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-6ML	6.0+/-1.0
TTLDL-7ML	7.0+/-1.0
TTLDL-8ML	8.0+/-1.0
TTLDL-9ML	9.0+/-1.0
TTLDL-10ML	10.0+/-1.0
TTLDL-11ML	11.0+/-1.0
TTLDL-12ML	12.0+/-1.0
TTLDL-13ML	13.0+/-1.0
TTLDL-14ML	14.0+/-1.0
TTLDL-15ML	15.0+/-1.0
TTLDL-16ML	16.0+/-1.0
TTLDL-17ML	17.0+/-1.0
TTLDL-18ML	18.0+/-1.0
TTLDL-19ML	19.0+/-1.0
TTLDL-20ML	20.0+/-1.0
TTLDL-21ML	21.0+/-1.0
TTLDL-22ML	22.0+/-1.0
TTLDL-23ML	23.0+/-1.0
TTLDL-24ML	24.0+/-1.0
TTLDL-25ML	25.0+/-1.0
TTLDL-30ML	30.0+/-1.5
TTLDL-35ML	35.0+/-1.5
TTLDL-40ML	40.0+/-1.5
TTLDL-45ML	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

Operating Specifications:

All measurements made at 25 deg. C
 All measurements made with $V_{cc} = +5VDC$
 All measurements made with (1) TTL output load

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

V_{cc} Supply Voltage: 4.75 to 5.25VDC

V_{cc} Supply Current:

Constant "0" in = 60mA typical

Constant "1" in = 20mA typical

Logic "High" Input:

Voltage: 2.0VDC min. ; V_{cc} 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.

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



engineered components company

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