

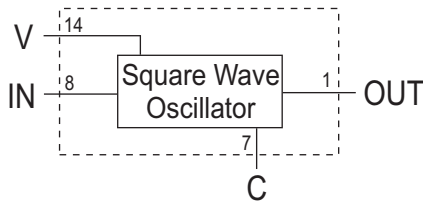
# TTL Military Square Wave Generator Module (Thinny)

The TTL Military Square Wave Generator Modules (Thinny) manufactured by Engineered Components Company are designed to provide a square wave output at a given frequency. These generators are both keyable and synchronizable, producing a continuous output train as long as a TTL "low" is applied to the input. With a TTL "high" applied to the input, the output will produce a constant TTL "high". When the input switches to "low", the output goes "low" one half-cycle later and continues to output a continuous square wave output. When the input switches back to "high", the output will be forced to a "high" one half-cycle later. An inverted output is also supplied.

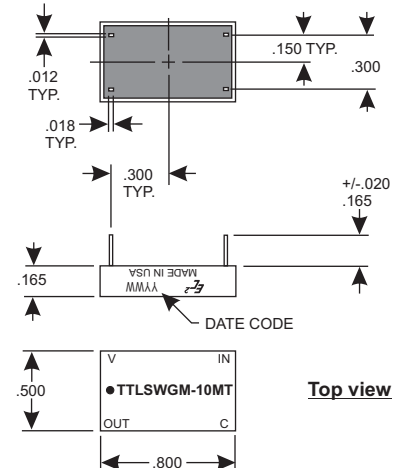
The MTBF on these modules, when calculated per MIL-HDBK-217, for a 50 deg.C ground fixed environment and with 50VDC applied, is in excess of 3 million hours. The temperature coefficient of delay is less than 500 ppm/deg.C over a temperature range of -55 to +100 deg. C. These modules are designed to operate 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	Nominal Output Frequency	Output Frequency Tolerance
TTLSWG-2MT	2.0 MHz	+/-2%
TTLSWG-2.5MT	2.5 MHz	+/-2%
TTLSWG-3MT	3.0 MHz	+/-2%
TTLSWG-3.5MT	3.5 MHz	+/-2%
TTLSWG-4MT	4.0 MHz	+/-2%
TTLSWG-4.5MT	4.5 MHz	+/-2%
TTLSWG-5MT	5.0 MHz	+/-2%
TTLSWG-5.5MT	5.5 MHz	+/-2%
TTLSWG-6MT	6.0 MHz	+/-2%
TTLSWG-7MT	7.0 MHz	+/-2%
TTLSWG-8MT	8.0 MHz	+/-2%
TTLSWG-9MT	9.0 MHz	+/-2%
TTLSWG-10MT	10.0 MHz	+/-2%
TTLSWG-11MT	11.0 MHz	+/-2%
TTLSWG-12MT	12.0 MHz	+/-2%
TTLSWG-13MT	13.0 MHz	+/-2%
TTLSWG-14MT	14.0 MHz	+/-2%
TTLSWG-15MT	15.0 MHz	+/-2%
TTLSWG-20MT	20.0 MHz	+/-2%
TTLSWG-25MT	25.0 MHz	+/-2%
TTLSWG-30MT	30.0 MHz	+/-2%
TTLSWG-35MT	35.0 MHz	+/-2%
TTLSWG-40MT	40.0 MHz	+/-2%
TTLSWG-45MT	45.0 MHz	+/-2%
TTLSWG-50MT	50.0 MHz	+/-2%
TTLSWG-60MT	60.0 MHz	+/-2%
TTLSWG-70MT	70.0 MHz	+/-2%
TTLSWG-80MT	80.0 MHz	+/-2%
TTLSWG-90MT	90.0 MHz	+/-2%
TTLSWG-100MT	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) 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:

TTLSWG-2MT = 36mA typical

TTLSWG-100MT = 60mA 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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