Made in U.S.A.

SQUARE WAVE GENERATOR MODULES

MDFSWGM-TTL-XXX

Mini DIP FAST TTL Square Wave Generator Module

- TTL FAST input and outputs
- Output wavetrain can be started in sync with random events
- 8-pin DIP package
- Leads - Thru-hole, J, Gull Wing or Tucked
- Available in frequencies from 2 MHz to 100 MHz
- Output frequencies controlled to within ±2%
- 10 TTL fan-out capacity

DESIGN NOTES

The "Mini Dip Series" Square Wave Generator Modules developed by Engineered Components Company have been designed to provide a TTL level square wave output at frequencies from 2 MHz to 100 MHz. These generators are both keyable and synchronizable, producing a continuous output train as long as a zero (low) is maintained at the enable input. As long as the enable input is a "1" (high), the output will be a constant "1" (high). Whenever the enable input goes low, the output wavetrain will start in the same sequence with the first low appearing one-half cycle after trigger, and the first positive edge occurring after the period of one cycle. (Note: The output buffer will add one propagation delay to all times). This feature allows the initiation of a timing wavetrain with the origin in synchronization with another event. [Top]

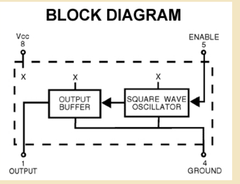
These Square Wave Generator Modules are of hybrid construction utilizing the proven technologies of active integrated circuitry and of passive networks utilizing capacitive, inductive and resistive elements. The MTBF on these modules, when calculated per MIL-HDBK-217 for a 50°C ground fixed environment, is in excess of 3 million hours.

The MDFSWGM-TTL is offered in thirty (30) different frequencies from 2 MHz to 100 MHz. Output frequencies are controlled to within ± 2% and have a temperature coefficient of less than -500ppm/°C over the operating temperature range of 0 to 70°C.

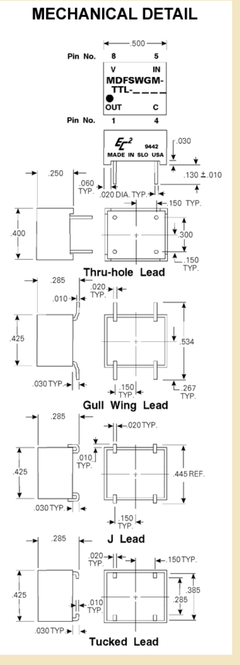
These "Mini DIP Series" modules are packaged in an 8-pin DIP housing, molded of flame-proof Diallyl Phthalate per ASTM D 5948, Type SDG-F, and are fully encapsulated in epoxy resin. Thru-hole, J, Gull Wing or Tucked Lead configurations are available on these modules (see Part Number Table note to specify). Leads meet the solderability requirements of MIL-STD-202, Method 208. Corner standoffs on the housing of the thru-hole lead version and lead design of the surface mount versions provide positive standoff from the printed circuit board to permit solder-fillet formation and flush cleaning of solder-flux residues for improved reliability.

Marking consists of manufacturer's logo (EC²), part number, pin one (1) identification and date code of manufacture. All marking is applied by silk screen process using white epoxy paint in accordance with MIL-STD-130, to meet the permanency of identification required by MIL-STD-202, Method 215.

BLOCK DIAGRAM



MECHANICAL DETAIL



TEST CONDITIONS

1. All measurements are made at 25°C.
2. Vcc supply voltage is maintained at 5.0V DC.
3. All units are tested using a FAST toggle-type gate driving the input and one FAST TTL load at the output.

OPERATING SPECIFICATIONS

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*Vcc supply voltage: ............ 4.75 to 5.25V DC
Vcc supply current:
     MDFSWGM-TTL-2 ............... 20mA typical
     MDFSWGM-TTL-100 ............. 30mA typical
     (Current increases with operating frequency)

Logic 1 Input:
     Voltage ..................... 2V min.; Vcc max.
     Current...................... 2.7V = 20uA max.
                                   5.5V = 1mA max.

Logic 0 Input:
     Voltage ..................... 0.8V max.
     Current ..................... -0.6mA max.

Logic 1 Voltage out: ............ 2.7V min.
Logic 0 Voltage out: ............ 0.5V max.
Operating temperature range: .... 0 to 70°C.
Storage temperature: ............ -55 to +125°C.
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*Output frequency will increase or decrease less than 1% for a respective increase or decrease of 5% in supply voltage.

PART NUMBER TABLE

Suffix Part Number with G (for Gull Wing Lead), J (for J Lead), F (for Thru-hole Lead) or T (for Tucked Lead).
Examples: MDFSWGM-TTL-10G (Gull Wing), MDFSWGM-TTL-25J (J Lead), MDFSWGM-TTL-70F (Thru-hole Lead) or MDFSWGM-TTL-100T (Tucked Lead).

Part Number	Output Frequency
MDFSWGM-TTL-2	12.0 MHz
MDFSWGM-TTL-2.5	2.5 MHz
MDFSWGM-TTL-3	3.0 MHz
MDFSWGM-TTL-3.5	3.5 MHz
MDFSWGM-TTL-4	4.0 MHz
MDFSWGM-TTL-4.5	4.5 MHz
MDFSWGM-TTL-5	5.0 MHz
MDFSWGM-TTL-5.5	5.5 MHz
MDFSWGM-TTL-6	6.0 MHz
MDFSWGM-TTL-7	7.0 MHz
MDFSWGM-TTL-8	8.0 MHz
MDFSWGM-TTL-9	9.0 MHz
MDFSWGM-TTL-10	10.0 MHz
MDFSWGM-TTL-11	11.0 MHz
MDFSWGM-TTL-12	12.0 MHz
MDFSWGM-TTL-13	13.0 MHz
MDFSWGM-TTL-14	14.0 MHz
MDFSWGM-TTL-15	15.0 MHz
MDFSWGM-TTL-20	20.0 MHz
MDFSWGM-TTL-25	25.0 MHz
MDFSWGM-TTL-30	30.0 MHz
MDFSWGM-TTL-35	35.0 MHz
MDFSWGM-TTL-40	40.0 MHz
MDFSWGM-TTL-45	45.0 MHz
MDFSWGM-TTL-50	50.0 MHz
MDFSWGM-TTL-60	60.0 MHz
MDFSWGM-TTL-70	70.0 MHz
MDFSWGM-TTL-80	80.0 MHz
MDFSWGM-TTL-90	90.0 MHz
MDFSWGM-TTL-100	100.0 MHz

Special modules can be readily manufactured to improve accuracies and/or provide customer specified frequencies for specific applications.

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