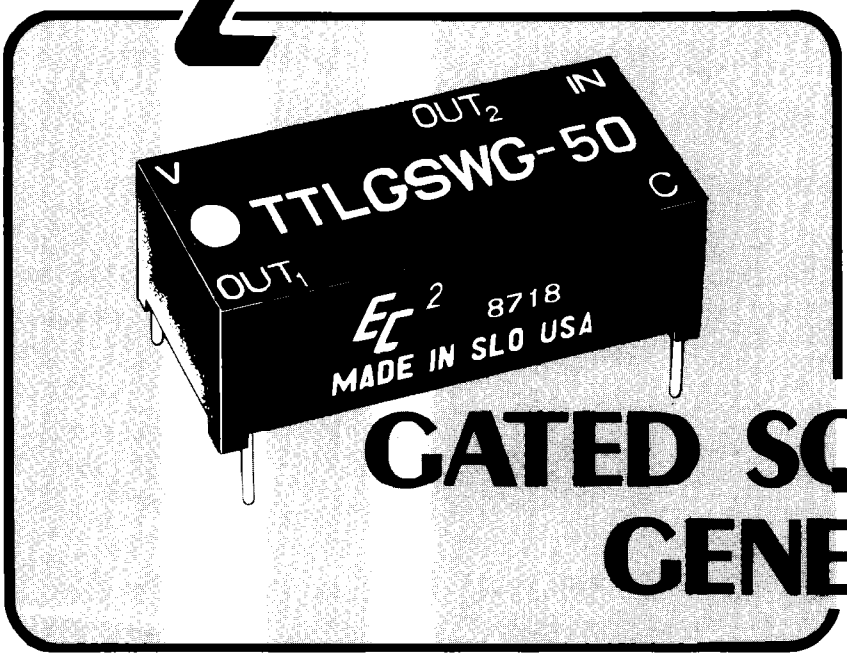


low profile

T²L COMPATIBLE GATED SQUARE WAVE GENERATOR

- T²L input and outputs
- Output wavetrain can be started in sync with random events
- 14-pin DIP package (.240 high)
- Available in frequencies from 2 Mhz to 100 Mhz
- Output frequencies controlled to within ±2%
- 10 T²L fan-out capacity

design notes

The "DIP Series" Gated Square Wave Generator modules developed by Engineered Components Company have been designed to provide a T²L 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), OUT_1 will be a constant "1" (high) and OUT_2 will be a constant "0" (low). Whenever the enable input goes low, OUT_2 goes high immediately. OUT_1 and OUT_2 go low together after a one-half cycle delay and, thereafter run in phase. When enable input returns to high, OUT_2 is forced low immediately and OUT_1 is forced high one-half cycle later. (Note: The output buffers will add one propagation delay to all times).

These Gated 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 ICs utilized in these modules are burned-in to level B of MIL-STD-883 to ensure a high MTBF. 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 TTLGSWG 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 −500 ppm/°C over the operating temperature range of 0 to +70°C.

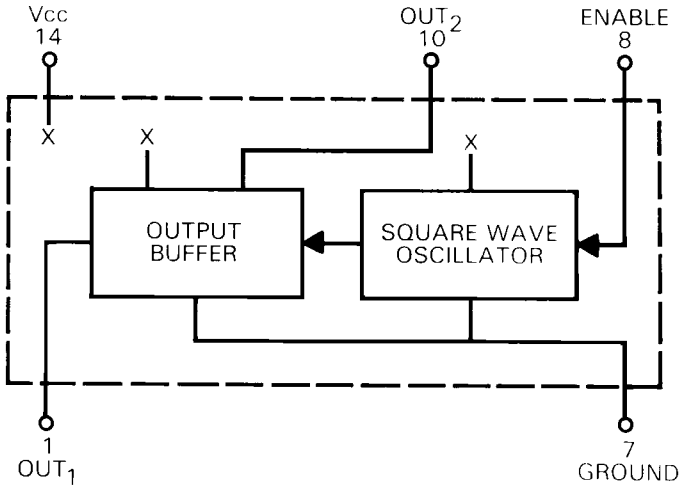
These "DIP Series" modules are packaged in a 14-pin DIP housing, molded of flame-proof Diallyl Phthalate per MIL-M-14, Type SDG-F, and are fully encapsulated in epoxy resin. Leads meet the solderability requirements of MIL-STD-202, Method 208. Corner standoffs on the housing provide positive standoff from the printed circuit board to permit solder-fillet formation and flush cleaning of solder-flux residues for improved reliability.

EC² engineered components company
3580 Sacramento Drive, P. O. Box 8121, San Luis Obispo, CA 93403-8121
Phone: (805) 544-3800

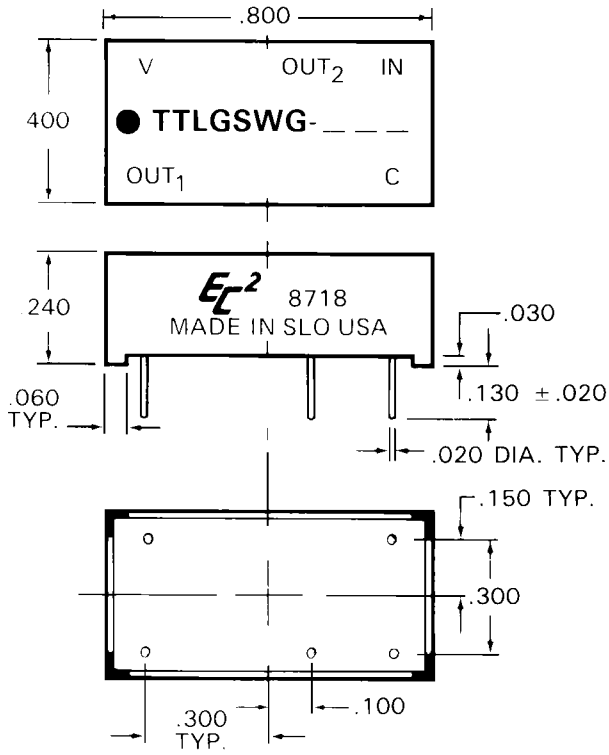
DESIGN NOTES (Continued)

Marking consists of manufacturer's logo (EC^2), part number, terminal 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 IS SHOWN BELOW



MECHANICAL DETAIL IS SHOWN BELOW



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 Schottky toggle-type gate driving the input and one Schottky T^2L load at the output

OPERATING SPECIFICATIONS

*V_{CC} supply voltage: . . . . . 4.75 to 5.25V DC

V_{CC} supply current:

TTLGSWG-2 . . . . . 36ma typical

TTLGSWG-100 . . . . . 60ma typical

(Current increases with operating frequency)

Logic 1 input:

Voltage . . . . . 2V min.; 5.5V max.

Current . . . . . 2.4V = 50ua max.

. . . . . 5.5V = 1ma max.

Logic 0 input:

Voltage . . . . . .8V max.

Current . . . . . −2ma max.

Logic 1 Voltage out: . . . . . 2.4V min.

Logic 0 Voltage out: . . . . . .4V max.

Operating temperature range: . . . . . 0 to 70°C.

Storage temperature: . . . . . −55 to +125°C.

*Output frequency will increase or decrease less than 1% for a respective increase or decrease of 5% in supply voltage.

PART NUMBER TABLE

Part Number	Output Frequency	Part Number	Output Frequency
TTLGSWG-2	2.0 Mhz	TTLGSWG-13	13.0 Mhz
TTLGSWG-2.5	2.5 Mhz	TTLGSWG-14	14.0 Mhz
TTLGSWG-3	3.0 Mhz	TTLGSWG-15	15.0 Mhz
TTLGSWG-3.5	3.5 Mhz	TTLGSWG-20	20.0 Mhz
TTLGSWG-4	4.0 Mhz	TTLGSWG-25	25.0 Mhz
TTLGSWG-4.5	4.5 Mhz	TTLGSWG-30	30.0 Mhz
TTLGSWG-5	5.0 Mhz	TTLGSWG-35	35.0 Mhz
TTLGSWG-5.5	5.5 Mhz	TTLGSWG-40	40.0 Mhz
TTLGSWG-6	6.0 Mhz	TTLGSWG-45	45.0 Mhz
TTLGSWG-7	7.0 Mhz	TTLGSWG-50	50.0 Mhz
TTLGSWG-8	8.0 Mhz	TTLGSWG-60	60.0 Mhz
TTLGSWG-9	9.0 Mhz	TTLGSWG-70	70.0 Mhz
TTLGSWG-10	10.0 Mhz	TTLGSWG-80	80.0 Mhz
TTLGSWG-11	11.0 Mhz	TTLGSWG-90	90.0 Mhz
TTLGSWG-12	12.0 Mhz	TTLGSWG-100	100.0 Mhz

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