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Made in U.S.A.

SQUARE WAVE GENERATOR MODULES

SSFGSWG-TTL-XXX

Space Saver FAST TTL Gated Square Wave Generator



- TTL input and outputs
- Output wavetrain can be started in sync with random events
- 8-pin Space Saver 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 Schottky TTL fan-out capacity

DESIGN NOTES

The "Space Saver Series" Gated 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), OUT₁ will be a constant "1" (high) and OUT₂ will be a constant "0" (low). Whenever the enable input goes low, OUT₂ goes high immediately. OUT₁ and OUT₂ go low together after a one-half cycle delay and, thereafter run in phase. When enable input returns to high, OUT₂ is forced low immediately and OUT₁ is forced high one-half cycle later. (Note: The output buffers will add one propagation delay to all times).

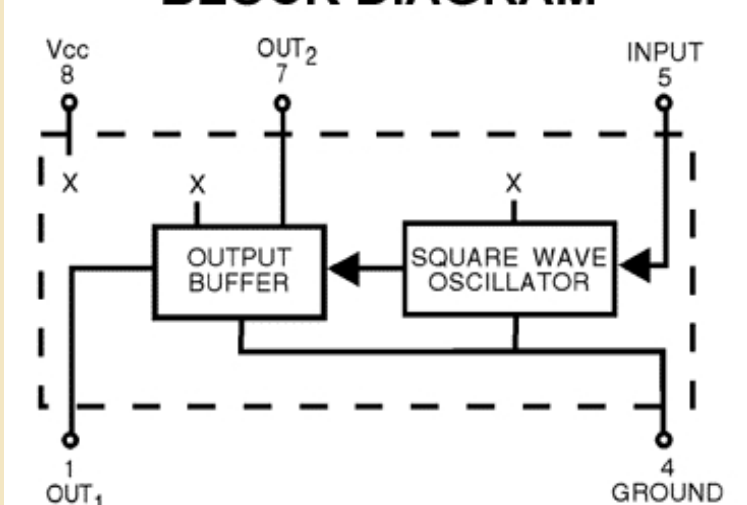
These Gated Square Wave Generator modules are of hybrid construction utilizing the proven technologies of active integrated circuitry and of passive networks utilizing capacitive, inductive and resistive elements. The MTBF on these modules, when calculated per MIL-HDBK-217 for a 50°C ground fixed environment,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

The SSFGSWG-TTL is offered in 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.

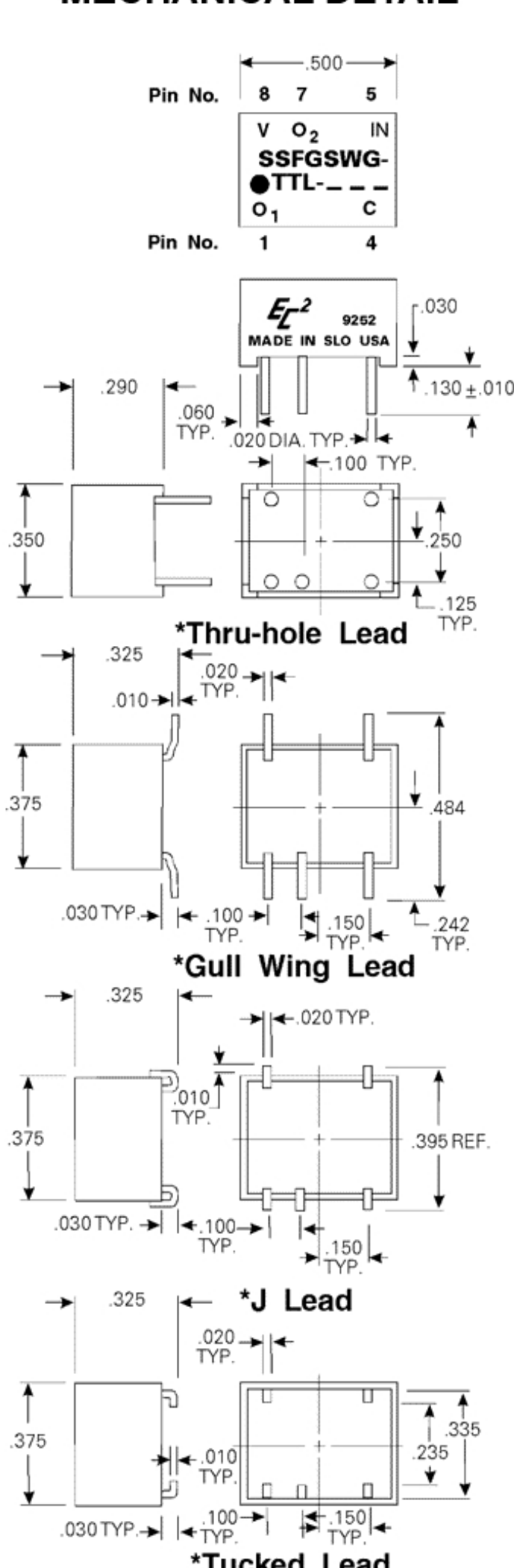
These "Space Saver Series" modules are packaged in an 8-pin housing, molded of flame-proof Diallyl Phthalate per ASTM D 5948, Type SDG-F, and are fully encapsulated in epoxy resin. Thru-hole, J, Gull Wing or Tucked Lead configurations are available on these modules (see Part Number Table note to specify). 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 name, logo (EC²), 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



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 Schottky toggle-type gate driving the input and one Schottky TTL load at the output.

OPERATING SPECIFICATIONS

*Vcc supply voltage: 4.75 to 5.25V DC
 Vcc supply current:
 SSFGSWG-TTL-2 10mA typical
 SSFGSWG-TTL-100..... 60mA typical
 (Current increases with operating frequency)

Logic 1 Input:
 Voltage 2V min.; Vcc max.
 Current 2.7V = 20uA max.
 @ max. V in = 100uA max.

Logic 0 Input:
 Voltage 0.8V max.
 Current -2mA max.

Logic 1 Voltage out: 2.5V min.
 Logic 0 Voltage out: 0.5V 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

*Suffix Part Number with G (for Gull Wing Lead), J (for J Lead), F (for Thru-hole Lead) or T (for Tucked Lead).

Examples: SSFGSWG-TTL-10G (Gull Wing), SSFGSWG-TTL-25J (J Lead), SSFGSWG-TTL-70F (Thru-hole Lead) or SSFGSWG-TTL-12T (Tucked Lead).

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

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