

- T²L FAST input and output
- Output wavetrain can be started with random events
- Leads—Thru-hole, J, Gull Wing or Tucked
- Available in frequencies from 30kHz to 1MHz
- Output frequencies controlled to within ±2%
- 10 T²L fan-out capacity

design notes

The "DIP Series" Square Wave Generator Modules developed by Engineered Components Company have been designed to provide a T²L square wave output at frequencies from 30 kHz to 1 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. This feature allows the initiation of a timing wavetrain with the origin in synchronization with another event.

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 2 million hours.

The LFFSWG-TTL is offered in twenty-eight (28) different frequencies from 30 kHz to 1 MHz. Output frequencies are controlled to within $\pm 2\%$ and have a temperature coefficient of less than ± 200 ppm/°C over the operating temperature range of 0 to ± 70 °C.

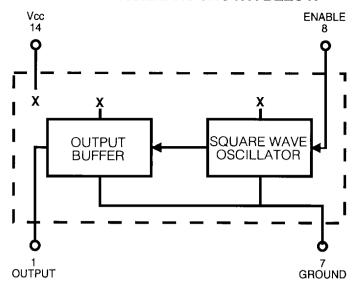
These "DIP Series" modules are packaged in a 14-pin DIP housing, molded of flame-proof Diallyl Phthalate per MIL-M-14,Type SDG-F, and are fully encapsulated in epoxy resin. Thru-hole, J, Gull Wing or Tucked Lead configurations are available on these modules (see Part Number Table note to specify). Leads 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 (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.

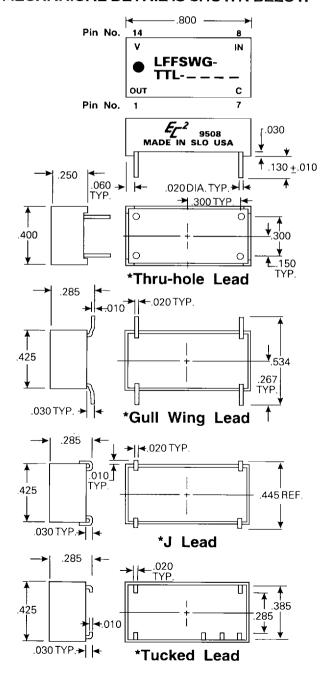


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BLOCK DIAGRAM IS SHOWN BELOW



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 FAST toggle-type gate driving the input and one FAST T²L load at the output.

OPERATING SPECIFICATIONS

*	V _{CC} supply voltage: 4.75 to 5.25V DC
	V _{cc} supply current:
	LFFSWG-TTL-30 50mA typical
	LFFSWG-TTL-1.0 53mA typical
	(Current increases with operating frequency)

Logic 1 Input:

Voltage									2V min.; Vcc max.
Current									2.7V = 20uA max.
									5.5V @ 1m4 may

Logic 0 Input

Voltage		•	•	•	•	•		•	٠	•	•	.8V max.
Current												6mA max.

Logic 1 Voltage out:	2.7V min	
Logic 0 Voltage out:		

Operating temperature range:				0 to +70°C.
Storage temperature:				-55 to +125°C.

* Output frequency will increase or decrease less than .5% 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: LFFSWG-TTL 30G (Gull Wing), LFFSWG-TTL-70J (J Lead), LFFSWG-TTL-140F (Thru-hole), LFFSWG-TTL-1.0T (Tucked Lead)

PART NUMBER	OUTPUT FREQUENCY	PART NUMBER	OUTPUT FREQUENCY
LFFSWG-TTL-30	30 kHz	LFFSWG-TTL-140	140 kHz
LFFSWG-TTL-35	35 kHz	LFFSWG-TTL-150	150 kHz
LFFSWG-TTL-40	40 kHz	LFFSWG-TTL-200	200 kHz
LFFSWG-TTL-45	45 kHz	LFFSWG-TTL-250	250 kHz
LFFSWG-TTL-50	50 kHz	LFFSWG-TTL-300	300 kHz
LFFSWG-TTL-55	55 kHz	LFFSWG-TTL-350	350 kHz
LFFSWG-TTL-60	60 kHz	LFFSWG-TTL-400	400 kHz
LFFSWG-TTL-70	70 kHz	LFFSWG-TTL-450	450 kHz
LFFSWG-TTL-80	80 kHz	LFFSWG-TTL-500	500 kHz
LFFSWG-TTL-90	90 kHz	LFFSWG-TTL-600	600 kHz
LFFSWG-TTL-100	100 kHz	LFFSWG-TTL-700	700 kHz
LFFSWG-TTL-110	110 kHz	LFFSWG-TTL-800	800 kHz
LFFSWG-TTL-120	120 kHz	LFFSWG-TTL-900	900 kHz
LFFSWG-TTL-130	130 kHz	LFFSWG-TTL-1.0	1.0 MHz

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