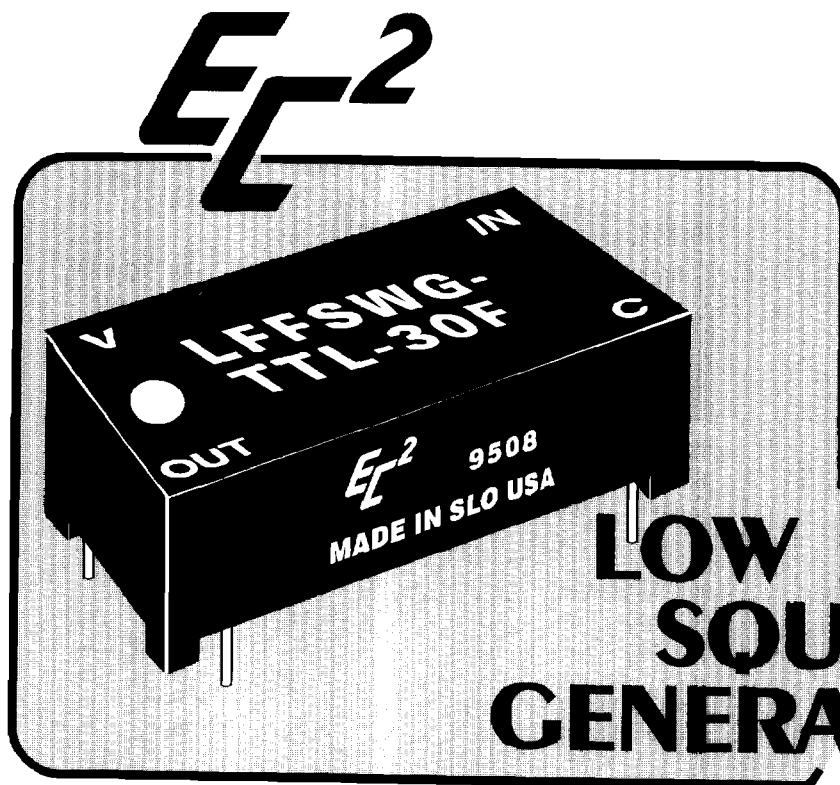




*low profile*

COMPATIBLE  
LOW FREQUENCY  
SQUARE WAVE  
GENERATOR MODULE

- T<sup>2</sup>L 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  $\pm 2\%$
- 10 T<sup>2</sup>L fan-out capacity

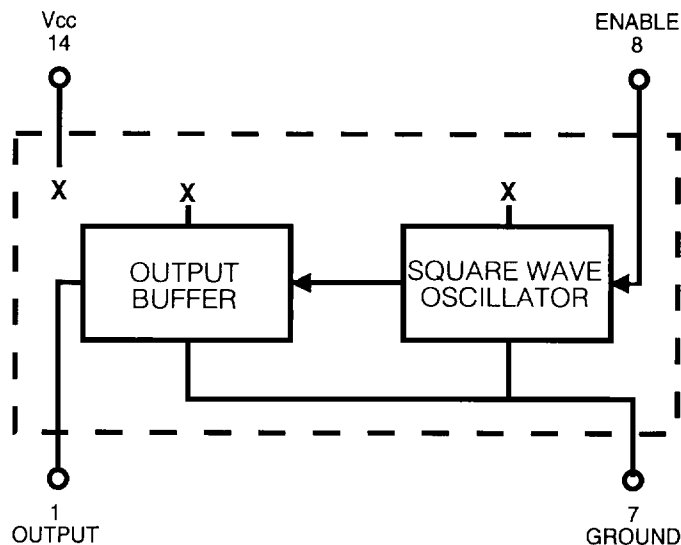
The LFFSWG-TTL is offered in twenty-eight (28) different frequencies from 30 kHz to 1 MHz. Output frequencies are controlled to within  $\pm 2\%$  and have a temperature coefficient of less than  $\pm 200\text{ppm}/^\circ\text{C}$  over the operating temperature range of 0 to  $+70^\circ\text{C}$ .

Marking consists of manufacturer's name, logo (EC<sup>2</sup>), 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.

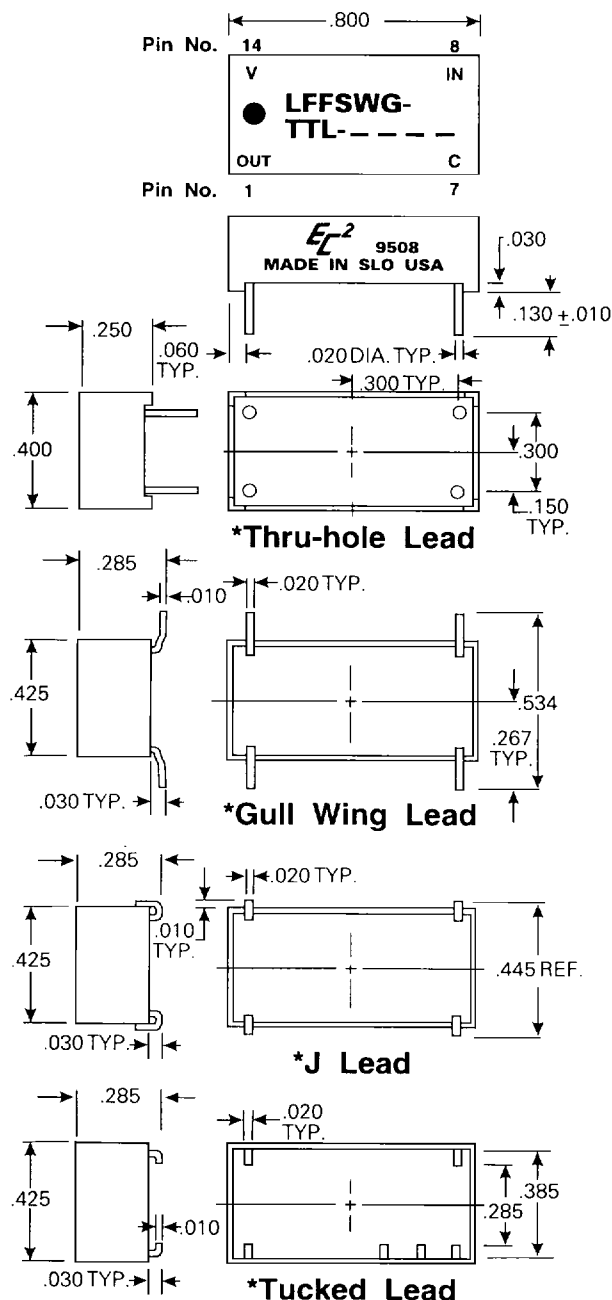
The "DIP Series" Square Wave Generator Modules developed by Engineered Components Company have been designed to provide a TTL square wave output at frequencies from 30 kHz to 1 MHz. These generators are both keyable and synchronizable, producing a continuous output train as long as a zero (low) is maintained 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.

**engineered components company**

## BLOCK DIAGRAM IS SHOWN BELOW



## MECHANICAL DETAIL IS SHOWN BELOW



## TEST CONDITIONS

1. All measurements are made at 25°C.
2. V<sub>CC</sub> 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 T<sup>2</sup>L load at the output.

## OPERATING SPECIFICATIONS

- \* V<sub>CC</sub> supply voltage: . . . . . 4.75 to 5.25V DC  
V<sub>CC</sub> supply current:  
LFFSWG-TTL-30 . . . . . 50mA typical  
LFFSWG-TTL-1.0 . . . . . 53mA typical  
(Current increases with operating frequency)

### Logic 1 Input:

- Voltage . . . . . 2V min.; V<sub>CC</sub> max.  
Current . . . . . 2.7V = 20uA max.  
5.5V @ 1mA max.

### Logic 0 Input

- Voltage . . . . . .8V max.  
Current . . . . . -6mA max.

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

Logic 0 Voltage out: . . . . . .5V max.

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.