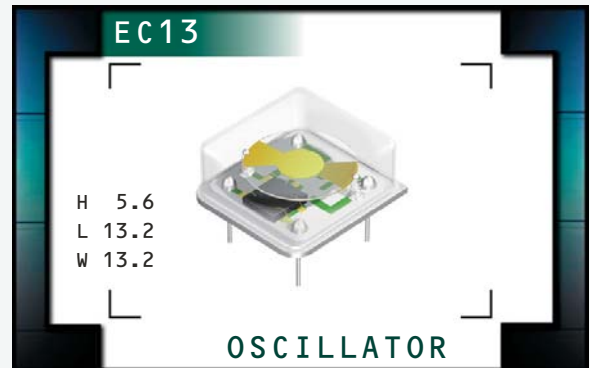


# EC13 Series



**ECLIPTEK**<sup>®</sup>  
CORPORATION

- RoHS Compliant (Pb-free)
- HCMOS/TTL output
- 3.3V supply voltage
- 8 pin DIP package
- Stability to  $\pm 20$ ppm
- Custom lead length, gull wing options available



## ELECTRICAL SPECIFICATIONS

<b>Frequency Range (MHz)</b>	0.250MHz to 125.000MHz	
<b>Operating Temperature Range</b>	0°C to 70°C -40°C to 85°C	
<b>Storage Temperature Range</b>	-55°C to 125°C	
<b>Supply Voltage (V<sub>DD</sub>)</b>	3.3V <sub>DC</sub> $\pm$ 0.3V <sub>DC</sub>	
<b>Input Current</b>	0.250MHz to 24.000MHz	10mA Maximum
	24.001MHz to 70.000MHz	25mA Maximum
	70.001MHz to 125.000MHz	45mA Maximum
<b>Frequency Tolerance / Stability</b>	Inclusive of all conditions: Calibration Tolerance at 25°C, Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, First Year Aging at 25°C, Shock, and Vibration	$\pm 100$ ppm, $\pm 50$ ppm, $\pm 25$ ppm, or $\pm 20$ ppm Maximum (0°C to 70°C Only)
<b>Output Voltage Logic High (V<sub>OH</sub>)</b>	w/ TTL Load	2.4V <sub>DC</sub> Minimum
	w/ HCMOS Load	2.7V <sub>DC</sub> Minimum
<b>Output Voltage Logic Low (V<sub>OL</sub>)</b>	w/ TTL Load	0.4V <sub>DC</sub> Maximum
	w/ HCMOS Load	0.5V <sub>DC</sub> Maximum
<b>Rise Time / Fall Time</b>	10% to 90% of Waveform w/HCMOS Load or 0.4V <sub>DC</sub> to 2.4V <sub>DC</sub> w/TTL Load	10 nSeconds Max. $\leq$ 24.000MHz 10 nSeconds Max. $\leq$ 24.000MHz
	10% to 90% of Waveform w/HCMOS Load	6 nSeconds Max. 24.000MHz to 70.000MHz
	10% to 90% of Waveform w/HCMOS Load	4 nSeconds Max. 70.001MHz to 125.000MHz
<b>Duty Cycle</b>	at 50% of Waveform	50 $\pm$ 10(%) (Standard) or 50 $\pm$ 5(%) (Optional)
<b>Load Drive Capability</b>	$\leq$ 24.000MHz	2TTL or 15pF HCMOS Load
	$>$ 24.000MHz	15pF HCMOS Load
<b>Tri-State Input Voltage</b>	V <sub>IH</sub> : No Connection	Enables Output
	V <sub>IH</sub> : $\geq$ 2.2V <sub>DC</sub>	Enables Output
	V <sub>IL</sub> : $\leq$ 0.8V <sub>DC</sub>	Disables Output: High Impedance
<b>Aging (at 25°C)</b>	$\pm 5$ ppm / year Maximum	
<b>Start Up Time</b>	10 mSeconds Maximum	
<b>Period Jitter: Absolute</b>	$\pm 100$ pSeconds Maximum	
<b>Period Jitter: One Sigma</b>	$\pm 25$ pSeconds Maximum	

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
EC13

PACKAGE  
8 pin DIP

VOLTAGE  
3.3V

CLASS  
OS21

REV. DATE  
08/06

## PART NUMBERING GUIDE

### EC13 00 HS ET TTS - 50.000M - G TR

#### FREQUENCY TOLERANCE / STABILITY

00=±100ppm Maximum (Standard)  
 45=±50ppm Maximum, 25=±25ppm Maximum  
 20=±20ppm Maximum

#### PACKAGE

HS=Half Size 8 Pin DIP

#### OPERATING TEMP. RANGE

Blank=0°C to 70°C (Standard), ET=-40°C to 85°C

#### DUTY CYCLE

Blank=50 ±10(%) (Standard), T=50 ±5(%)

#### PACKAGING OPTIONS

TR= Tape & Reel (only offered with Half Size G and Half Size G2 Options)

#### AVAILABLE OPTIONS

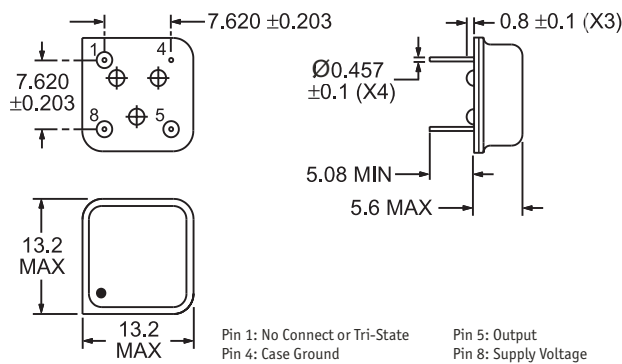
Blank=None (Standard)  
 CLXX=Custom Lead Length  
 G=Half Size Gull Wing  
 G2=Half Size Gull Wing

#### FREQUENCY

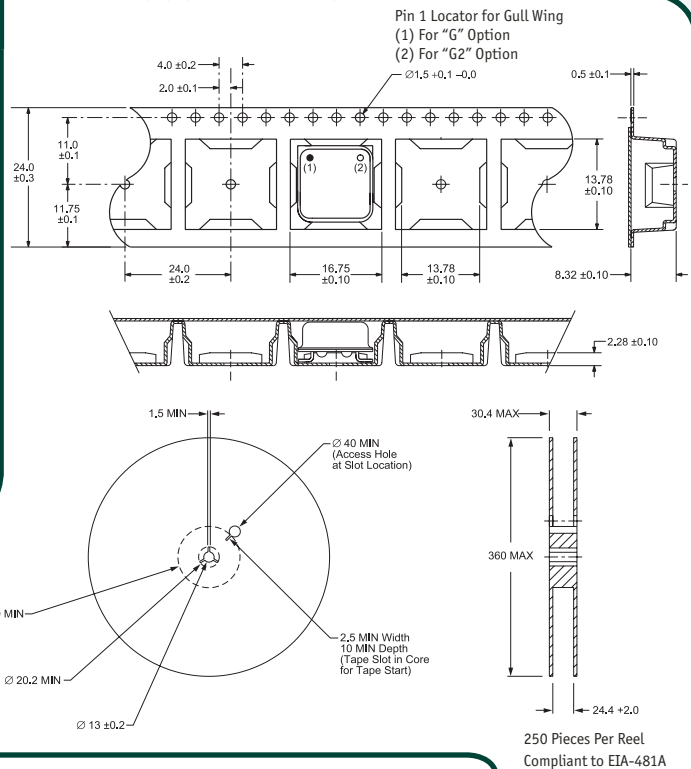
#### OUTPUT CONTROL FUNCTION

Blank=None (No Connection on Pin 1)  
 TS=Tri-State Enable High

#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



#### TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



#### MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: EC13 TS

Output Control Function  
 Blank = None (No Connection on Pin 1)  
 TS = Tri-State Enable High  
 Series Designator

Line 3: XX.XXX M

Frequency in MHz  
 (5 Digits Maximum + Decimal)

Line 4: XX Y ZZ

Week of Year  
 Last Digit of Year  
 Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

#### ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Vibration	MIL-STD-883, Method 2007, Condition A
Lead Integrity	MIL-STD-883, Method 2004
Solderability	MIL-STD-883, Method 2002
Temperature Cycling	MIL-STD-883, Method 1010
Resistance to Soldering Heat	MIL-STD-883, Method 210
Resistance to Solvents	MIL-STD-883, Method 215

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC13	8 pin DIP	3.3V	OS21	08/06