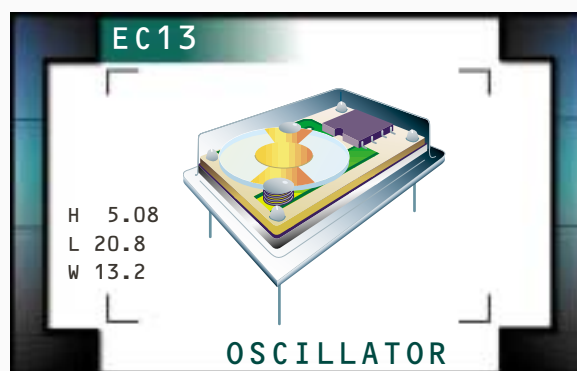


EC13 Series

- HCMOS/TTL output
- 3.3V supply voltage
- 14 pin DIP package
- Stability to 20ppm
- Custom lead length, gull wing options available



ELECTRICAL SPECIFICATIONS

Frequency Range		500.000kHz to 125.000MHz
Operating Temperature Range		0°C to 70°C, -40°C to 85°C ($\leq 106.250\text{MHz}$)
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{DD})		$3.3V_{DC} \pm 0.3V_{DC}$
Input Current	500.000kHz to 24.000MHz	10mA Maximum
	24.001MHz to 70.000MHz	25mA Maximum
	70.001MHz to 125.000MHz	45mA Maximum
Frequency Tolerance / Stability		Inclusive of Operating Temperature Range, Supply Voltage, and Load $\pm 100\text{ppm}$, $\pm 50\text{ppm}$, $\pm 25\text{ppm}$, or $\pm 20\text{ppm}$ Maximum (0°C to 70°C Only)
Output Voltage Logic High (V_{OH})	w/ TTL Load	$2.4V_{DC}$ Minimum
	w/ HCMOS Load	$2.7V_{DC}$ Minimum
Output Voltage Logic Low (V_{OL})	w/ TTL Load	$0.4V_{DC}$ Maximum
	w/ HCMOS Load	$0.5V_{DC}$ Maximum
Rise Time / Fall Time	10% to 90% of Waveform w/HCMOS Load	10 nSeconds Max. $\leq 24.000\text{MHz}$
		6 nSeconds Max. 24.001MHz to 70.000MHz
		4 nSeconds Max. 70.000MHz to 106.250MHz
		3 nSeconds Max. $\geq 106.250\text{MHz}$
	$0.4V_{DC}$ to $2.4V_{DC}$ w/TTL Load	10 nSeconds Max. $\leq 24.000\text{MHz}$
Duty Cycle	at 50% of Waveform $\leq 70.000\text{MHz}$	50 $\pm 10\%$ (Standard) or 50 $\pm 5\%$ (Optional)
	at 50% of Waveform 70.001MHz to 106.25MHz (0°C to 70°C)	50 $\pm 10\%$ (Standard) or 50 $\pm 5\%$ (Optional)
	at 50% of Waveform 70.001MHz to 106.25MHz (-40°C to 85°C)	50 $\pm 10\%$ (Standard)
	at 50% of Waveform $> 106.25\text{MHz}$ (0°C to 70°C)	50 $\pm 10\%$ (Standard)
Load Drive Capability	4.000MHz to 24.000MHz	2TTL or 15pF HCMOS Load
	24.001MHz to 106.250MHz	15pF HCMOS Load
Pin 1 Tri-State Input Voltage	V_{IH} : No Connection	Enables Output
	V_{IH} : $\geq 2.2V_{DC}$	Enables Output
	V_{IL} : $\leq 0.8V_{DC}$	Disables Output: High Impedance
Aging (at 25°C)		$\pm 5\text{ppm}$ / year Maximum
Start Up Time		10 mSeconds Maximum
Period Jitter: Absolute		$\pm 100\text{pSeconds}$ Maximum
Period Jitter: One Sigma		$\pm 25\text{pSeconds}$ Maximum

PART NUMBERING GUIDE

EC13 00 ET TS - 50.000M - G

FREQUENCY TOLERANCE / STABILITY

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

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(%)

AVAILABLE OPTIONS

Blank=None (Standard)
CLXXX=Custom Lead Length (See Page 123)
G=Full Size Gull Wing (See Page 122)

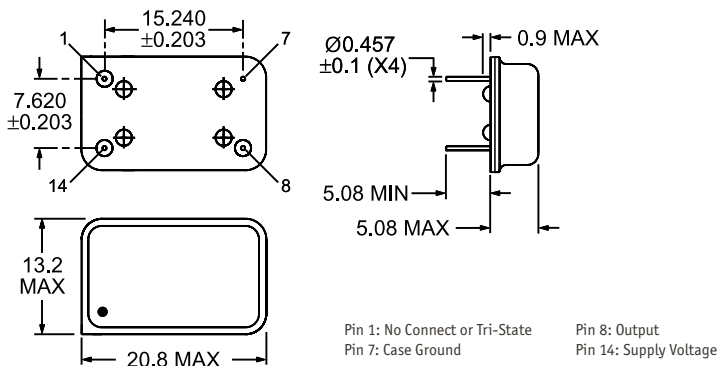
FREQUENCY

PIN 1 CONNECTION

Blank=No Connection (Standard)
TS=Tri-State Enable High

NOTES

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
Seal Integrity	Bubble test in Perfluorocarbon at +125°C ±5°C for 60 seconds minimum.
Solderability	Sn63 Solder dip at +230°C ±5°C for 5 seconds/95% coverage.
Marking Permanency	10 Strokes with brush after 1 minute soak in solvent, 3 times.
Shock	Random drop on hard wooden plate 3 times from a height of 20cm.
Vibration	Frequency with an amplitude of 1.5mm sweeping between 10Hz to 55Hz within 1 minute (approximately) for 2 hours minimum on each axis (X, Y and Z) for a total of 6 hours.

MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: EC13 TS

Pin 1 Connection
Blank = No Connection
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

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC13	14 pin DIP	3.3V	OS20	01/01