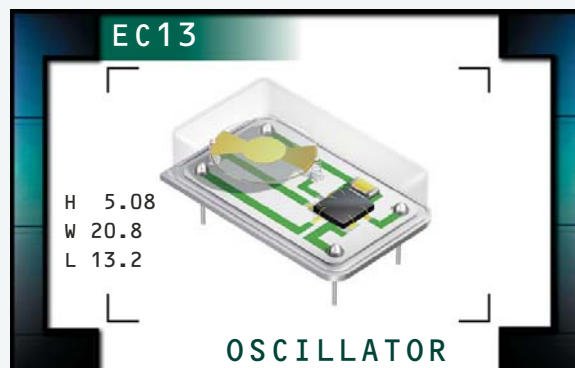


EC13 Series

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



ECLIPTEK
CORPORATION



ELECTRICAL SPECIFICATIONS

Frequency Range (MHz)		0.250MHz to 125.000MHz
Operating Temperature Range		0°C to 70°C -40°C to 85°C
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{DD})		3.3V _{DC} $\pm 0.3V_{DC}$
Input Current	0.250MHz to 24.000MHz	10mA Maximum
	24.001MHz to 70.000MHz	25mA Maximum
	70.001MHz to 125.000MHz	45mA Maximum
Frequency Tolerance / Stability		Inclusive of all conditions: Calibration Tolerance at 25°C, ± 100 ppm, ± 50 ppm, ± 25 ppm, or Frequency Stability over the Operating Temperature Range, ± 20 ppm Maximum (0°C to 70°C Only) Supply Voltage Change, Output Load Change, First Year Aging at 25°C, Shock, and Vibration
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 or 0.4V _{DC} to 2.4V _{DC} w/TTL Load	10 nSeconds Max. ≤ 24.000 MHz
	10% to 90% of Waveform w/HCMOS Load	10 nSeconds Max. ≤ 24.000 MHz
	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
Duty Cycle	at 50% of Waveform	50 ± 10 (%) (Standard) or 50 ± 5 (%) (Optional)
Load Drive Capability	≤ 24.000 MHz	2TTL or 15pF HCMOS Load
	> 24.000 MHz	15pF HCMOS Load
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)		± 5 ppm / year Maximum
Start Up Time		10 mSeconds Maximum
Period Jitter: Absolute		± 100 pSeconds Maximum
Period Jitter: One Sigma		± 25 pSeconds Maximum

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EC13

PACKAGE
14 pin DIP

VOLTAGE
3.3V

CLASS
OS20

REV. DATE
08/06

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
G=Full Size Gull Wing

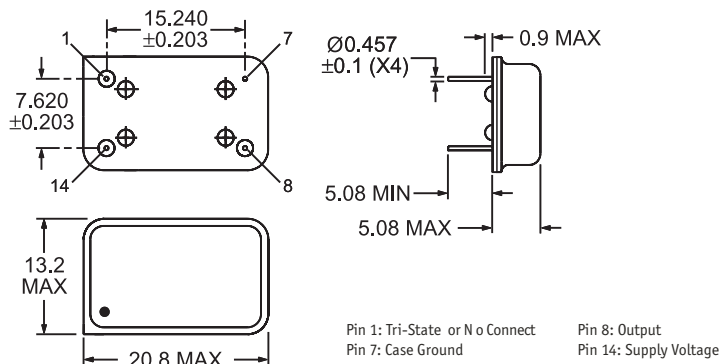
FREQUENCY

OUTPUT CONTROL FUNCTION

Blank = No Connect
TS=Tri-State Enable High

NOTES

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic

Fine Leak Test
Gross Leak Test
Mechanical Shock
Vibration
Lead Integrity
Solderability
Temperature Cycling
Resistance to Soldering Heat
Resistance to Solvents

Specification

MIL-STD-883, Method 1014, Condition A
MIL-STD-883, Method 1014, Condition C
MIL-STD-202, Method 213, Condition C
MIL-STD-883, Method 2007, Condition A
MIL-STD-883, Method 2004
MIL-STD-883, Method 2002
MIL-STD-883, Method 1010
MIL-STD-883, Method 210
MIL-STD-883, Method 215

MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: EC13 TS

Output Control Function
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
Eclipse Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

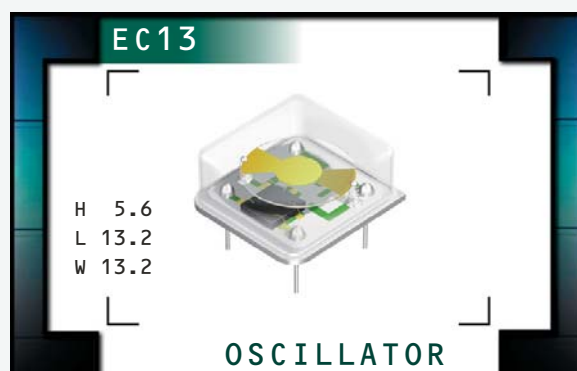
MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC13	14 pin DIP	3.3V	OS20	08/06

EC13 Series

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



ECLIPTEK[®]
CORPORATION



ELECTRICAL SPECIFICATIONS

Frequency Range (MHz)		0.250MHz to 125.000MHz
Operating Temperature Range		0°C to 70°C -40°C to 85°C
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{DD})		$3.3V_{DC} \pm 0.3V_{DC}$
Input Current	0.250MHz to 24.000MHz	10mA Maximum
	24.001MHz to 70.000MHz	25mA Maximum
	70.001MHz to 125.000MHz	45mA Maximum
Frequency Tolerance / Stability		Inclusive of all conditions: Calibration Tolerance at 25°C, ± 100 ppm, ± 50 ppm, ± 25 ppm, or Frequency Stability over the Operating Temperature Range, ± 20 ppm Maximum (0°C to 70°C Only) Supply Voltage Change, Output Load Change, First Year Aging at 25°C, Shock, and Vibration
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 or	10 nSeconds Max. ≤ 24.000 MHz
	$0.4V_{DC}$ to $2.4V_{DC}$ w/TTL Load	10 nSeconds Max. ≤ 24.000 MHz
	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
Duty Cycle	at 50% of Waveform	50 ± 10 (%) (Standard) or 50 ± 5 (%) (Optional)
Load Drive Capability	≤ 24.000 MHz	2TTL or 15pF HCMOS Load
	> 24.000 MHz	15pF HCMOS Load
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)		± 5 ppm / year Maximum
Start Up Time		10 mSeconds Maximum
Period Jitter: Absolute		± 100 pSeconds Maximum
Period Jitter: One Sigma		± 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 TS - 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

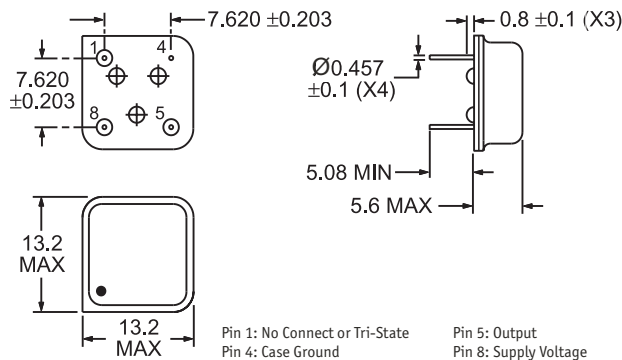
Blank=None (Standard)
CLXXX=Custom Lead Length
G=Half Size Gull Wing
G2=Half Size Gull Wing

FREQUENCY

OUTPUT CONTROL FUNCTION

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

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



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

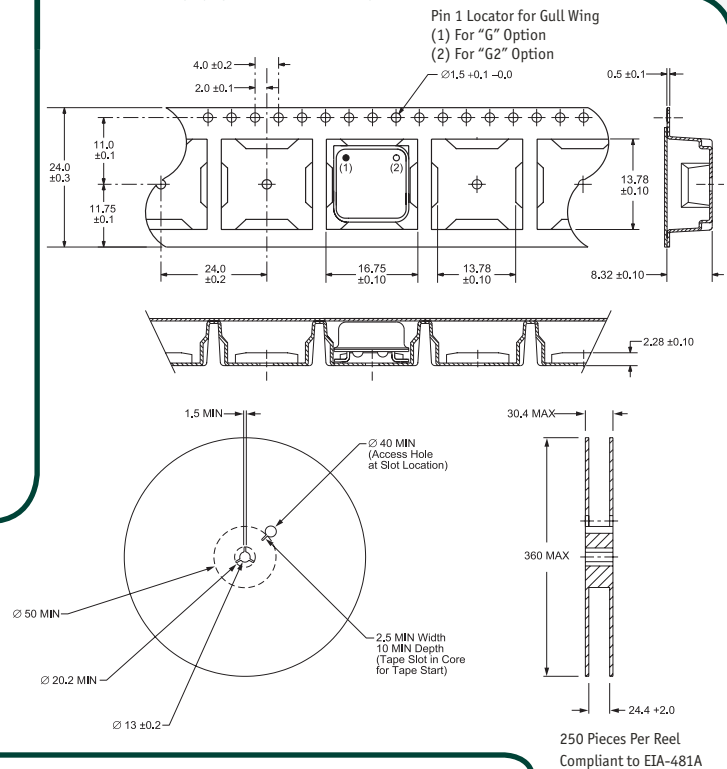
Frequency in MHz
(5 Digits Maximum + Decimal)

Line 4: XX Y ZZ

Week of Year
Last Digit of Year
Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic

Fine Leak Test
Gross Leak Test
Mechanical Shock
Vibration
Lead Integrity
Solderability
Temperature Cycling
Resistance to Soldering Heat
Resistance to Solvents

Specification

MIL-STD-883, Method 1014, Condition A
MIL-STD-883, Method 1014, Condition C
MIL-STD-202, Method 213, Condition C
MIL-STD-883, Method 2007, Condition A
MIL-STD-883, Method 2004
MIL-STD-883, Method 2002
MIL-STD-883, Method 1010
MIL-STD-883, Method 210
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