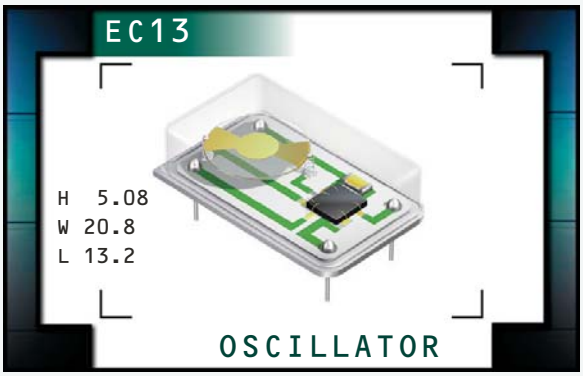
EC13 Series

- RoHS Compliant (Pb-free)
- 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 (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})		$3.3V_{DC}$ ±$0.3V_{DC}$
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, Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, First Year Aging at 25°C, Shock, and Vibration	±100ppm, ±50ppm, ±25ppm, or ±20ppm 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 or	10 nSeconds Max. ≤ 24.000MHz
	$0.4V_{DC}$ to $2.4V_{DC}$ w/TTL Load	10 nSeconds Max. ≤ 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
Duty Cycle	at 50% of Waveform	50 ±10(%) (Standard) or 50 ±5(%) (Optional)
Load Drive Capability	≤ 24.000MHz	2TTL or 15pF HCMOS Load
	> 24.000MHz	15pF HCMOS Load
Tri-State Input Voltage	V_{IH}:No Connection	Enables Output
	V_{IH}:≥$2.2V_{DC}$	Enables Output
	V_{IL}:≤$0.8V_{DC}$	Disables Output: High Impedance
Aging (at 25°C)		±5ppm / year Maximum
Start Up Time		10 mSeconds Maximum
Period Jitter: Absolute		±100pSeconds Maximum
Period Jitter: One Sigma		±25pSeconds Maximum

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

PART NUMBERING GUIDE

EC13 00 ET T 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

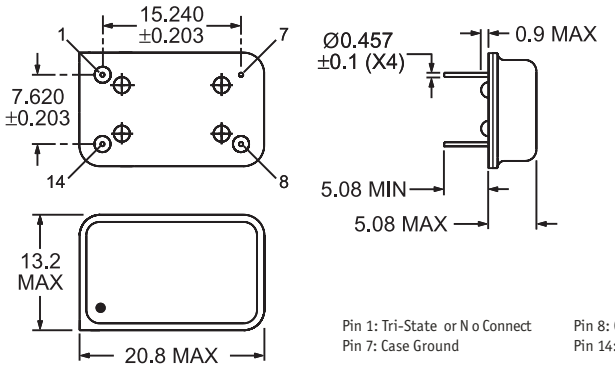
FREQUENCY

OUTPUT CONTROL FUNCTION
Blank = No Connect
TS=Tri-State Enable High

NOTES

MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



Pin 1: Tri-State or N o Connect
Pin 7: Case Ground
Pin 8: Output
Pin 14: Supply Voltage

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

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)

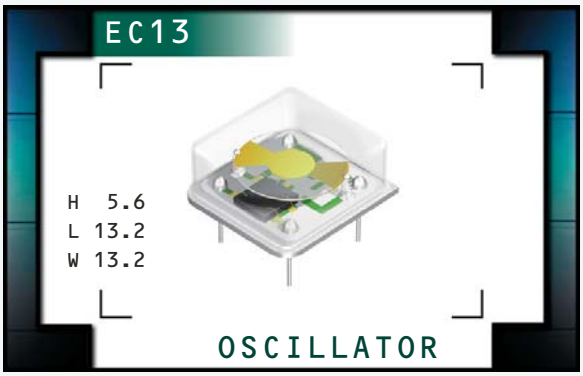
Line 4: XX Y ZZ
- Week of Year
- Last Digit of Year
- Ecliptek Manufacturing Identifier

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	08/06

EC13 Series

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



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} ±0.3V_{DC}
Input Current	0.250MHz to 24.000MHz 24.001MHz to 70.000MHz 70.001MHz to 125.000MHz	10mA Maximum 25mA Maximum 45mA Maximum
Frequency Tolerance / Stability	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	±100ppm, ±50ppm, ±25ppm, or ±20ppm Maximum (0°C to 70°C Only)
Output Voltage Logic High (V_{OH})	w/ TTL Load w/ HCMOS Load	2.4V_{DC} Minimum 2.7V_{DC} Minimum
Output Voltage Logic Low (V_{OL})	w/ TTL Load w/ HCMOS Load	0.4V_{DC} Maximum 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% to 90% of Waveform w/HCMOS Load 10% to 90% of Waveform w/HCMOS Load	10 nSeconds Max. ≤ 24.000MHz 10 nSeconds Max. ≤ 24.000MHz 6 nSeconds Max. 24.000MHz to 70.000MHz 4 nSeconds Max. 70.001MHz to 125.000MHz
Duty Cycle	at 50% of Waveform	50 ±10(%) (Standard) or 50 ±5(%) (Optional)
Load Drive Capability	≤ 24.000MHz > 24.000MHz	2TTL or 15pF HCMOS Load 15pF HCMOS Load
Tri-State Input Voltage	V_{IH}:No Connection V_{IH}:≥2.2V_{DC} V_{IL}:≤0.8V_{DC}	Enables Output Enables Output Disables Output: High Impedance
Aging (at 25°C)		±5ppm / year Maximum
Start Up Time		10 mSeconds Maximum
Period Jitter: Absolute		±100pSeconds Maximum
Period Jitter: One Sigma		±25pSeconds Maximum

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

PART NUMBERING GUIDE

EC13 00 HS ET T 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(%)

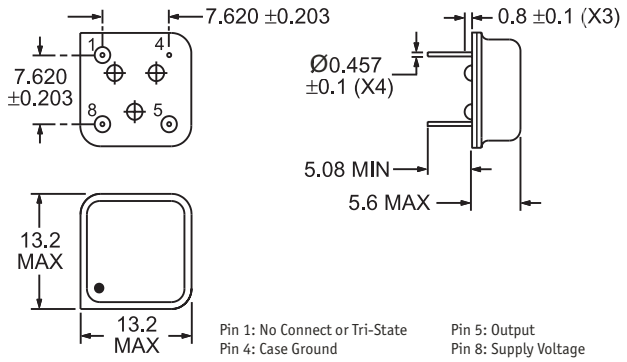
PACKAGING OPTIONS
TR= Tape & Reel (only offered with Half Size G and Half Size G2 Options)

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

FREQUENCY

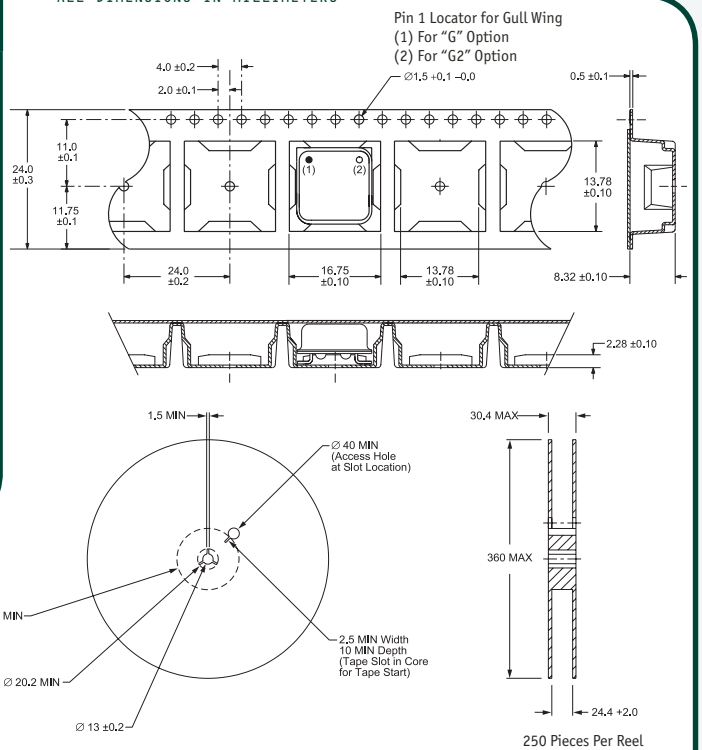
OUTPUT CONTROL FUNCTION
Blank=None (No Connection on Pin 1)
TS=Tri-State Enable High

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



Pin 1: No Connect or Tri-State
Pin 4: Case Ground
Pin 5: Output
Pin 8: Supply Voltage

TAPE AND REEL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



250 Pieces Per Reel
Compliant to EIA-481A

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