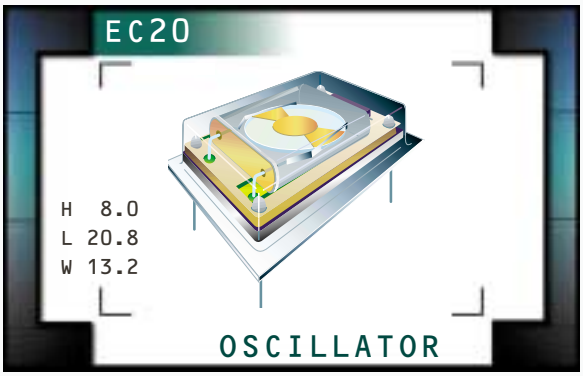
EC20 Series

- HCMOS output
- 3.3V supply voltage
- 14 pin DIP package
- Stability to 5ppm
- Custom lead length, gull wing options available



ELECTRICAL SPECIFICATIONS

Frequency Range		1.000MHz to 50.000MHz	
Operating Temperature Range		Per Table 1	
Storage Temperature Range		-55°C to 125°C	
Supply Voltage (V_{DD})		$3.3V_{DC}$ ±10%	
Input Current	1.000MHz to 20.000MHz	10mA Maximum	
	20.001MHz to 50.000MHz	20mA Maximum	
Frequency Tolerance / Stability	vs. Operating Temperature Range	Per Table 1	
	vs. Input Voltage (V_{DD} ±5%)	±2.0ppm Maximum	
	vs. Load (±2pF)	±1.0ppm Maximum	
Internal Trim (Top of Can)		±5ppm Minimum	
Output Voltage Logic High (V_{OH})	w/HCMOS Load	$2.7V_{DC}$ Minimum	I_{OH} = -8mA
Output Voltage Logic Low (V_{OL})	w/HCMOS Load	$0.5V_{DC}$ Maximum	I_{OL} = +8mA
Rise Time / Fall Time	10% to 90% of Waveform ≤ 20.000MHz	10 nSeconds Maximum	
	10% to 90% of Waveform > 20.000MHz	6 nSeconds Maximum	
Duty Cycle	at 50% of Waveform	50 ±10(%) (Standard) or 50 ±5(%) (Optional)	
Load Drive Capability		15pF HCMOS Load	
Pin 1 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)		±1ppm / 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	EC20	14 pin DIP	3.3V	OS61	04/01

PART NUMBERING GUIDE

EC20 07 A R T TS - 24.000M - CL125

FREQUENCY STABILITY
2 Digit Code Per Table 1

OPERATING TEMPERATURE RANGE
1 Letter Code Per Table 1

INTERNAL TRIM OPTIONS
Blank=No Internal Trim
R=±5ppm Minimum (Top of Can)

DUTY CYCLE
Blank=50 ±10(%) (Standard)
T=50 ±5(%)

AVAILABLE OPTIONS
Blank=None (Standard)
CLXXX=Custom Lead Length (See Page 133)
G=Full Size Gull Wing (See Page 132)

FREQUENCY

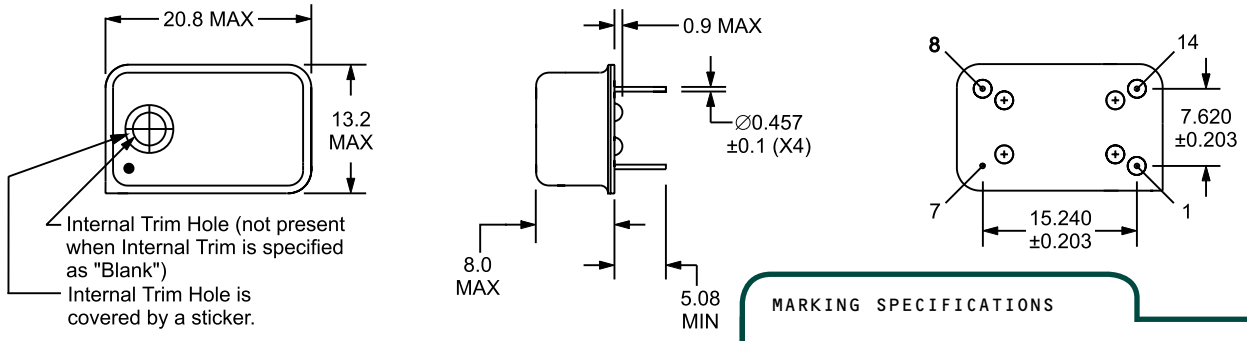
PIN 1 CONNECTION
Blank=No Connection
TS=Tri-State Enable High

TABLE 1: PART NUMBERING CODES

Operating Temperature Range		Frequency Stability (X = Availability with Internal Trim Option "Blank", Y = Availability with Internal Trim Option "R")				
		±5ppm	±7ppm	±10ppm	±15ppm	±20ppm
	Code	05	07	10	15	20
0°C to +50°C	A	Y	X, Y	X, Y	X, Y	X, Y
-10°C to +60°C	B		X, Y	X, Y	X, Y	X, Y
-20°C to +70°C	C			X, Y	X, Y	X, Y
-40°C to +85°C	D					X, Y

MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



Pin 1: No Connect or Tri-State
Pin 7: Case Ground
Pin 8: Output
Pin 14: Supply Voltage

MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: EC20 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

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.

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC20	14 pin DIP	3.3V	OS61	04/01