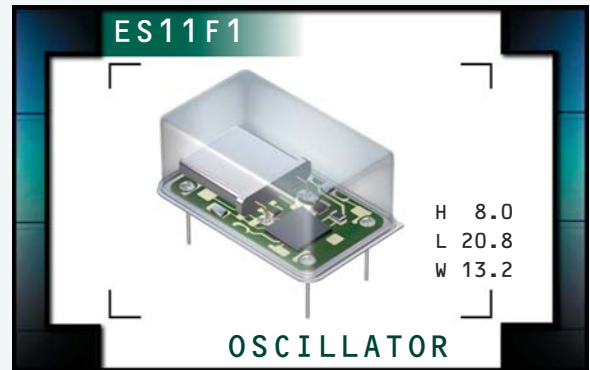


ES11F1 Series

- Temperature Compensated Crystal Oscillator (TCXO)
- Clipped Sinewave Output
- 5.0V Supply Voltage
- 14 pin DIP package
- Stability to 1.5ppm
- External voltage control option available



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range		10.000MHz to 20.000MHz
Storage Temperature Range		-30°C to 85°C
Operating Temperature Range		See Table 1
Supply Voltage (V_{DD})		5.0V _{DC} ±5%
Load Drive Capability		10kOhms // 10pF
Input Current		2.0mA Maximum
Aging (at 25°C)		±1ppm / Year Maximum
External Trim (Voltage Control Option)	1.5V _{DC} ±1.0V _{DC} ; Positive Transfer Characteristic	±8ppm Minimum
Output Voltage		1.0Vp-p Clipped Sinewave Minimum
Frequency Stability	vs. Operating Temperature Range vs. Frequency Tolerance (25°C ±2°C) vs. Input Voltage (±5%) vs. Load (±1kΩ//±1pF)	See Table 1 ±2.0ppm Maximum ±0.3ppm Maximum ±0.2ppm Maximum
Start Up Time		5mSec Maximum
Harmonics	2nd Harmonic 3rd Harmonic Other	-3dBc Maximum -6dBc Maximum -10dBc Maximum
Typical Phase Noise	At offset of 10Hz At offset of 100Hz At offset of 1kHz At offset of 10kHz At offset of 100kHz	-80dBc/Hz Maximum -125dBc/Hz Maximum -145dBc/Hz Maximum -148dBc/Hz Maximum -150dBc/Hz Maximum

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES ES11F1	PACKAGE 14 Pin DIP	VOLTAGE 5.0V	CLASS OS98	REV. DATE 04/02
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PART NUMBERING GUIDE

ES11F1 C 25 V - 12.800M - CL125

OPERATING TEMPERATURE
1 Letter Code Per Table 1

FREQUENCY STABILITY
2 Digit Code Per Table 1

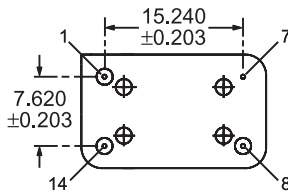
EXTERNAL TRIM
N=None (No Connection on Pin 1)
V=Voltage Control

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

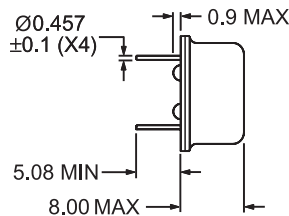
FREQUENCY

Operating Temperature Range	Code	Frequency Stability X Denotes Availability			
		±1.5ppm	±2.0ppm	±2.5ppm	±3.0ppm
		15	20	25	30
0°C to +50°C	A	X	X	X	X
-10°C to 60°C	B		X	X	X
-20°C to +70°C	C		X	X	X
-30°C to +60°C	D		X	X	X
-30°C to +75°C	E		X	X	X
-30°C to +85°C	F			X	X

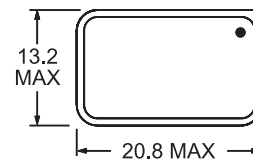
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



Pin 1: Voltage Control or No Connect
Pin 8: Output



Pin 7: Case Ground
Pin 14: Supply Voltage



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: XX.XXX M

Frequency in MHz
(5 Digits Maximum + Decimal)

Line 3: 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	ES11F1	14 pin DIP	5.0V	OS98	04/02