

ES11C7 Series

- Temperature Compensated Crystal Oscillator (TCXO)
- Clipped Sinewave Output
- 5.0V Supply Voltage
- Ceramic 8-pad SMD 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 ES11C7	PACKAGE CERAMIC	VOLTAGE 5.0V	CLASS 0S94	REV. DATE 04/02
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PART NUMBERING GUIDE

ES11C7 C 25 V - 12.800M TR

OPERATING TEMP. RANGE
One Letter Code Per Table 1

FREQUENCY STABILITY
Two Digit Code Per Table 1

OUTPUT CONTROL FUNCTION
N=None (No Connection on Pin 1)
V=Voltage Control

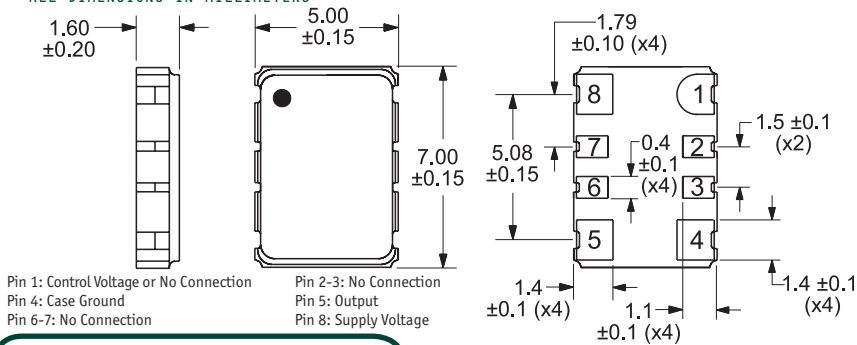
PACKAGING OPTIONS
Blank=Bulk
TR=Tape and Reel

FREQUENCY

TABLE 1: PART NUMBERING CODES					
Operating Temperature Range	Frequency Stability X Denotes Availability				
		±1.5ppm	±2.0ppm	±2.5ppm	±3.0ppm
	Code	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

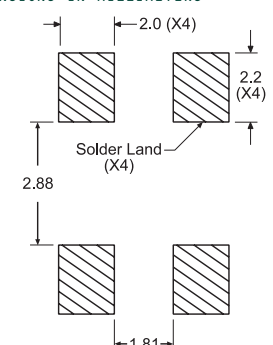
MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



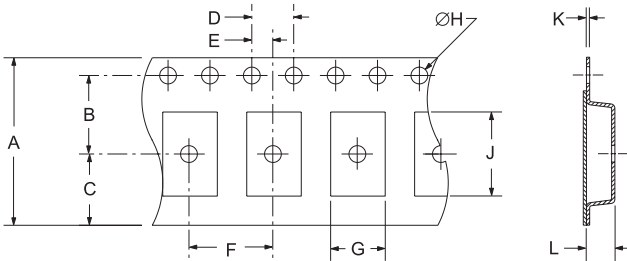
SUGGESTED SOLDER PAD LAYOUT

ALL DIMENSIONS IN MILLIMETERS

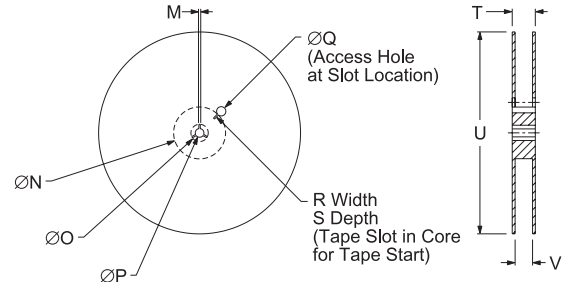


TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E
	16±.3-.1	7.5±.1	6.75±.1	4 ±.1	2±.1
F	G	H	J	K	L
8±.1	B0*	1.5 ±.1-0	A0*	.3 ±.05	K0*



REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13±.2	40 MIN
R	S	T	U	V	QTY/REEL
2.5 MIN	10 MIN	22.4 MAX	360 MAX	16.4±2-0	1,000

*Compliant to EIA 481A

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 50cm.
Thermal Shock	300 Cycles from -55°C to +125°C, 5 minute dwell

MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: XX.XXX M
Frequency in MHz (5 Digits Maximum + Decimal)

Line 3: XY ZZ
Week of Year
Last Digit of Year
Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	ES11C7	CERAMIC	5.0V	OS94	04/02