

EC37 Series



ECLIPTEK[®]
CORPORATION

- Crystal Clock Oscillators
- LVCMOS Output
- +2.5V Supply Voltage
- Tri-State Output Function
- 4 Pad Ceramic SMD Package
- Low Stand-by Current
- RoHS Compliant (Pb-Free)



ELECTRICAL SPECIFICATIONS

Frequency Range (F₀)	1MHz to 110MHz, 120MHz, 122.88MHz, 125MHz, 127.872MHz, 133MHz, 155.52MHz	
Operating Temperature Range (OTR)	-10°C to +70°C -40°C to +85°C	
Storage Temperature Range (STR)	-55°C to +125°C	
Supply Voltage (V_{DD})	2.5V _{DC} ±5%	
Input Current (I_{DD})	1.000MHz to 9.999MHz	3mA Maximum
	10.000MHz to 24.999MHz	4mA Maximum
	25.000MHz to 34.999MHz	5mA Maximum
	35.000MHz to 49.999MHz	8mA Maximum
	50.000MHz to 69.999MHz	10mA Maximum
	70.000MHz to 89.999MHz	12mA Maximum
	90.000MHz to 100.000MHz	13mA Maximum
	100.001MHz to 125.000MHz	30mA Maximum
	125.001MHz to 155.520MHz	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 Maximum ±50ppm Maximum ±25ppm Maximum ±20ppm Maximum
Output Voltage Logic High (V_{OH})	90% of V _{DD} Minimum (I _{OH} = -4mA)	
Output Voltage Logic Low (V_{OL})	10% of V _{DD} Maximum (I _{OL} = +4mA)	
Rise Time / Fall Time (T_R/T_F)	20% to 80% of Waveform, 1.000MHz to 39.999MHz	6nSeconds Maximum
	20% to 80% of Waveform, 40.000MHz to 79.999MHz	4nSeconds Maximum
	20% to 80% of Waveform, 80.000MHz to 100.000MHz	3nSeconds Maximum
	20% to 80% of Waveform, 100.001MHz to 155.520MHz	2nSeconds Maximum
Duty Cycle (SYM)	at 50% of Waveform	50 ±10(%) 50 ±5(%)
Load Drive Capability (C_{LOAD})	15pF Maximum	
Output Logic Type	CMOS	
Tri-State Input Voltage	No Connection V _{IH} : 90% of V _{DD} Minimum V _{IL} : 10% of V _{DD} Maximum	Enables Output Enables Output Disables Output: High Impedance
Standby Current	Disabled Output: High Impedance	10µA Maximum
Start Up Time (T_S)	10 mSeconds Maximum	
RMS Phase Jitter	12kHz to 20MHz offset frequency	1pSeconds Maximum

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EC37	PACKAGE CERAMIC	VOLTAGE 2.5V	CLASS OS92	REV. DATE 10/11
--------------------------------	------------------------	----------------	--------------------	-----------------	---------------	--------------------

PART NUMBERING GUIDE

EC37 00 ET T TS - 30.000M TR

FREQUENCY TOLERANCE / STABILITY

00 = ±100ppm Maximum
 45 = ±50ppm Maximum
 25 = ±25ppm Maximum
 20 = ±20ppm Maximum

PACKAGING OPTIONS

Blank = Bulk
 TR = Tape & Reel

FREQUENCY

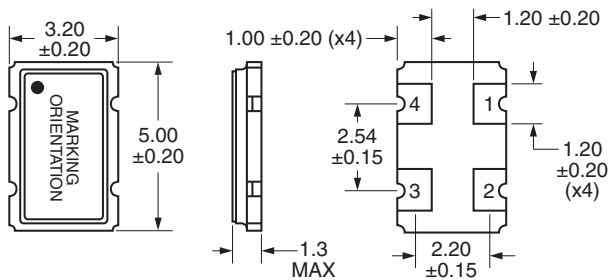
DUTY CYCLE

Blank = 50 ±10(%)
 T = 50 ±5(%)

OPERATING TEMPERATURE RANGE

Blank = -10°C to +70°C
 ET = -40°C to +85°C

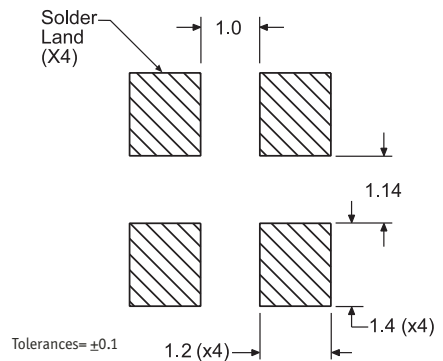
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



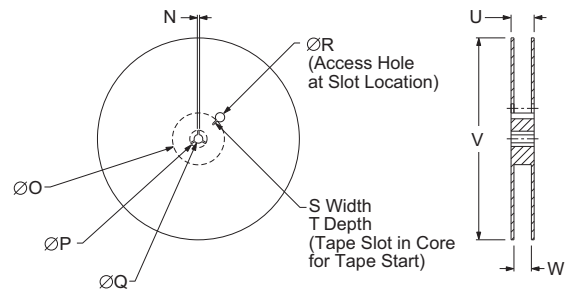
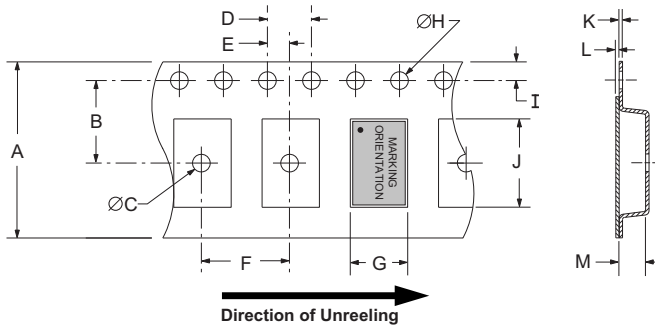
Note: Pin 1 Chamfer not shown.

Pin 1: Tri-State Pin 3: Output
 Pin 2: Case Ground Pin 4: Supply Voltage

SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E	F	
	16.0 ±0.3	7.5 ±0.1	1.50 MIN	4.0 ±0.1	2.0 ±0.1	8.0 ±0.1	
	G	H	I	J	K	L	M
	A0	1.5 +0.1/-0.0	1.75 ±0.10	B0	0.60 MAX	0.10 MAX	K0

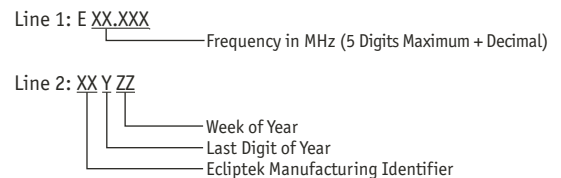
REEL	N	O	P	Q	R	
	1.5 MIN	50 MIN	20.2 MIN	13.0 ±0.2	40 MIN	
	S	T	U	V	W	QTY/REEL
	2.5 MIN	10 MIN	22.4 MAX	180 MAX	16.4 +2.0/-0.0	1,000

Note: Compliant to EIA-481

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
ESD Susceptibility	MIL-STD-883, Method 3015, Class 1, HBM: 1500V
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Flammability	UL94-V0
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A

MARKING SPECIFICATIONS



MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC37	CERAMIC	2.5V	OS92	10/11