

EC36 Series



ECLIPTEK[®]
CORPORATION

- Crystal Clock Oscillators
- LVCMOS Output
- +3.3V Supply Voltage
- Tri-State Output Function
- 4 Pad Ceramic SMD Package
- Low Stand-by Current
- RoHS Compliant (Pb-Free)



NOTES

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}) 3.3V_{DC} ±10%

Input Current (I_{DD})	1.000MHz to 9.999MHz	8mA Maximum
	10.000MHz to 34.999MHz	10mA Maximum
	35.000MHz to 49.999MHz	25mA Maximum
	50.000MHz to 70.000MHz	35mA Maximum
	70.001MHz to 125.000MHz	40mA Maximum
	125.001MHz to 155.520MHz	50mA Maximum

Frequency Tolerance/Stability Inclusive of all conditions: Calibration Tolerance at 25°C, ±100ppm Maximum
Frequency Stability over the Operating Temperature Range, ±50ppm Maximum
Supply Voltage Change, Output Load Change, First Year ±25ppm Maximum
Aging at 25°C, Shock, and Vibration ±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(%) (Standard)
at 50% of Waveform 50 ±5(%) (Optional)

Load Drive Capability (C_{LOAD}) 15pF Maximum

Tri-State Input Voltage No Connection Enables Output
V_{IH}: 90% of V_{DD} Minimum Enables Output
V_{IL}: 10% of V_{DD} Maximum Disables Output: High Impedance

Standby Current Disabled Output: High Impedance 10µA Maximum

Start Up Time (T_S) 10mSeconds Maximum

RMS Phase Jitter 12kHz to 20MHz offset frequency 1pSeconds Maximum

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EC36

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
OS91

REV. DATE
02/10

PART NUMBERING GUIDE

EC36 00 ET 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

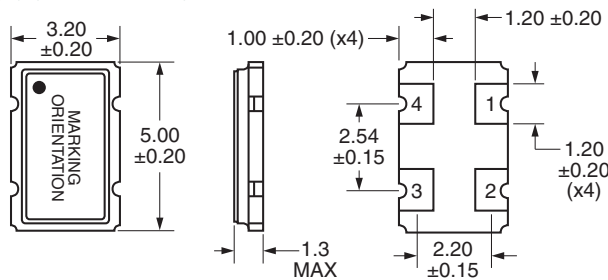
DUTY CYCLE

Blank = 50 ±10(%)
 T = 50 ±5(%)

OPERATING TEMPERATURE RANGE

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

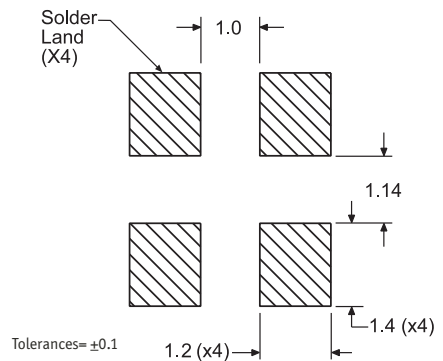
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



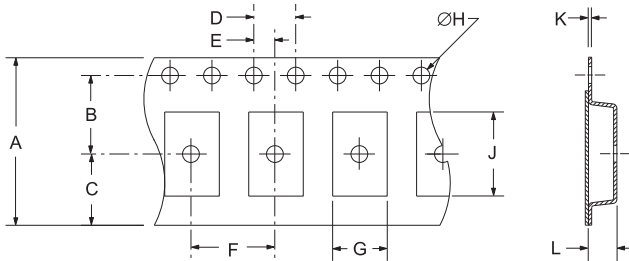
Note: Pin 1 Chamfer not shown.

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

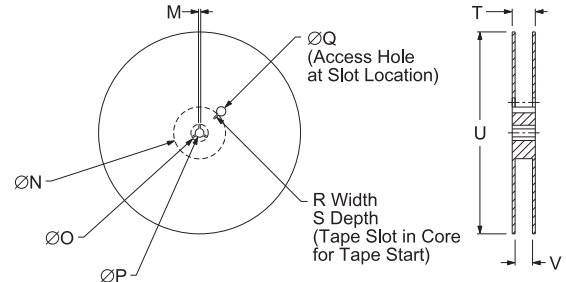
SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E
	16.0±0.3	7.5±0.1	6.75±0.1	4.0±0.1	2.0±0.1
F	G	H	J	K	L
8.0±0.1	B0*	1.5 +0.1-0.0	A0*	0.30 ±0.1	K0*



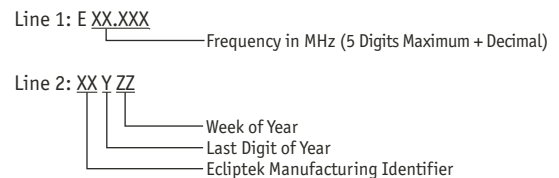
REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN
R	S	T	U	V	QTY/REEL
2.5 MIN	10 MIN	22.4 MAX	360 MAX	16.4+2/-0	1,000

*Compliant to EIA 481A

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
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	EC36	CERAMIC	3.3V	OS91	02/10