

# EC36 Series



ECLIPTEK<sup>®</sup>  
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

<b>Frequency Range (F<sub>0</sub>)</b>	1MHz to 110MHz, 120MHz, 122.88MHz, 125MHz, 127.872MHz, 133MHz, 155.52MHz	
<b>Operating Temperature Range (OTR)</b>	-10°C to +70°C -40°C to +85°C	
<b>Storage Temperature Range (STR)</b>	-55°C to +125°C	
<b>Supply Voltage (V<sub>DD</sub>)</b>	3.3V <sub>DC</sub> ±10%	
<b>Input Current (I<sub>DD</sub>)</b>	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
<b>Frequency Tolerance/Stability</b>	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
<b>Output Voltage Logic High (V<sub>OH</sub>)</b>	90% of V <sub>DD</sub> Minimum (I <sub>OH</sub> = -4mA)	
<b>Output Voltage Logic Low (V<sub>OL</sub>)</b>	10% of V <sub>DD</sub> Maximum (I <sub>OL</sub> = +4mA)	
<b>Rise Time / Fall Time (T<sub>R</sub>/T<sub>F</sub>)</b>	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
<b>Duty Cycle (SYM)</b>	at 50% of Waveform	50 ±10(%) (Standard)
	at 50% of Waveform	50 ±5(%) (Optional)
<b>Load Drive Capability (C<sub>LOAD</sub>)</b>	15pF Maximum	
<b>Tri-State Input Voltage</b>	No Connection	Enables Output
	V <sub>IH</sub> : 90% of V <sub>DD</sub> Minimum	Enables Output
	V <sub>IL</sub> : 10% of V <sub>DD</sub> Maximum	Disables Output: High Impedance
<b>Standby Current</b>	Disabled Output: High Impedance	10µA Maximum
<b>Start Up Time (T<sub>S</sub>)</b>	10mSeconds Maximum	
<b>RMS Phase Jitter</b>	12kHz to 20MHz offset frequency	1pSeconds Maximum

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC36	CERAMIC	3.3V	OS91	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

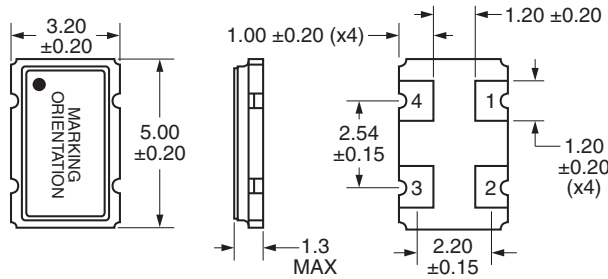
#### DUTY CYCLE

Blank = 50 ±10(%)  
 T = 50 ±5(%)

#### OPERATING TEMPERATURE RANGE

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

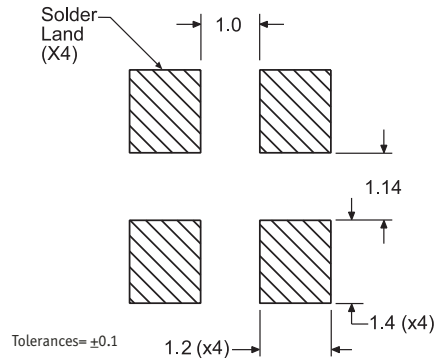
#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



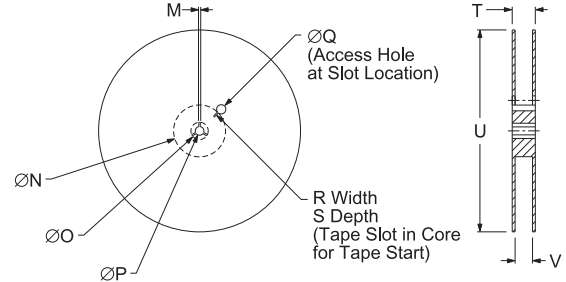
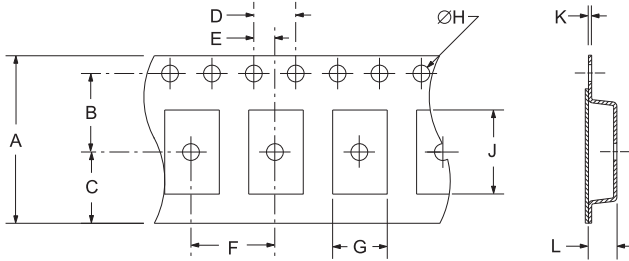
Note: Pin 1 Chamfer not shown.

Pin 1: Tri-State      Pin 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	
	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*

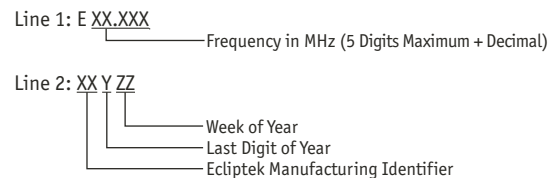
REEL	M	N	O	P	Q	
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN	
R	S	T	U	V	QTY/REEL	
	2.5 MIN	10 MIN	22.4 MAX	360 MAX	16.4+2/-0	1,000

\*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



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ECLIPTEK CORP.	OSCILLATOR	EC36	CERAMIC	3.3V	OS91	02/10