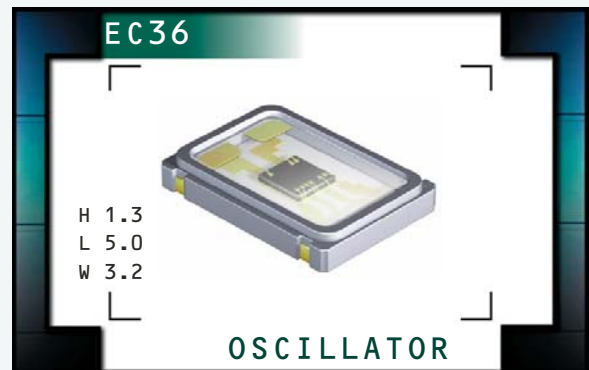


# EC36 Series



ECLIPTEK<sup>®</sup>  
CORPORATION

- RoHS Compliant (Pb-Free)
- LVCMOS output
- 3.3V Supply Voltage
- Ceramic SMD package
- Stability to  $\pm 20$ ppm
- Standby Function
- Available on Tape and Reel



## NOTES

### ELECTRICAL SPECIFICATIONS

<b>Frequency Range (<math>F_0</math>)</b>		1.544MHz to 100.000MHz
<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 (<math>V_{DD}</math>)</b>		3.3V <sub>DC</sub> $\pm 10\%$
<b>Input Current (<math>I_{DD}</math>)</b>	1.544MHz 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
	70.000001MHz to 100MHz	40mA 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	$\pm 100$ ppm, $\pm 50$ ppm, 25ppm, or $\pm 20$ ppm Maximum
<b>Output Voltage Logic High (<math>V_{OH}</math>)</b>		90% of $V_{DD}$ Minimum ( $I_{OH} = -4$ mA)
<b>Output Voltage Logic Low (<math>V_{OL}</math>)</b>		10% of $V_{DD}$ Maximum ( $I_{OL} = +4$ mA)
<b>Rise Time / Fall Time (<math>T_R/T_F</math>)</b>	20% to 80% of Waveform from 1.544MHz to 39.999MHz	6 nSeconds Maximum
	20% to 80% of Waveform from 40.000MHz to 79.999MHz	4 nSeconds Maximum
	20% to 80% of Waveform from 80.000MHz to 100.000MHz	3 nSeconds Maximum
<b>Duty Cycle (SYM)</b>	at 50% of Waveform	50 $\pm 10$ (%) (Standard)
	at 50% of Waveform	50 $\pm 5$ (%) (Optional)
<b>Load Drive Capability (<math>C_{LOAD}</math>)</b>		15pF Maximum
<b>Tri-State Input Voltage</b>	No Connection	Enables Output
	$V_{IH}$ : 90% of $V_{DD}$ Minimum	Enables Output
	$V_{IL}$ : 10% of $V_{DD}$ Maximum	Disables Output: High Impedance
<b>Standby Current</b>	Disabled Output: High Impedance	10 $\mu$ A Maximum
<b>Start Up Time (<math>T_S</math>)</b>		10mSeconds Maximum
<b>RMS Phase Jitter</b>	12kHz to 20MHz offset frequency	1pSeconds Maximum

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
EC36

PACKAGE  
CERAMIC

VOLTAGE  
3.3V

CLASS  
OS91

REV. DATE  
08/08

## PART NUMBERING GUIDE

### EC36 00 ET TS - 30.000M TR

#### FREQUENCY TOLERANCE / STABILITY

00=±100ppm Maximum (Standard)  
 45=±50ppm Maximum  
 25=±25ppm Maximum  
 20=±20ppm Maximum

#### OPERATING TEMPERATURE RANGE

Blank=-10°C to 70°C (Standard)  
 ET=-40°C to 85°C

#### PACKAGING OPTIONS

Blank=Bulk (Standard)  
 TR=Tape and Reel

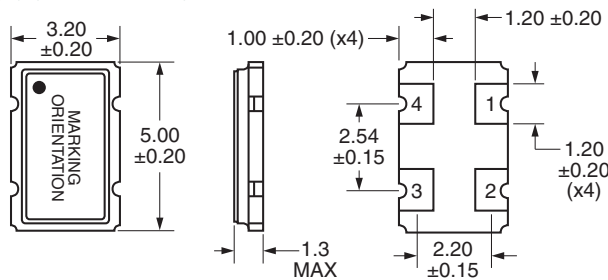
#### FREQUENCY

#### DUTY CYCLE

Blank=50 ±10(%) (Standard)  
 T=50 ±5(%)

#### MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS

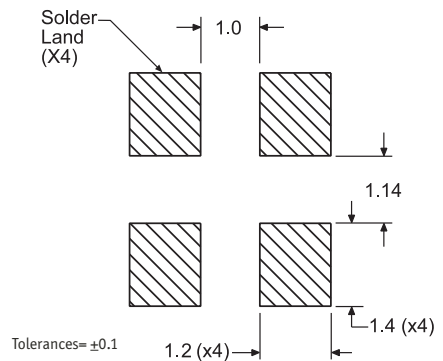


Note: Pin 1 Chamfer not shown.

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

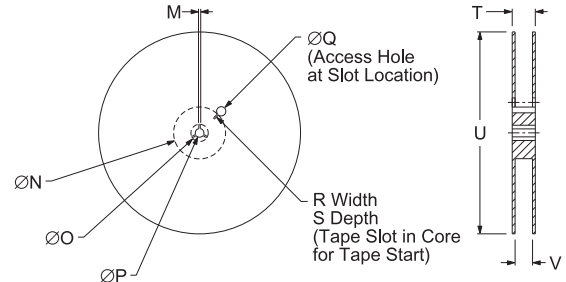
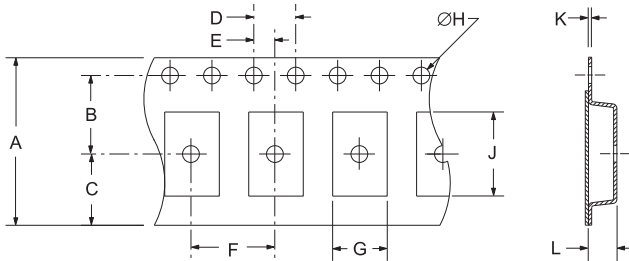
#### SUGGESTED SOLDER PAD LAYOUT

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

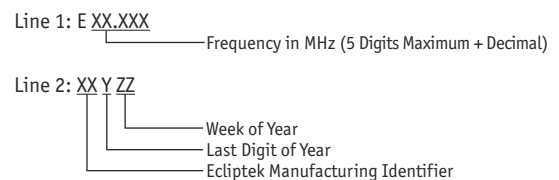
REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN
R	S	T	U	V	QTY/REEL
	2.5 MIN	10 MIN	18.4 MAX	180 MAX	12.4+2-0

\*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	08/08