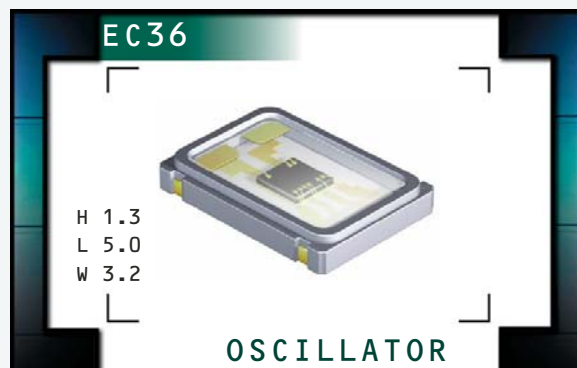


EC36 Series

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



ECLIPTEK
CORPORATION



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range (F_0) 1.544MHz to 100.000MHz

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} $\pm 10\%$

Input Current (I_{DD})	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

Frequency Tolerance/Stability Inclusive of all conditions: Calibration Tolerance at 25°C, $\pm 100\text{ppm}$, $\pm 50\text{ppm}$, 25ppm, or
Frequency Stability over the Operating Temperature Range, $\pm 20\text{ppm}$ Maximum
Supply Voltage Change, Output Load Change, First Year

Aging at 25°C, Shock, and Vibration

Output Voltage Logic High (V_{OH}) 90% of V_{DD} Minimum ($I_{OH} = -8\text{mA}$)

Output Voltage Logic Low (V_{OL}) 10% of V_{DD} Maximum ($I_{OL} = +8\text{mA}$)

Rise Time / Fall Time (T_R/T_F)	20% to 80% of Waveform from 1.544MHz to 35.000MHz	6 nSeconds Maximum
	20% to 80% of Waveform from 35.001MHz to 80.000MHz <td>4 nSeconds Maximum</td>	4 nSeconds Maximum
	20% to 80% of Waveform from 80.001MHz to 100.000MHz <td>2 nSeconds Maximum</td>	2 nSeconds Maximum

Duty Cycle (SYM) at 50% of Waveform 50 $\pm 10\%$ (Standard)
at 50% of Waveform 50 $\pm 5\%$ (Optional)

Load Drive Capability (C_{LOAD}) $\leq 35.000\text{MHz}$ 30pF HCMOS Load Maximum
 $> 35.000\text{MHz}$ 15pF HCMOS Load 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 10 μA 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
EC36

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
OS91

REV. DATE
01/06

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

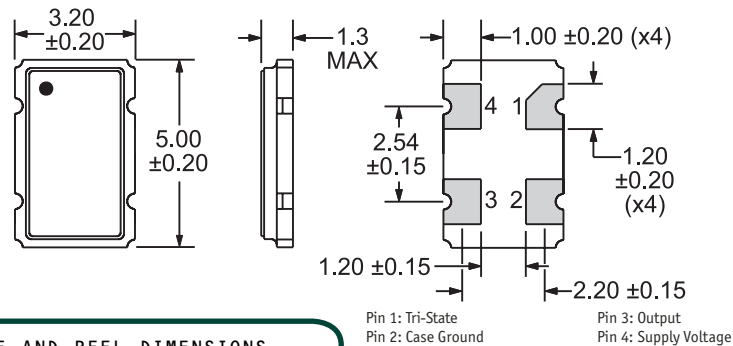
FREQUENCY

DUTY CYCLE

Blank=50 ±10(%) (Standard)
T=50 ±5(%)

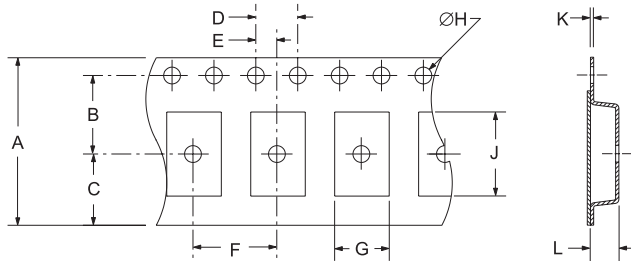
MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS

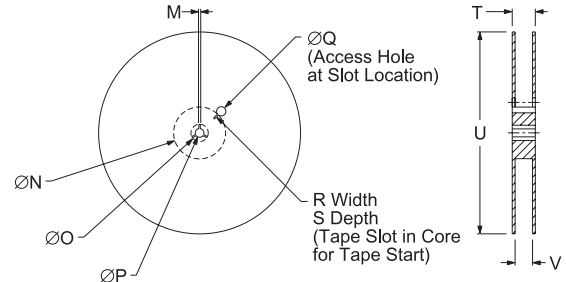
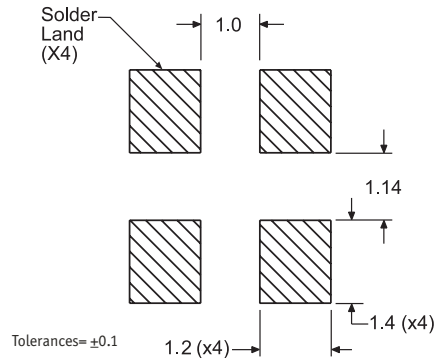
ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E
	12.0±0.2	5.5±0.1	6.5±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 ±0.05	K0*

SUGGESTED SOLDER PAD LAYOUT

ALL DIMENSIONS IN MILLIMETERS



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	1,000

*Compliant to EIA 481A

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic

Fine Leak Test
Gross Leak Test
Mechanical Shock
Vibration
Solderability
Temperature Cycling
Resistance to Soldering Heat
Resistance to Solvents

Specification

MIL-STD-883, Method 1014, Condition A
MIL-STD-883, Method 1014, Condition C
MIL-STD-202, Method 213, Condition C
MIL-STD-883, Method 2007, Condition A
MIL-STD-883, Method 2002
MIL-STD-883, Method 1010
MIL-STD-202, Method 210
MIL-STD-202, Method 215

MARKING SPECIFICATIONS

Line 1: E XX.XXX

Frequency in MHz (5 Digits Maximum + Decimal)

Line 2: XX Y ZZ

Week of Year
Last Digit of Year
Eclipse Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC36	CERAMIC	3.3V	0591	01/06



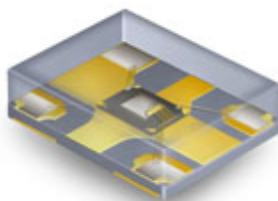
ECLIPTEK®
CORPORATION

Ecliptek
MEMS Oscillators

Ecliptek MEMS Oscillators

- Lower Cost, Quicker Delivery Alternative!

The EMO™ family of oscillators offers exceptional performance, shorter delivery and significant cost advantages by utilizing a revolutionary new MEMS resonator technology. This important innovation enables Ecliptek to offer the ultimate in flexibility with delivery of 2 days for samples and 5 to 10 days for quantities up to 10,000 pieces on tape and reel.



Supply Voltage (V _{DC})	Package Dimensions (all dimensions in millimeters)			
	5 x 7	3.2 x 5	2.5 x 3.2	2 x 2.5
1.8	EMK11	EMK21	EMK31	EMK41
2.5	EMK12	EMK22	EMK32	EMK42
3.3	EMK13	EMK23	EMK33	EMK43

Would you like to request EMO™ samples or a quotation now?

[Click Here](#)

Want to learn more about the Ecliptek EMO™ family of MEMS oscillators?

[Click Here](#)

Product Features:

- Improved frequency stability through the use of a MEMS resonator
- 1.8VDC, 2.5VDC, or 3.3VDC supply voltages
- Frequency range of 1MHz to 125MHz, HCMOS output
- Frequency stability to ±50ppm, -40°C to +85°C operation
- Tri-state or power down functions
- RoHS compliant
- High temperature +260°C reflow capability
- EIA compliant tape and reel packaging
- Four SMD package sizes

If you have any questions or would like additional information regarding the Ecliptek EMO™ family of oscillators, please contact our [Sales Department](#).