

EH36 Series

- RoHS Compliant (Pb-Free)
- Ceramic SMD package
- 3.3V supply voltage
- LVHCMOS output
- Stability to ± 20 ppm
- Available on tape and reel



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range		1.000MHz to 155.520MHz
Operating Temperature Range		0°C to 70°C or -40°C to 85°C
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{DD})		3.3V _{DC} \pm 0.3V _{DC}
Input Current		35mA Maximum (Unloaded)
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	\pm 100ppm, \pm 50ppm, \pm 25ppm, or \pm 20ppm Maximum
Output Voltage Logic High (V_{OH})		2.7V _{DC} Minimum $I_{OH} = -8$ mA
Output Voltage Logic Low (V_{OL})		0.5V _{DC} Maximum $I_{OL} = +8$ mA
Rise Time / Fall Time	\leq 70.000MHz 20% to 80% of Waveform w/HCMOS Load $>$ 70.000MHz 20% to 80% of Waveform w/HCMOS Load	6 nSeconds Maximum 4 nSeconds Maximum
Load Drive Capability	\leq 70.000MHz $>$ 70.000MHz	30pF HCMOS Load Maximum 15pF HCMOS Load Maximum
Duty Cycle (at $V_{DD}=3.3V_{DC}$)	at 50% of Waveform	50 \pm 10(%) (Standard) or 50 \pm 5(%) (Optional)
Tri-State Input Voltage	V_{IH} : No Connection or $\geq 2.2V_{DC}$ V_{IL} : $\leq 0.8V_{DC}$	Enables Output Disables Output: High Impedance
Aging (at 25°C)		\pm 5ppm / year Maximum
Start Up Time		10mSeconds Maximum
Period Jitter: Absolute		\pm 250pSec Maximum, \pm 100pSec Typical
Period Jitter: One Sigma		\pm 50pSec Maximum, \pm 40pSec Typical

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EH36

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
0S89

REV. DATE
01/04

PART NUMBERING GUIDE

EH36 00 ET TS - 24.000M TR

FREQUENCY TOLERANCE / STABILITY

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

OPERATING TEMP. RANGE

Blank=0°C to 70°C or
ET=-40°C to 85°C

DUTY CYCLE

Blank=50±10%(%) (Standard)
T=50±5(%)

AVAILABLE OPTIONS

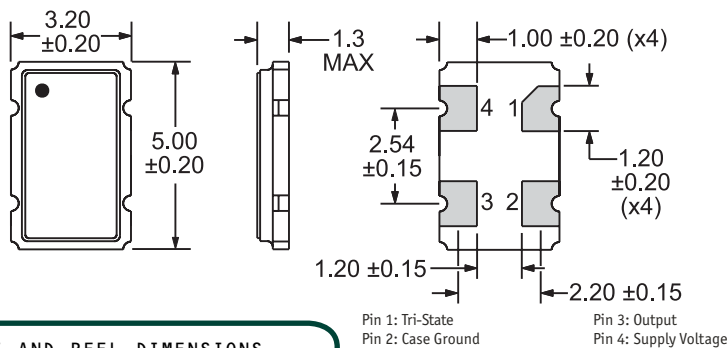
Blank=Bulk (Standard)
TR=Tape and Reel

FREQUENCY

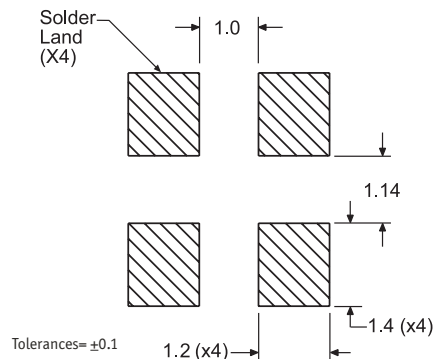
OUTPUT CONTROL FUNCTION

TS=Tri-State

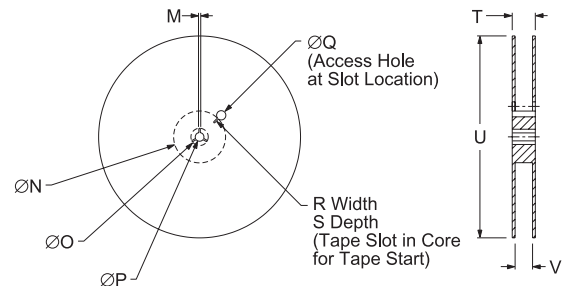
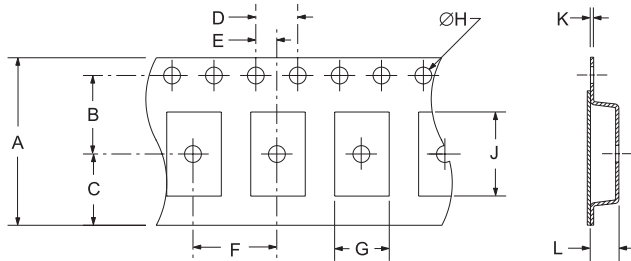
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



SUGGESTED SOLDER PAD LAYOUT 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*

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	Specification
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Vibration	MIL-STD-883, Method 2007, Condition A
Lead Integrity	MIL-STD-883, Method 2004
Solderability	MIL-STD-883, Method 2002
Temperature Cycling	MIL-STD-883, Method 1010
Resistance to Soldering Heat	MIL-STD-202, Method 210
Resistance to Solvents	MIL-STD-202, Method 215

MARKING SPECIFICATIONS

Line 1: E XX.XXX — Frequency in MHz (5 Digits Maximum + Decimal)

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EH36	CERAMIC	3.3V	OS89	01/04



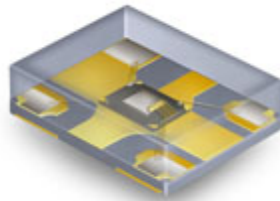
ECLIPTEK[®]
CORPORATION

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](#).