

EC39 Series



ECLIPTEK[®]
CORPORATION

- RoHS Compliant (Pb-Free)
- LVHCMOS output
- 1.8V Supply Voltage
- Ceramic SMD package
- Stability to ± 20 ppm
- Standby Function
- Available on Tape and Reel



ELECTRICAL SPECIFICATIONS

Frequency Range (F_0)		2.5MHz to 80MHz and 98.304MHz, 100MHz, 106.250MHz
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})		1.8V _{DC} $\pm 5\%$
Input Current (I_{DD})	2.500MHz to 10.000MHz	2mA Maximum
	10.001MHz to 25.000MHz	3mA Maximum
	25.001MHz to 40.000MHz	4mA Maximum
	40.001MHz to 50.000MHz	8mA Maximum
	50.001MHz to 70.000MHz	10mA Maximum
	70.001MHz to 90.000MHz	18mA Maximum
	90.001MHz to 106.250MHz	25mA Maximum
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	± 100 ppm, ± 50 ppm, 25ppm, or ± 20 ppm Maximum
Output Voltage Logic High (V_{OH})	$I_{OH} = -2.8mA \leq 40.000MHz$ $I_{OH} = -8mA > 40.000MHz$	90% of V_{DD} Minimum
Output Voltage Logic Low (V_{OL})	$I_{OL} = 2.8mA \leq 40.000MHz$ $I_{OL} = 8mA > 40.000MHz$	10% of V_{DD} Maximum
Rise Time / Fall Time (T_R/T_F)	20% to 80% of Waveform $\leq 40.000MHz$ 20% to 80% of Waveform $> 40.000MHz$	6 nSeconds Maximum 3 nSeconds Maximum
Duty Cycle (SYM)	at 50% of Waveform	50 ± 10 (%) (Standard) 50 ± 5 (%) (Optional)
Load Drive Capability (C_{LOAD})		15pF HCMOS Load Maximum
Tri-State Input Voltage	No Connection V_{IH} : 90% of V_{DD} Minimum V_{IL} : 10% of V_{DD} Minimum	Enables Output Enables Output Disables Output: High Impedance
Standby Current	Disabled Output: High Impedance	10 μ A Maximum 2.500MHz to 40.000MHz 100 μ A Maximum 40.001MHz to 70.000MHz 10 μ A Maximum 70.001MHz to 106.250MHz
Start Up Time (T_S)		10 mSeconds Maximum
RMS Phase Jitter	12kHz to 20MHz offset frequency	1pSeconds Maximum

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EC39	PACKAGE CERAMIC	VOLTAGE 1.8V	CLASS OS1F	REV. DATE 01/06
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PART NUMBERING GUIDE

EC39 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

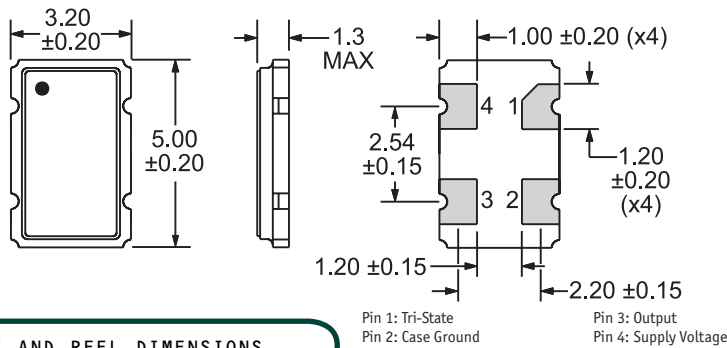
FREQUENCY

DUTY CYCLE

Blank=50±10%(%) (Standard)
 T=50±5(%)

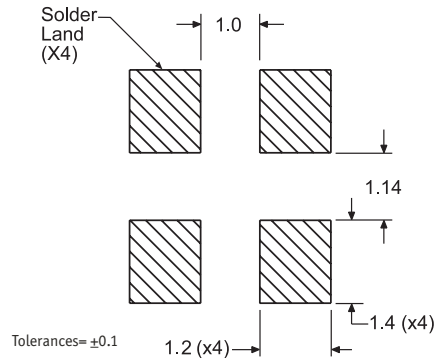
MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



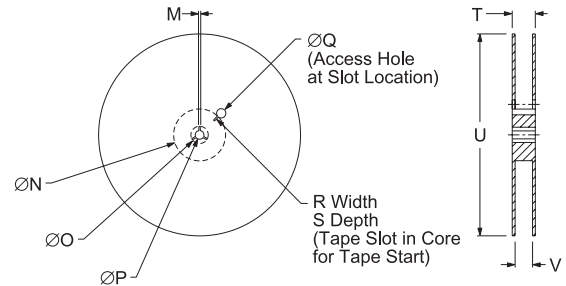
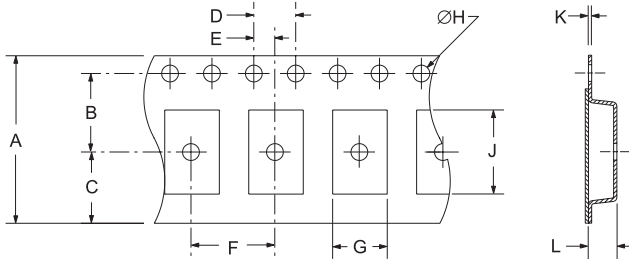
SUGGESTED SOLDER PAD LAYOUT

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*

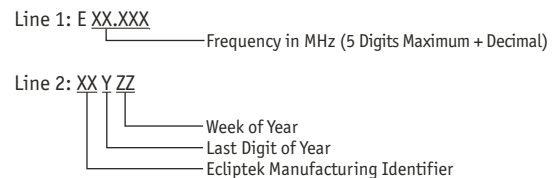
REEL	M	N	O	P	Q	
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN	
R	S	T	U	V	QTY/REEL	
	2.5 MIN	10 MIN	18.4 MAX	180 MAX	12.4+2-0	1,000

*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
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



MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC39	CERAMIC	1.8V	OS1F	01/06



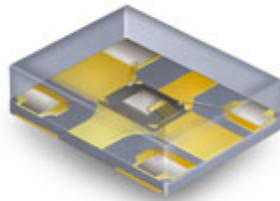
ECLIPTEK[®]
CORPORATION

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](#).