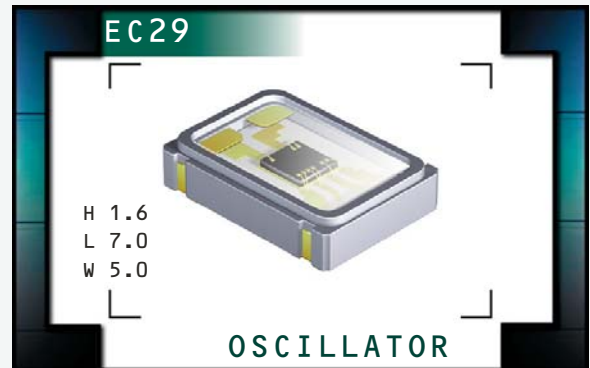


EC29 Series



ECLIPTEK[®]
CORPORATION

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



ELECTRICAL SPECIFICATIONS

Frequency Range (F_0) 1.544MHz to 80.000MHz and 98.304MHz, 100.000MHz, 106.250MHz, 110.000MHz, 125.000MHz

Operating Temperature Range (OTR) 0°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} ±5%

Input Current (I_{DD})	1.544MHz 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 100.000MHz	18mA Maximum
	100.001MHz to 110.000MHz	20mA Maximum
110.001MHz to 125.000MHz	25mA Maximum	

Frequency Tolerance/Stability Inclusive of all conditions: Calibration Tolerance at 25°C, ±100ppm, ±50ppm, ±25ppm, or
Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, ±20ppm
First Year Aging at 25°C, Shock, and Vibration

Output Voltage Logic High (V_{OH})	$I_{OH} = -2.8mA$, 1.544MHz to 40.000MHz	90% of V_{DD} Minimum
	$I_{OH} = -8mA$, 40.001MHz to 125.000MHz	90% of V_{DD} Minimum

Output Voltage Logic Low (V_{OL})	$I_{OL} = 2.8mA$, 1.544MHz to 40.000MHz	10% of V_{DD} Maximum
	$I_{OL} = 8mA$, 40.001MHz to 125.000MHz	10% of V_{DD} Maximum

Rise Time / Fall Time (T_R/T_F)	< 40.000MHz 10% to 90% of Waveform	6 nSeconds Maximum
	≥ 40.000MHz 10% to 90% of Waveform	3 nSeconds Maximum

Duty Cycle (SYM)	at 50% of Waveform	50 ±10(%) (Standard)
	at 50% of Waveform	50 ±5(%) (Optional)

Load Drive Capability (C_{LOAD}) 15pF HCMOS Load Maximum

Tri-State Input Voltage	No Connection	Enables Output
	$V_{IH} \geq 90\%$ of V_{DD}	Enables Output
	$V_{IL} \leq 10\%$ of V_{DD}	Disables Output: High Impedance

Standby Current	Disabled Output: High Impedance, 1.544MHz to 40MHz	10µA Maximum
	Disabled Output: High Impedance, 40.001MHz to 70MHz	100µA Maximum
	Disabled Output: High Impedance, 70.001MHz to 125MHz	10µA 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
EC29

PACKAGE
CERAMIC

VOLTAGE
1.8V

CLASS
OS1B

REV. DATE
01/06

PART NUMBERING GUIDE

EC29 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=0°C to 70°C (Standard)
 ET=-40°C to 85°C

PACKAGING OPTIONS

Blank=Bulk (Standard)
 TR=Tape and Reel

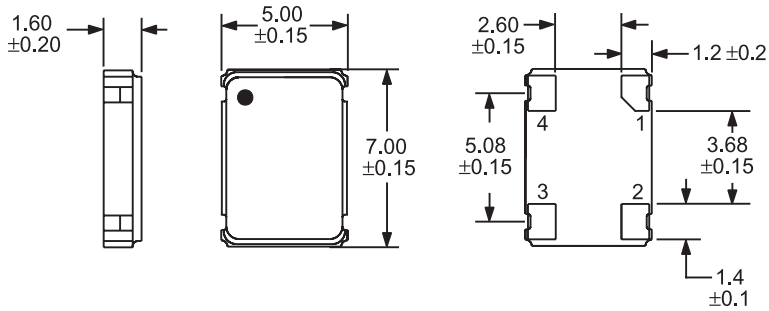
FREQUENCY

DUTY CYCLE

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

MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS

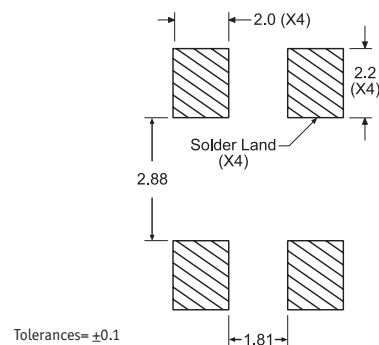


Pin 1: Tri-State
 Pin 2: Case Ground

Pin 3: Output
 Pin 4: Supply Voltage

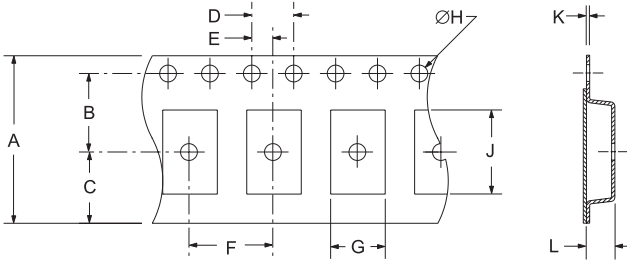
SUGGESTED SOLDER PAD LAYOUT

ALL DIMENSIONS IN MILLIMETERS

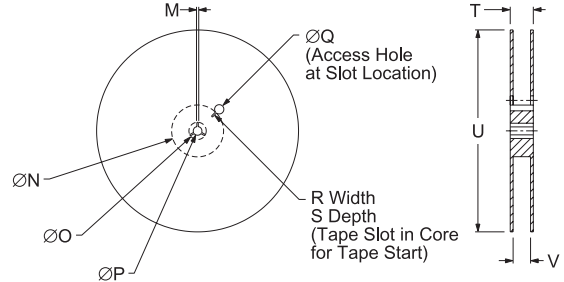


TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E
	16±.3-.1	7.5±.1	6.75±.1	4 ±.1	2±.1
F	G	H	J	K	L
8±.1	B0*	1.5 +.1-0	A0*	.3 ±.05	K0*



REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13±.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
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

Line 1: ECLIPTEK

Line 2: XX.XXX M
 Frequency in MHz (5 Digits Maximum + Decimal)

Line 3: XXY ZZ
 Week of Year
 Last Digit of Year
 Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC29	CERAMIC	1.8V	OS1B	01/06



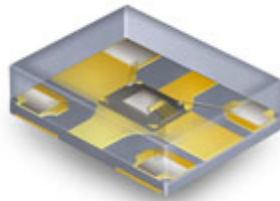
ECLIPTEK[®]
CORPORATION

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](#).