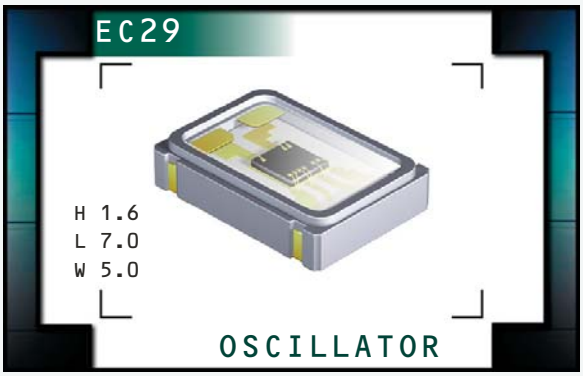
EC29 Series

- 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_O)	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, Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, First Year Aging at 25°C, Shock, and Vibration	±100ppm, ±50ppm, ±25ppm, or ±20ppm
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}: ≥90% of V_{DD}	Enables Output
	V_{IL}: ≤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	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC29	CERAMIC	1.8V	OS1B	01/06

PART NUMBERING GUIDE

EC29 00 ET T 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

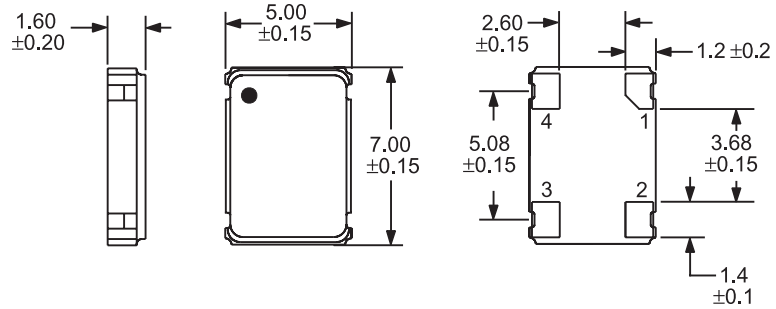
PACKAGING OPTIONS
Blank=Bulk (Standard)
TR=Tape and Reel

FREQUENCY

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

MECHANICAL DIMENSIONS

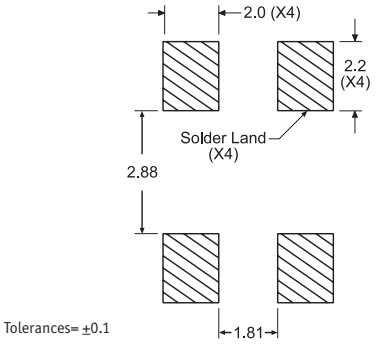
ALL DIMENSIONS IN MILLIMETERS



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

SUGGESTED SOLDER PAD LAYOUT

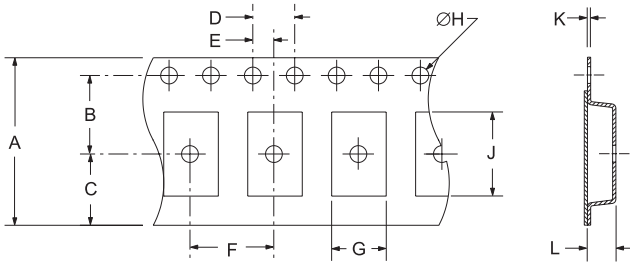
ALL DIMENSIONS IN MILLIMETERS

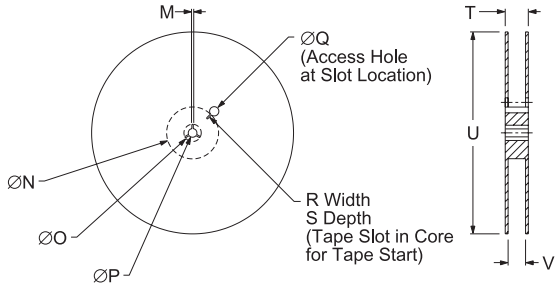


Tolerances= ±0.1

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: XX Y ZZ
- Week of Year
- Last Digit of Year
- Ecliptek Manufacturing Identifier

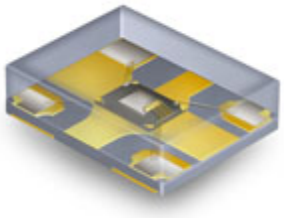
MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV - DATE
ECLIPTEK CORP.	OSCILLATOR	EC29	CERAMIC	1.8V	OS1B	01/06

ECLIPTEK® CORPORATION

Ecliptek MEMS Oscillators

- 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?
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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.