

## Product EOL Announcement

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The Product EOL Announcement signifies that a product series has entered the final phase of the Ecliptek Product Life Cycle, and serves as advance notice of product termination per the Ecliptek End of Life (EOL) policy.

Ecliptek Corporation announces End of Life initiation for the following product series with the intent of discontinuing its availability.

EOL Series	Description
EV31C6	RoHS Compliant (Pb-free) 5.0V 6 Pad 5mm x 7mm Ceramic SMD HCMOS/TTL VCXO (Tri-State Pad 2)

### EOL Timeline

The last date Ecliptek will accept orders (Stage 2) and the last date orders may be scheduled for shipment (Stage 3) are listed in the table below.

Stage 1 EOL Announce Date	Stage 2 Last Date to Order	Stage 3 Last Date to Ship
5-April-2011	31-December-2011	31-March-2012

### Alternative Products

In order to fulfill your requirements beyond this product's discontinuation, we invite you to evaluate alternative Ecliptek products. Because this series does not have a recommended alternative Ecliptek product series, please contact one of our Global Customer Support Executives to assist you with finding the best Ecliptek product for your application.

### Automated EOL Notification

Ecliptek offers automated notification of Product EOL Announcements. Place part numbers for which you'd like to receive EOL Notifications into your personalized [Parts List](#) on our website and we'll email you when EOL is announced.

Please do not hesitate to contact us if you have any questions or need further assistance.

Ecliptek Global Customer Support Team  
(800) 433-1280 x300  
[customersupport@ecliptek.com](mailto:customersupport@ecliptek.com)

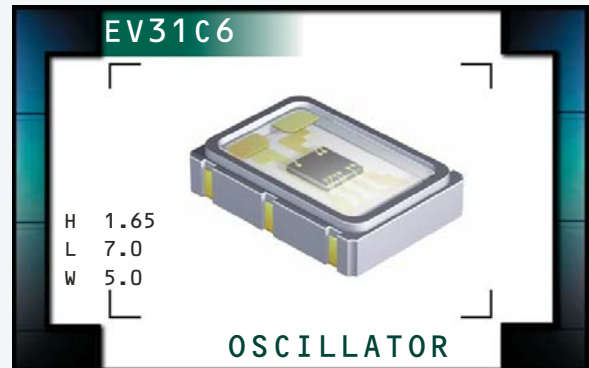
All product warranties for discontinued products will be honored in full according to Ecliptek [Terms and Conditions of Sale](#).

# EV31C6 Series



ECLIPTEK<sup>®</sup>  
CORPORATION

- Voltage Controlled Crystal Oscillators (VCXO)
- HCMOS/TTL Output
- +5.0V Supply Voltage
- Tri-State Output Function (Pad 2)
- External Voltage Control Function
- 6 Pad Ceramic SMD Package
- RoHS Compliant (Pb-Free)



## ELECTRICAL SPECIFICATIONS

Frequency Range (F <sub>o</sub> )	1.544MHz, 2.000MHz, 2.048MHz, 3.088MHz, 3.580MHz, 3.686MHz, 4.000MHz, 4.032MHz, 4.096MHz, 4.434MHz, 5.000MHz, 6.144MHz, 6.176MHz, 6.312MHz, 6.400MHz, 8.000MHz, 8.192MHz, 8.448MHz, 10.000MHz, 12.000MHz, 12.288MHz, 12.352MHz, 12.960MHz, 13.000MHz, 13.500MHz, 14.318MHz, 15.360MHz, 15.440MHz, 16.000MHz, 16.384MHz, 16.660MHz, 17.664MHz, 18.432MHz, 19.200MHz, 19.440MHz, 20.000MHz, 20.480MHz, 24.000MHz, 24.576MHz, 24.704MHz, 25.920MHz, 26.000MHz, 27.000MHz, 28.636MHz, 30.000MHz, 30.720MHz, 32.000MHz, 32.768MHz, 34.368MHz, 35.328MHz, 36.864MHz, 38.880MHz, 40.000MHz, 40.960MHz, 44.736MHz, 50.000MHz, 51.840MHz, 52.000MHz, 62.208MHz, 65.536MHz, 74.250MHz, 77.760MHz	
Operating Temperature Range (OTR)	0°C to 70°C or -40°C to 85°C	
Storage Temperature Range (STR)	-55°C to 125°C	
Supply Voltage (V <sub>DD</sub> )	5.0V <sub>DC</sub> ±10%	
Input Current (I <sub>DD</sub> )	≤27.000MHz	25mA Maximum
	> 27.000MHz	35mA 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, Shock, and Vibration	±50ppm Maximum
Output Voltage Logic High (V <sub>OH</sub> )	I <sub>OH</sub> = -4mA	90% of V <sub>DD</sub> Minimum
Output Voltage Logic Low (V <sub>OL</sub> )	I <sub>OL</sub> = +4mA	10% of V <sub>DD</sub> Maximum
Rise Time / Fall Time (T <sub>R</sub> /T <sub>F</sub> )	20% to 80% of Waveform w/CMOS Load or w/TTL Load	5 nSeconds Maximum
Duty Cycle (SYM)	at 50% of Waveform	50 ±5(%) Typical, 50 ±10(%) Max.
Load Drive Capability (C <sub>LOAD</sub> )		10TTL Load or 30pF CMOS Load Max.
Aging (at 25°C)		±2ppm/1st year Typical, ±10ppm/10 years Max.
Start Up Time (T <sub>S</sub> )		10 mSeconds Maximum
Tri-State Input Voltage	V <sub>IH</sub> : No Connection V <sub>IH</sub> : ≥0.9V <sub>DD</sub> V <sub>IL</sub> : ≤0.1V <sub>DD</sub>	Enables Output Enables Output Disables Output: High Impedance
RMS Phase Jitter	F <sub>J</sub> =12kHz to 20MHz	1pSec Maximum
Absolute Pull Range (APR)	Inclusive of All Conditions: Calibration Tolerance at 25°C, Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, Shock, Vibration, and Aging over Control Voltage (V <sub>c</sub> )	±50ppm Minimum ±80ppm Minimum ≤ 51.840MHz only ±100ppm Minimum ≤ 36.000MHz only
Linearity		10% Typical, 20% Maximum
Control Voltage (V <sub>c</sub> ): Test Conditions for APR		0.5V <sub>DC</sub> to 4.5V <sub>DC</sub>
Control Voltage Range (V <sub>CR</sub> )		0.0V <sub>DC</sub> to V <sub>DD</sub>
Transfer Function		Positive Transfer Characteristic
Input Impedance (Z <sub>i</sub> )		50kOhms Minimum
Input Leakage Current		10µA Maximum
Modulation Bandwidth (MBW)	-3dB, V <sub>c</sub> = 2.5V <sub>DC</sub>	10kHz Minimum
Typical Phase Noise (Fo = 27.000MHz)	At offset of 10Hz	-70dBc/Hz
	At offset of 100Hz	-100dBc/Hz
	At offset of 1kHz	-130dBc/Hz
	At offset of 10kHz	-147dBc/Hz
	At offset of 100kHz	-152dBc/Hz

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
EV31C6

PACKAGE  
CERAMIC

VOLTAGE  
5.0V

CLASS  
OS60

REV. DATE  
11/06

## PART NUMBERING GUIDE

### EV31C6 B 3 A 1 - 35.328M TR

#### OPERATING TEMPERATURE RANGE

A=0°C to 70°C,  
B=-40°C to 85°C

#### ABSOLUTE PULL RANGE (APR)

3=±50ppm Minimum,  
4=±80ppm Minimum,  
5=±100ppm Minimum

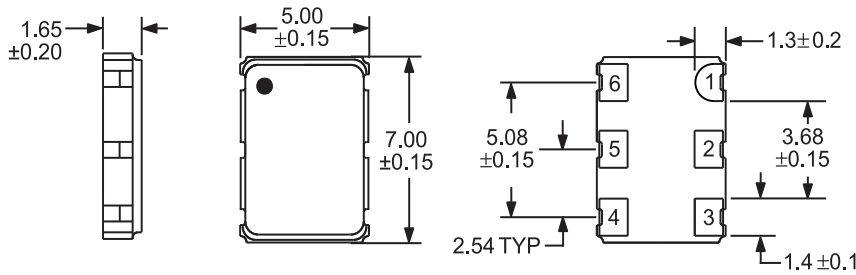
#### AVAILABLE OPTIONS

Blank=Bulk  
TR=Tape & Reel

#### FREQUENCY

#### MECHANICAL DIMENSIONS

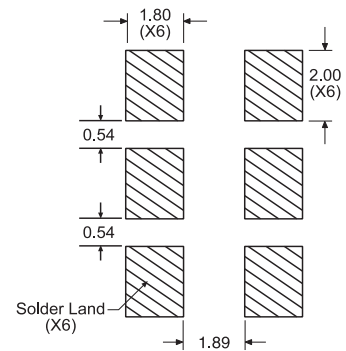
ALL DIMENSIONS IN MILLIMETERS



Pin 1: Control Voltage (V<sub>i</sub>)  
Pin 2: Tri-State  
Pin 3: Case Ground  
Pin 4: Output  
Pin 5: No Connect  
Pin 6: Supply Voltage

#### SUGGESTED SOLDER PAD LAYOUT

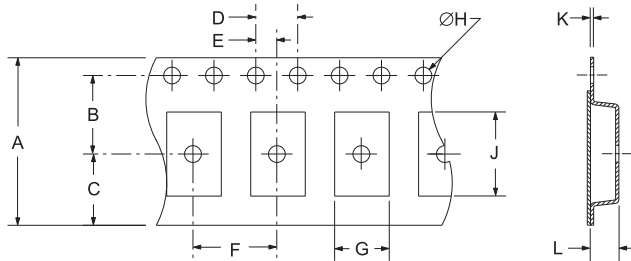
ALL DIMENSIONS IN MILLIMETERS



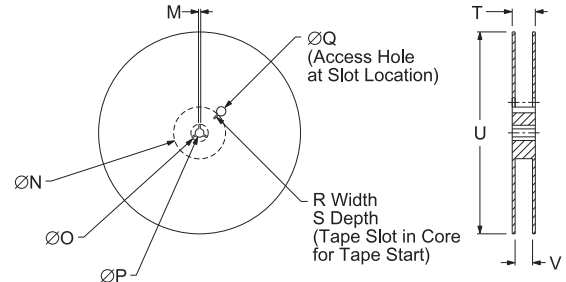
Tolerances = ±0.1

#### 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: XY ZZ  
Week of Year  
Last Digit of Year  
Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EV31C6	CERAMIC	5.0V	OS60	11/06