

Product EOL Announcement

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
EC31	RoHS Compliant (Pb-free) 5.0V 8 Pin or 14 Pin DIP Metal Thru-Hole HCMOS/TTL VCXO

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
20-April-2010	1-September-2010	1-December-2010

Alternative Products

In order to fulfill your requirements beyond this product's discontinuation, we invite you to evaluate the recommended alternative Ecliptek product series referenced below. Please click on the link to view the data sheet.

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

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.

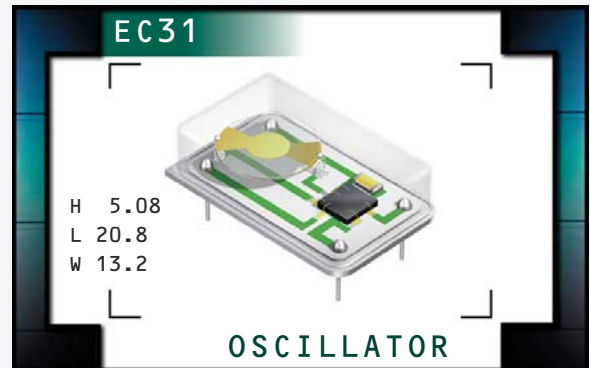
Please do not hesitate to contact us if you have any questions or need further assistance.

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

EC31 Series



- Voltage Controlled Crystal Oscillators (VCXO)
- HCMOS/TTL Output
- +5.0V Supply Voltage
- External Voltage Control Function
- Custom Lead Length & Gull Wing Options
- 14 pin DIP Metal Package
- RoHS Compliant (Pb-free)



ELECTRICAL SPECIFICATIONS

Frequency Range (MHz)		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})		5.0V _{DC} ±5%
Aging (at 25°C)		±5ppm / year Maximum
Load Drive Capability		10TTL Load or 15pF CMOS Load Maximum
Start Up Time		10 mSeconds Maximum
Frequency Deviation / Control Voltage	2.5V _{DC} ±2.0V _{DC} Positive Transfer Characteristic,	±50ppm Minimum
	2.5V _{DC} ±2.0V _{DC} Positive Transfer Characteristic,	±100ppm Minimum
	2.5V _{DC} ±2.0V _{DC} Positive Transfer Characteristic,	±150ppm Minimum
	2.5V _{DC} ±2.5V _{DC} Positive Transfer Characteristic, or	±200ppm Minimum
Linearity		±20%, ±15%, ±10% Maximum, or ±5% Maximum (not avail. w/±200ppm Freq. Dev.)
Input Current	1.000MHz to 20.000MHz	20mA Maximum
	20.001MHz to 30.000MHz	40mA Maximum
	30.001MHz to 155.520MHz	50mA Maximum
Frequency Tolerance / Stability	Inclusive of Operating Temperature Range, Supply Voltage, and Load	±100ppm, ±50ppm, ±25ppm, or ±20ppm Maximum (0°C to 70°C only)
Output Voltage Logic High (V_{OH})	w/TTL Load	2.4V _{DC} Minimum
	w/CMOS Load	V _{DD} -0.5V _{DC} Minimum
Output Voltage Logic Low (V_{OL})	w/TTL Load	0.4V _{DC} Maximum
	w/CMOS Load	0.5V _{DC} Maximum
Duty Cycle	at 1.4V _{DC} w/TTL Load; at 50% of Waveform w/CMOS Load	50 ±10(%) (Standard)
	at 1.4V _{DC} w/TTL Load and w/CMOS Load	50 ±5(%) (Optional)
Rise Time / Fall Time	0.4V _{DC} to 2.4V _{DC} w/TTL Load; 20% to 80% of Waveform w/CMOS Load	5 nSeconds Maximum
Period Jitter: Absolute	Freq. Deviation Options Blank, A or B	±100pSeconds Max ≤44.736MHz
	Freq. Deviation Options C	±100pSeconds Max ≤30.000MHz
		±200pSeconds Max >30.000MHz
	Freq. Deviation Options Blank, A or B	±200pSeconds Max >44.736MHz
Period Jitter: One Sigma	Freq. Deviation Options Blank, A or B	±25pSeconds Max ≤44.736MHz
	Freq. Deviation Options C	±25pSeconds Max ≤30.000MHz
		±50pSeconds Max >30.000MHz
	Freq. Deviation options Blank, A or B	±50pSeconds Max >44.736MHz

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC31	14 pin DIP	5.0V	OS13	08/06

PART NUMBERING GUIDE

EC31 00 T A 15 ET - 24.000M - G

FREQUENCY TOLERANCE / STABILITY

00=±100ppm Maximum
 45=±50ppm Maximum, 25=±25ppm Maximum
 20=±20ppm Maximum

DUTY CYCLE

Blank=50 ±10(%), T=50 ±5(%)

FREQUENCY DEVIATION

Blank=±50ppm Minimum
 A=±100ppm Minimum
 B=±150ppm Minimum
 C=±200ppm Minimum (2.5V_{DC} ±2.5V_{DC})

AVAILABLE OPTIONS

Blank=None
 CLXXX=Custom Lead Length
 G=Full Size Gull Wing

FREQUENCY

OPERATING TEMP. RANGE

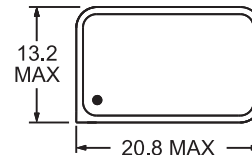
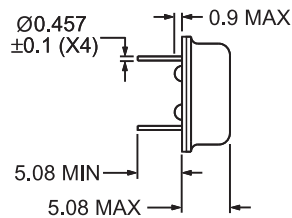
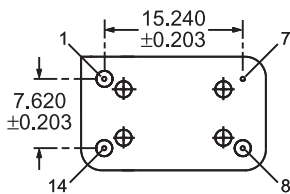
Blank=0°C to 70°C
 ET=-40°C to 85°C

LINEARITY

Blank=20% Maximum
 05=5% Maximum
 10=10% Maximum
 15=15% Maximum

NOTES

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



Pin 1: Control Voltage (V_c)
 Pin 7: Case Ground

Pin 8: Output
 Pin 14: Supply Voltage

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
Seal Integrity	Bubble test in Perfluorocarbon at +125°C ±5°C for 60 seconds minimum.
Solderability	Sn63 Solder dip at +230°C ±5°C for 5 seconds/95% coverage.
Marking Permanency	10 Strokes with brush after 1 minute soak in solvent, 3 times.
Shock	Random drop on hard wooden plate 3 times from a height of 20cm.
Vibration	Frequency with an amplitude of 1.5mm sweeping between 10Hz to 55Hz within 1 minute (approximately) for 2 hours minimum on each axis (X, Y and Z) for a total of 6 hours.

MARKING SPECIFICATIONS

Line 1: ECLIPTEK
 Line 2: EC31 — Series Designator
 Line 3: XX.XXX M. — Frequency in MHz (5 Digits Maximum + Decimal)
 Line 4: XX Y ZZ — Week of Year, Last Digit of Year, Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

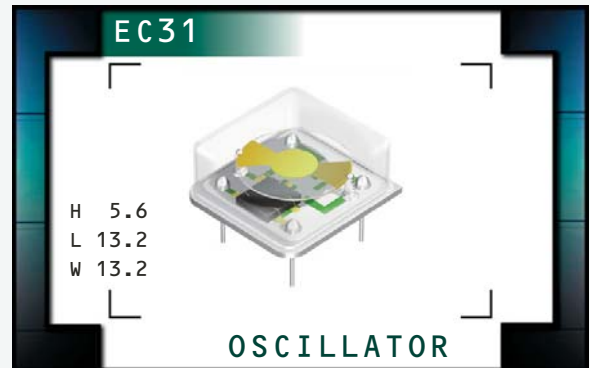
MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC31	14 pin DIP	5.0V	OS13	08/06

EC31 Series



ECLIPTEK[®]
CORPORATION

- Voltage Controlled Crystal Oscillators (VCXO)
- HCMOS/TTL Output
- +5.0V Supply Voltage
- External Voltage Control Function
- Custom Lead Length & Gull Wing Options
- 8 pin DIP Metal Package
- RoHS Compliant (Pb-free)



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range (MHz)	1.000MHz to 44.736MHz	
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})	5.0V _{DC} ±5%	
Aging (at 25°C)	±5ppm / year Maximum	
Load Drive Capability	10TTL Load or 15pF CMOS Load Maximum	
Start Up Time	10 mSeconds Maximum	
Frequency Deviation / Control Voltage	2.5V _{DC} ±2.0V _{DC} Positive Transfer Characteristic,	±50ppm Minimum
	2.5V _{DC} ±2.0V _{DC} Positive Transfer Characteristic,	±100ppm Minimum
	2.5V _{DC} ±2.0V _{DC} Positive Transfer Characteristic,	±150ppm Minimum
Linearity	±20%, ±15%, ±10% Maximum, or ±5% Maximum	
Input Current	1.000MHz to 20.000MHz	20mA Maximum
	20.0001MHz to 30.000MHz	40mA Maximum
	30.001MHz to 44.736MHz	50mA Maximum
Frequency Tolerance / Stability	Inclusive of Operating Temperature Range, Supply Voltage, and Load	±100ppm, ±50ppm, ±25ppm, or ±20ppm Maximum (0°C to 70°C Only)
Output Voltage Logic High (V_{OH})	w/TTL Load	2.4V _{DC} Minimum
	w/CMOS Load	V _{DD} -0.5V _{DC} Minimum
Output Voltage Logic Low (V_{OL})	w/TTL Load	0.4V _{DC} Maximum
	w/CMOS Load	0.5V _{DC} Maximum
Duty Cycle	at 1.4V _{DC} w/TTL Load; at 50% of Waveform w/CMOS Load	50 ±10(%) (Standard)
	at 1.4V _{DC} w/TTL Load and CMOS Load	50 ±5(%) (Optional)
Rise Time / Fall Time	0.4V _{DC} to 2.4V _{DC} w/TTL Load; 20% to 80% of Waveform w/CMOS Load	5 nSeconds Maximum
Period Jitter: Absolute	±100pSeconds Maximum	
Period Jitter: One Sigma	±25pSeconds Maximum	

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EC31	PACKAGE 8 pin DIP	VOLTAGE 5.0V	CLASS OS18	REV. DATE 08/06
--------------------------------	------------------------	----------------	----------------------	-----------------	---------------	--------------------

