

Marketing Bulletin

DATE: April 7, 2003
TO: Affected Customers
FROM: Mark Stoner
RE: Product Termination

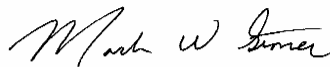
To all concerned parties,

This bulletin is to notify all customers of the termination of the following Ecliptek series effective April 7th, 2003:

Series	Description	Recommended Replacement
E11F4	5 pin DIP PECL Oscillator, 5V	E11F1
E13F4	5 pin DIP PECL Oscillator, 3.3V	E13F1
E31F4	5 pin DIP PECL VCXO, 5V	E31F1
E32F4	5 pin DIP PECL VCXO, 3.3V	E32F1

Because of the circumstances surrounding this termination, there will be no end-of-life policy exercised. The series will be terminated with no purchasing or lifetime buy window available. All of us at Ecliptek Corporation apologize for any inconvenience this may have caused and can assure you we are taking measures to insure this will not happen again in the future.

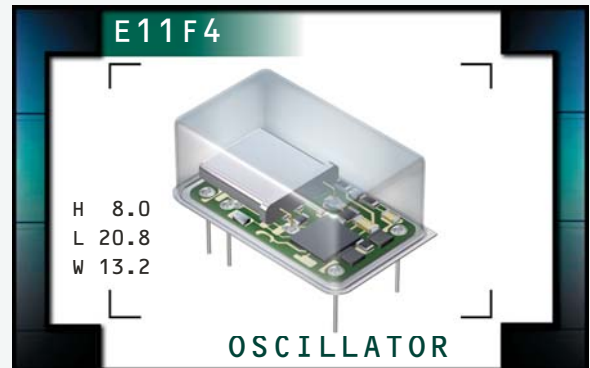
Best Regards,



Mark W. Stoner
Director of Marketing
Ecliptek Corporation

E11F4 Series

- PECL Output Oscillators
- 5.0V supply voltage
- 14 pin DIP package (5 pin)
- Stability to 20ppm
- Output Enable/Disable available
- Complementary Output available



NOTES

OBSOLETE

ELECTRICAL SPECIFICATIONS

Frequency Range		19.440MHz to 250.000MHz
Operating Temperature Range		0°C to 70°C
	Available at Frequencies \leq 212.500MHz	-40°C to 85°C
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{CC})		5.0V _{DC} \pm 5%
Input Current		100mA Maximum
Logic Type		100KH
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, Aging, Shock, and Vibration	\pm 100ppm, \pm 50ppm, \pm 25ppm, or \pm 20ppm Maximum
Output Voltage Logic High (V_{OH})		V_{CC} -1.025V _{DC} Minimum
Output Voltage Logic Low (V_{OL})		V_{CC} -1.620V _{DC} Maximum
Rise Time / Fall Time	20% to 80% of waveform	2 nSeconds Maximum
Duty Cycle	at 50% of waveform	50 \pm 10(%) 50 \pm 5(%)
Load Drive Capability		50 Ohms into V_{CC} -2.0V _{DC}
Logic Control / Additional Output		No Connect, Enable/Disable, Complementary Output, or Complementary Output and Enable/Disable
Enable/Disable Input Voltage	V_{IL} of V_{CC} -1.475V _{DC} Maximum No Connection V_{IH} of V_{CC} -1.165V _{DC} Minimum	Enables Output Enables Output Disables Output: Logic Low Disables Complementary Output: Logic High
Start Up Time		10 mSeconds Maximum
RMS Phase Jitter	FJ = 12kHz to 20MHz	1 pSec Maximum

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES E11F4	PACKAGE 14 pin DIP	VOLTAGE 5.0V	CLASS OS86	REV. DATE 01/03
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PART NUMBERING GUIDE

E11F4 F 2 C - 155.520M

**FREQUENCY TOLERANCE & STABILITY/
OPERATING TEMPERATURE RANGE**

C=±100ppm Maximum over 0°C to +70°C
 D=±50ppm Maximum over 0°C to +70°C
 E=±25ppm Maximum over 0°C to +70°C
 F=±20ppm Maximum over 0°C to +70°C
 G=±100ppm Maximum over -40°C to +85°C
 H=±50ppm Maximum over -40°C to +85°C

DUTY CYCLE

1=50% ±10%, 2=50% ±5%

FREQUENCY

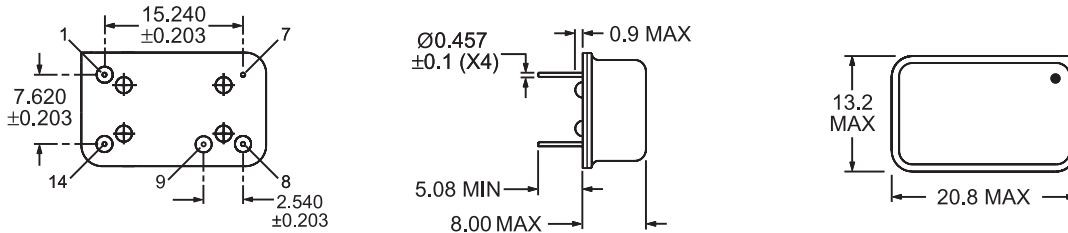
LOGIC CONTROL/ADDITIONAL OUTPUT

A=No Connect
 B=Enable/Disable
 C=Complementary Output
 D=Complementary Output and Enable/Disable

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OBSOLETE

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



Pin 1: Enable/Disable or No Connect Pin 9: Complementary Output or No Connect
 Pin 7: Case Ground Pin 14: Supply Voltage
 Pin 8: Output

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
Lead Integrity	MIL-STD-883, Method 2004
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)

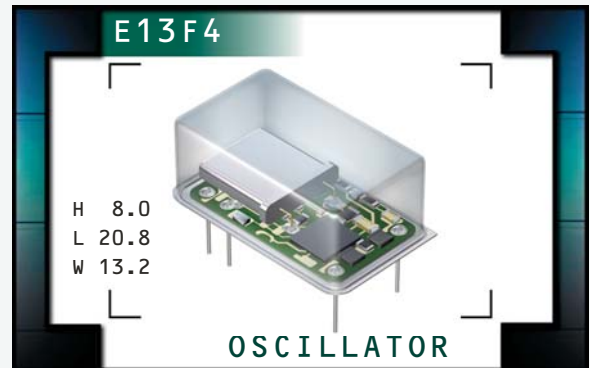
Line 3: XX Y ZZ
 Week of Year
 Last Digit of Year
 Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES E11F4	PACKAGE 14 pin DIP	VOLTAGE 5.0V	CLASS OS86	REV. DATE 01/03
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E13F4 Series

- LVPECL Output Oscillators
- 3.3V supply voltage
- 14 pin DIP package (5 pin)
- Stability to 20ppm
- Output Enable/Disable available
- Complementary Output available



NOTES

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ELECTRICAL SPECIFICATIONS

Frequency Range		19.440MHz to 250.000MHz
Operating Temperature Range		0°C to 70°C
	Available at Frequencies \leq 212.500MHz	-40°C to 85°C
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{CC})		3.3V _{DC} \pm 5%
Input Current		75mA Maximum
Logic Type		100KH
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, Aging, Shock, and Vibration	\pm 100ppm, \pm 50ppm, \pm 25ppm, or \pm 20ppm Maximum
Output Voltage Logic High (V_{OH})		V_{CC} -1.025V _{DC} Minimum
Output Voltage Logic Low (V_{OL})		V_{CC} -1.620V _{DC} Maximum
Rise Time / Fall Time	20% to 80% of waveform	2 nSeconds Maximum
Duty Cycle	at 50% of waveform	50 \pm 10(%) 50 \pm 5(%)
Load Drive Capability		50 Ohms into V_{CC} -2.0V _{DC}
Logic Control / Additional Output		No Connect, Enable/Disable, Complementary Output, or Complementary Output and Enable/Disable
Enable/Disable Input Voltage	V_{IL} of V_{CC} -1.475V _{DC} Maximum No Connection V_{IH} of V_{CC} -1.165V _{DC} Minimum	Enables Output Enables Output Disables Output: Logic Low Disables Complementary Output: Logic High
Start Up Time		10 mSeconds Maximum
RMS Phase Jitter	FJ = 12kHz to 20MHz	1 pSec Maximum

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES E13F4	PACKAGE 14 pin DIP	VOLTAGE 3.3V	CLASS OS85	REV. DATE 01/03
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PART NUMBERING GUIDE

E13F4 F 2 C - 155.520M

**FREQUENCY TOLERANCE & STABILITY/
OPERATING TEMPERATURE RANGE**

C=±100ppm Maximum over 0°C to +70°C
 D=±50ppm Maximum over 0°C to +70°C
 E=±25ppm Maximum over 0°C to +70°C
 F=±20ppm Maximum over 0°C to +70°C
 G=±100ppm Maximum over -40°C to +85°C
 H=±50ppm Maximum over -40°C to +85°C

DUTY CYCLE

1=50% ±10%, 2=50% ±5%

FREQUENCY

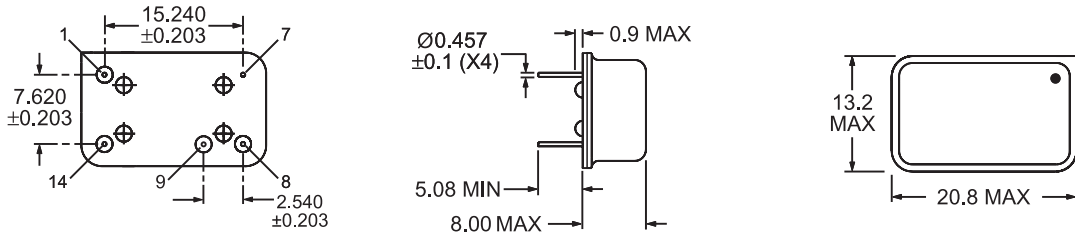
LOGIC CONTROL/ADDITIONAL OUTPUT

A=No Connect
 B=Enable/Disable
 C=Complementary Output
 D=Complementary Output and Enable/Disable

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MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



Pin 1: Enable/Disable or No Connect Pin 9: Complementary Output or No Connect
 Pin 7: Case Ground Pin 14: Supply Voltage
 Pin 8: Output

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
Lead Integrity	MIL-STD-883, Method 2004
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)

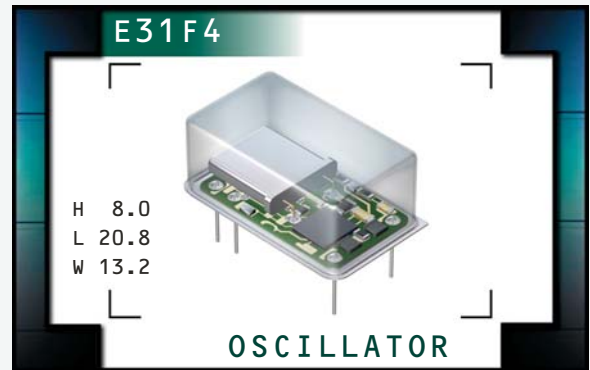
Line 3: XXYZZ
 Week of Year
 Last Digit of Year
 Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES E13F4	PACKAGE 14 pin DIP	VOLTAGE 3.3V	CLASS OS85	REV. DATE 01/03
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E31F4 Series

- PECL Output VCXO
- 5.0V supply voltage
- 14 pin DIP package (5 pin)
- Stability to 20ppm
- Complementary Output available
- Custom lead length



NOTES

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ELECTRICAL SPECIFICATIONS

Frequency Range		19.440MHz to 212.500MHz
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_{CC})		5.0V _{DC} ±5%
Input Current		100mA Maximum
Logic Type		100KH
Frequency Tolerance / Stability	Inclusive of Operating Temp Range, Supply Voltage, Load, and Aging @25°C over 10 years	±50ppm, ±25ppm, or ±20ppm Maximum
Output Voltage Logic High (V_{OH})		$V_{CC} - 1.025V_{DC}$ Minimum
Output Voltage Logic Low (V_{OL})		$V_{CC} - 1.620V_{DC}$ Maximum
Rise Time / Fall Time	20% to 80% of waveform	2 nSeconds Maximum
Duty Cycle	at 50% of waveform	50 ±10(%) 50 ±5(%)
Load Drive Capability		50 Ohms into $V_{CC} - 2.0V_{DC}$
Additional Output		Complementary Output or No Connect
Start Up Time		10 mSeconds Maximum
RMS Phase Jitter	FJ = 12kHz to 20MHz	1 pSec Maximum
Absolute Pull Range (APR)	Inclusive of Operating Temp Range, Supply Voltage, Load, and Aging @25°C over 10 years	±50ppm Minimum
Linearity		20%, 15%, or 10% Maximum
Control Voltage (V_C): Test Conditions for APR		2.5V _{DC} ±2.0V _{DC}
Control Voltage Range (V_{CR})		0.0V _{DC} to V_{CC}
Center Control Voltage		2.5V _{DC}
Transfer Function		Positive Transfer Characteristic
Input Impedance		50kOhms Typical
Modulation Bandwidth	at -3dB with Control Voltage of +2.5V _{DC}	10kHz Minimum

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	E31F4	14 pin DIP	5.0V	OS88	01/03

PART NUMBERING GUIDE

E31F4 F 3 A 2 C - 155.520M - CL125

**FREQUENCY TOLERANCE & STABILITY/
OPERATING TEMPERATURE RANGE**

D=±50ppm Maximum over 0°C to +70°C
E=±25ppm Maximum over 0°C to +70°C
F=±20ppm Maximum over 0°C to +70°C
H=±50ppm Maximum over -40°C to +85°C

APR

3=±50ppm Minimum

LINEARITY

A=20%
B=15%
C=10%

AVAILABLE OPTIONS

Blank=None (Standard)
CLXX=Custom Lead Length (See Page 153)
G=Full Size Gull Wing (See Page 152)

FREQUENCY

ADDITIONAL OUTPUT

A=No Connect
C=Complementary Output

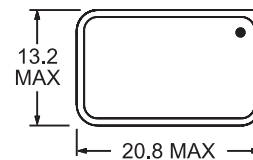
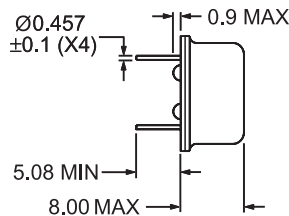
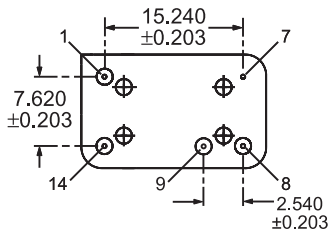
DUTY CYCLE

1=50 ±10(%)
2=50 ±5(%)

NOTES

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MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



Pin 1: Voltage Control
Pin 7: Case Ground
Pin 8: Output

Pin 9: Complementary Output or No Connect
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: XX.XXX M

Frequency in MHz
(5 Digits Maximum + Decimal)

Line 3: XX Y ZZ

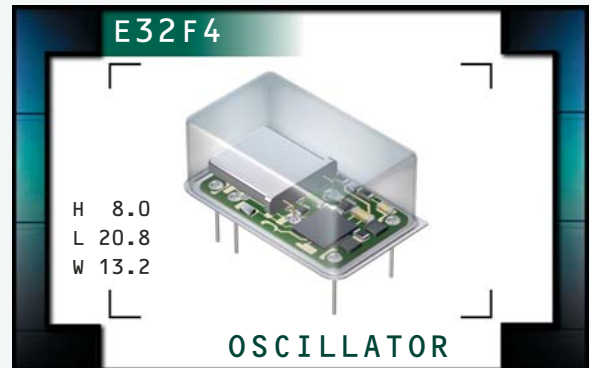
Week of Year
Last Digit of Year
Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES E31F4	PACKAGE 14 pin DIP	VOLTAGE 5.0V	CLASS OS88	REV. DATE 01/03
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E32F4 Series

- LVPECL Output VCXO
- 3.3V supply voltage
- 14 pin DIP package (5 pin)
- Stability to 20ppm
- Complementary Output available
- Custom lead length



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ELECTRICAL SPECIFICATIONS

Frequency Range		19.440MHz to 212.500MHz
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_{CC})		3.3V _{DC} ±5%
Input Current		75mA Maximum
Logic Type		100KH
Frequency Tolerance / Stability	Inclusive of Operating Temp Range, Supply Voltage, Load, and Aging @25°C over 10 years	±50ppm, ±25ppm, or ±20ppm Maximum
Output Voltage Logic High (V_{OH})		$V_{CC}-1.025V_{DC}$ Minimum
Output Voltage Logic Low (V_{OL})		$V_{CC}-1.620V_{DC}$ Maximum
Rise Time / Fall Time	20% to 80% of waveform	2 nSeconds Maximum
Duty Cycle	at 50% of waveform	50 ±10(%) 50 ±5(%)
Load Drive Capability		50 Ohms into $V_{CC}-2.0V_{DC}$
Additional Output		Complementary Output or No Connect
Start Up Time		10 mSeconds Maximum
RMS Phase Jitter	FJ = 12kHz to 20MHz	1 pSec Maximum
Absolute Pull Range (APR)	Inclusive of Operating Temp Range, Supply Voltage, Load, and Aging @25°C over 10 years	±50ppm Minimum
Linearity		20%, 15%, or 10% Maximum
Control Voltage (V_C): Test Conditions for APR		1.65V _{DC} ±1.35V _{DC}
Control Voltage Range (V_{CR})		0.0V _{DC} to V_{CC}
Center Control Voltage		1.65V _{DC}
Transfer Function		Positive Transfer Characteristic
Input Impedance		50kOhms Typical
Modulation Bandwidth	at -3dB with Control Voltage of +1.65V _{DC}	10kHz Minimum

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES E32F4	PACKAGE 14 pin DIP	VOLTAGE 3.3V	CLASS OS87	REV. DATE 01/03
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PART NUMBERING GUIDE

E32F4 F 3 A 2 C - 155.520M - CL125

**FREQUENCY TOLERANCE & STABILITY/
OPERATING TEMPERATURE RANGE**

D=±50ppm Maximum over 0°C to +70°C
 E=±25ppm Maximum over 0°C to +70°C
 F=±20ppm Maximum over 0°C to +70°C
 H=±50ppm Maximum over -40°C to +85°C

APR

3=±50ppm Minimum

LINEARITY

A=20%
 B=15%
 C=10%

AVAILABLE OPTIONS

Blank=None (Standard)
 CLXX=Custom Lead Length (See Page 153)
 G=Full Size Gull Wing (See Page 152)

FREQUENCY

ADDITIONAL OUTPUT

A=No Connect
 C=Complementary Output

DUTY CYCLE

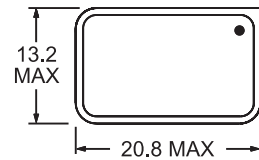
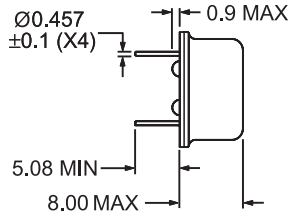
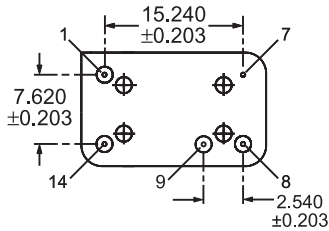
1=50 ±10(%)
 2=50 ±5(%)

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NOTES

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MECHANICAL DIMENSIONS
 ALL DIMENSIONS IN MILLIMETERS



Pin 1: Voltage Control
 Pin 7: Case Ground
 Pin 8: Output

Pin 9: Complementary Output or No Connect
 Pin 14: Supply Voltage

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

Note: Pin 1 shall be designated with a dot

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.

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES E32F4	PACKAGE 14 pin DIP	VOLTAGE 3.3V	CLASS OS87	REV. DATE 01/03
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