

Marketing Bulletin

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

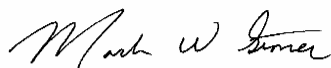
To all concerned parties,

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.

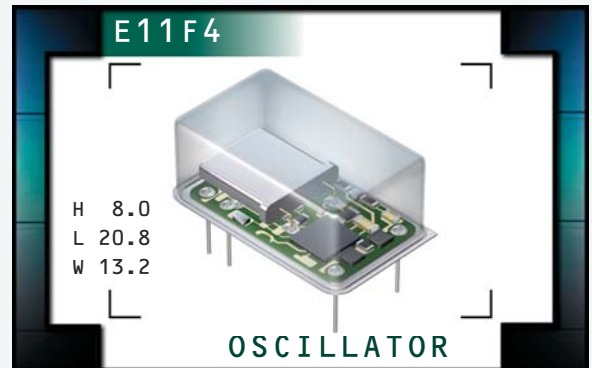
Best Regards,



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

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

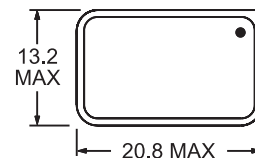
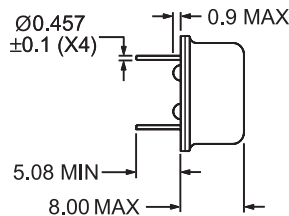
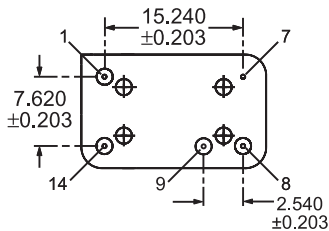
LOGIC CONTROL/ADDITIONAL OUTPUT

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

NOTES

OBSOLETE

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



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

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic

Fine Leak Test
Gross Leak Test
Mechanical Shock
Vibration
Lead Integrity
Solderability
Temperature Cycling
Resistance to Soldering Heat
Resistance to Solvents

Specification

MIL-STD-883, Method 1014, Condition A
MIL-STD-883, Method 1014, Condition C
MIL-STD-202, Method 213, Condition C
MIL-STD-883, Method 2007, Condition A
MIL-STD-883, Method 2004
MIL-STD-883, Method 2002
MIL-STD-883, Method 1010
MIL-STD-202, Method 210
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

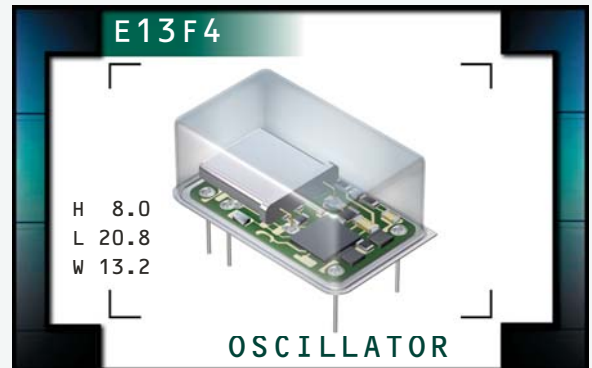
Week of Year
Last Digit of Year
Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

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

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

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})		3.3V _{DC} ±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	±100ppm, ±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}
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	Enables Output
	No Connection	Enables Output
	V _{IH} of V _{CC} -1.165V _{DC} Minimum	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

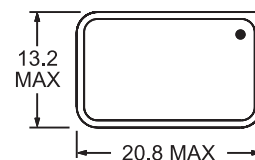
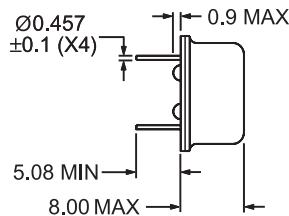
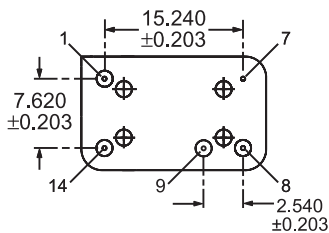
LOGIC CONTROL/ADDITIONAL OUTPUT

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

NOTES

OBSOLETE

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



Pin 1: Enable/Disable or No Connect
Pin 7: Case Ground
Pin 8: Output

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

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic

Fine Leak Test
Gross Leak Test
Mechanical Shock
Vibration
Lead Integrity
Solderability
Temperature Cycling
Resistance to Soldering Heat
Resistance to Solvents

Specification

MIL-STD-883, Method 1014, Condition A
MIL-STD-883, Method 1014, Condition C
MIL-STD-202, Method 213, Condition C
MIL-STD-883, Method 2007, Condition A
MIL-STD-883, Method 2004
MIL-STD-883, Method 2002
MIL-STD-883, Method 1010
MIL-STD-202, Method 210
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
E13F4

PACKAGE
14 pin DIP

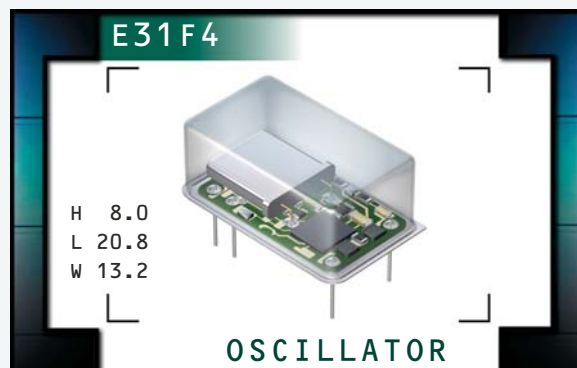
VOLTAGE
3.3V

CLASS
OS85

REV. DATE
01/03

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

OBSOLETE

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

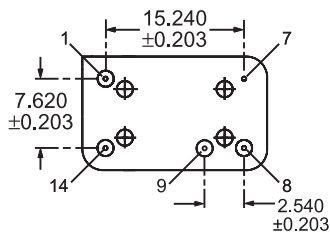
DUTY CYCLE

1=50 ±10(%)
2=50 ±5(%)

NOTES

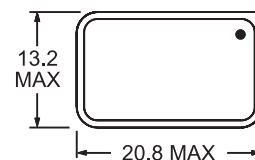
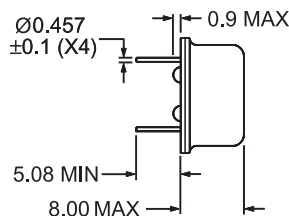
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MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



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

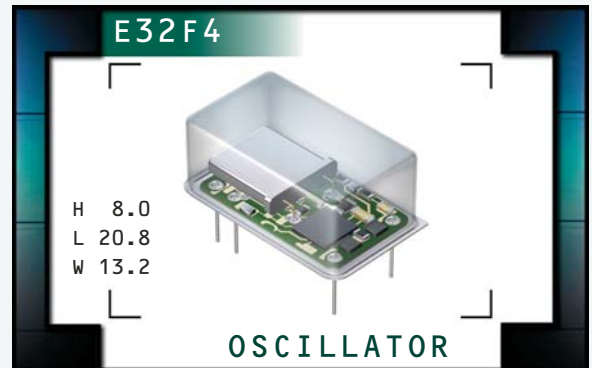
Week of Year
Last Digit of Year
Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

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

E32F4 Series

- LVPECL Output VCX0
- 3.3V supply voltage
- 14 pin DIP package (5 pin)
- Stability to 20ppm
- Complementary Output available
- Custom lead length



OBSOLETE

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		$1.65V_{DC} \pm 1.35V_{DC}$
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

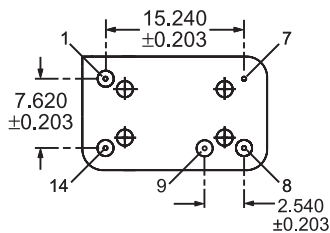
DUTY CYCLE

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2=50 ±5(%)

NOTES

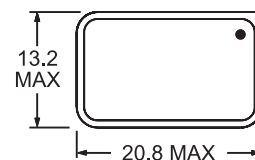
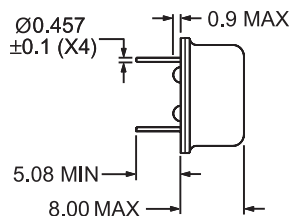
OBSOLETE

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