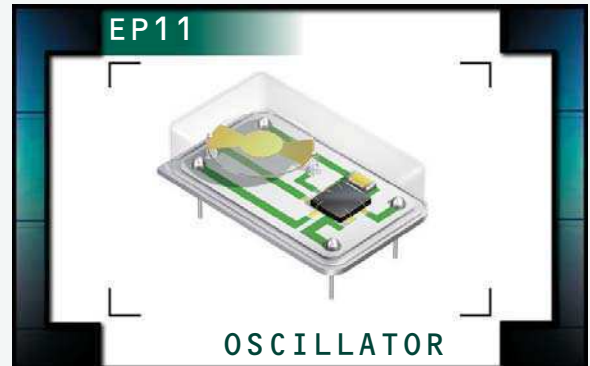


EP11 Series



- Programmable Crystal Oscillators
- HCMOS/TTL Output
- +5.0V Supply Voltage
- Tri-State and Power Down Options
- Custom Lead Length & Gull Wing Options
- 14 pin DIP Metal Package
- RoHS Compliant (Pb-free)



ELECTRICAL SPECIFICATIONS

Frequency Range		1.000MHz to 125.000MHz
Operating Temperature Range		-20°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} ±10%
Input Current		45mA Maximum (Unloaded)
Disable Current (TS Option)		30mA Maximum (Pin 1=Ground)
Standby Current (PD Option)		50µA Maximum (Pin 1=Ground)
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 or ±50ppm Maximum
Output Voltage Logic High (V_{OH})	w/TTL Load w/CMOS Load	2.4V _{DC} Minimum I _{OH} =-16mA V _{DD} -0.4V _{DC} Minimum I _{OH} =-16mA
Output Voltage Logic Low (V_{OL})	w/TTL Load or w/CMOS Load	0.4V _{DC} Maximum I _{OL} =+16mA
Rise Time / Fall Time	0.8V _{DC} to 2.0 V _{DC} w/TTL Load or 20% to 80% of Waveform w/CMOS Load	4 nSeconds Maximum
Duty Cycle	at 1.4V _{DC} w/TTL Load; at 50% of waveform w/CMOS Load at 1.4V _{DC} w/TTL Load (≤27.000MHz only), or 50% of waveform w/CMOS Load (≤50.000MHz only)	50 ±10(%) (Standard) 50 ±5(%) (Optional)
Load Drive Capability / Output Type-CMOS	≤50.000MHz >50.000MHz	50pF CMOS Load Maximum 15pF CMOS Load Maximum
Load Drive Capability / Output Type-TTL	≤40.000MHz >40.000MHz	10TTL Load Maximum 5TTL Load Maximum
Output Control Function	TS PD	Tri-State Power Down
Output Control Function Input Voltage	V _{IH} : No Connection or ≥2.0V _{DC} V _{IL} : (TS Option) ≤0.8V _{DC} V _{IL} : (PD Option) ≤0.8V _{DC}	Enables Output Disables Output: High Impedence Disables Output: Logic Low
Aging (at 25°C)		±5ppm / year Maximum
Start Up Time		10 mSeconds Maximum
RMS Jitter	<12.000MHz ≥12.000MHz	50pSec Maximum, 13pSec Typical 13pSec Maximum, 8pSec Typical
Peak to Peak Jitter	<12.000MHz ≥12.000MHz	500pSec Maximum, 90pSec Typical 100pSec Maximum, 50pSec Typical

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EP11

PACKAGE
14 pin DIP

VOLTAGE
5.0V

CLASS
OS44

REV. DATE
12/05

PART NUMBERING GUIDE

EP11 00 ET TTS L - 24.000M - CL125

FREQUENCY TOLERANCE / STABILITY

00=±100ppm Maximum
45=±50ppm Maximum

OPERATING TEMP. RANGE

Blank=-20°C to 70°C, ET=-40°C to 85°C

DUTY CYCLE

Blank=50 ±10(%), T=50 ±5(%)

OUTPUT CONTROL FUNCTION

TS=Tri-State Enable High, PD=Power Down

AVAILABLE OPTIONS

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

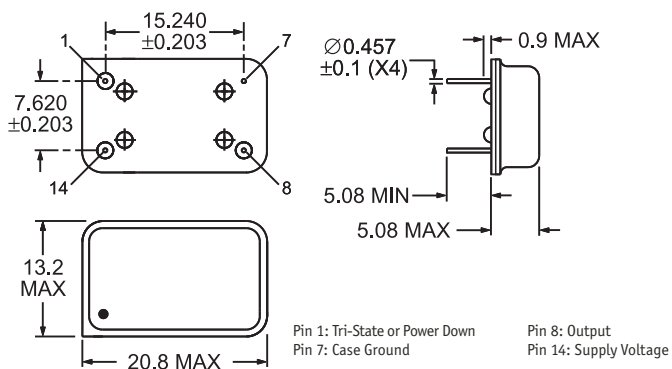
FREQUENCY

OUTPUT TYPE

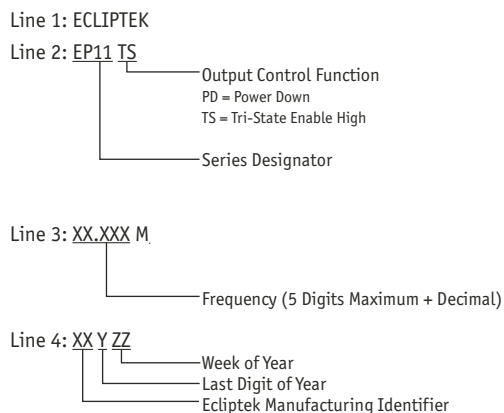
L=TTL, C=CMOS

NOTES

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS



Note: Pin 1 shall be designated with a dot

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

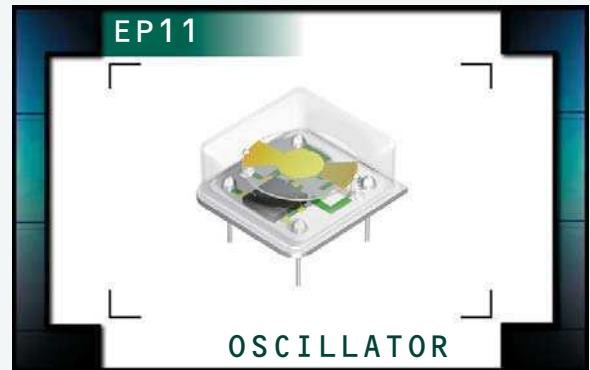
Characteristic	Specification
Solderability	MIL-STD-883, Method 2002
Temperature Cycling	MIL-STD-883, Method 1010
Resistance to Soldering Heat	MIL-STD-883, Method 210
Resistance to Solvents	MIL-STD-883, Method 215

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EP11	14 pin DIP	5.0V	OS44	12/05

EP11 Series



- Programmable Crystal Oscillators
- HCMOS/TTL Output
- +5.0V Supply Voltage
- Tri-State and Power Down Options
- Custom Lead Length & Gull Wing Options
- 8 pin DIP Metal Package
- RoHS Compliant (Pb-free)



ELECTRICAL SPECIFICATIONS

Frequency Range		1.000MHz to 125.000MHz
Operating Temperature Range		-20°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} ±10%
Input Current		45mA Maximum (Unloaded)
Disable Current (TS Option)		30mA Maximum (Pin 1=Ground)
Standby Current (PD Option)		50µA Maximum (Pin 1=Ground)
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 or ±50ppm Maximum
Output Voltage Logic High (V_{OH})	w/TTL Load w/CMOS Load	2.4V _{DC} Minimum I _{OH} =-16mA V _{DD} -0.4V _{DC} Minimum I _{OH} =-16mA
Output Voltage Logic Low (V_{OL})	w/TTL Load or w/HCMOS Load	0.4V _{DC} Maximum I _{OL} =+16mA
Rise Time / Fall Time	0.8V _{DC} to 2.0 V _{DC} w/TTL Load or 20% to 80% of Waveform w/CMOS Load	4 nSeconds Maximum
Duty Cycle	at 1.4V _{DC} w/TTL Load; at 50% of waveform w/CMOS Load at 1.4V _{DC} w/TTL Load (≤27.000MHz only), or 50% of waveform w/CMOS Load (≤50.000MHz only)	50 ±10(%) (Standard) 50 ±5(%) (Optional)
Load Drive Capability / Output Type-HCMOS	≤50.000MHz >50.000MHz	50pF CMOS Load Maximum 15pF CMOS Load Maximum
Load Drive Capability / Output Type-TTL	≤40.000MHz >40.000MHz	10TTL Load Maximum 5TTL Load Maximum
Output Control Function	TS PD	Tri-State Power Down
Output Control Function Input Voltage	V _{IH} : No Connection or ≥2.0V _{DC} V _{IL} : (TS Option) ≤0.8V _{DC} V _{IL} : (PD Option) ≤0.8V _{DC}	Enables Output Disables Output: High Impedence Disables Output: Logic Low
Aging (at 25°C)		±5ppm / year Maximum
Start Up Time		10 mSeconds Maximum
RMS Jitter	<12.000MHz ≥12.000MHz	50pSec Maximum, 13pSec Typical 13pSec Maximum, 8pSec Typical
Peak to Peak Jitter	<12.000MHz ≥12.000MHz	500pSec Maximum, 90pSec Typical 100pSec Maximum, 50pSec Typical

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EP11

PACKAGE
8 pin DIP

VOLTAGE
5.0V

CLASS
OS45

REV. DATE
08/05

PART NUMBERING GUIDE

EP11 00 HS ET TS L - 24.000M - G TR

FREQUENCY TOLERANCE / STABILITY

00=±100ppm Maximum
45=±50ppm Maximum

PACKAGE

HS=Half Size 8 Pin DIP

OPERATING TEMP. RANGE

Blank=-20°C to 70°C, ET=-40°C to 85°C

DUTY CYCLE

Blank=50 ±10(%), T=50 ±5(%)

OUTPUT CONTROL FUNCTION

TS=Tri-State Enable High, PD=Power Down

PACKAGING OPTIONS

Blank=Bulk
TR=Tape & Reel (only offered with Half Size G and Half Size G2 Options)

AVAILABLE OPTIONS

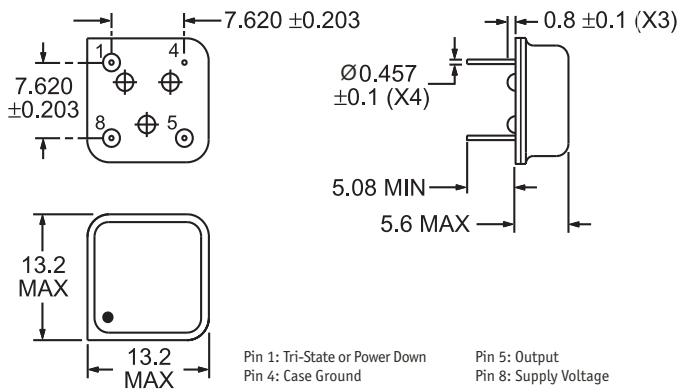
Blank=None
CLXXX=Custom Lead Length
G=Half Size Gull Wing
G2=Half Size Gull Wing

FREQUENCY

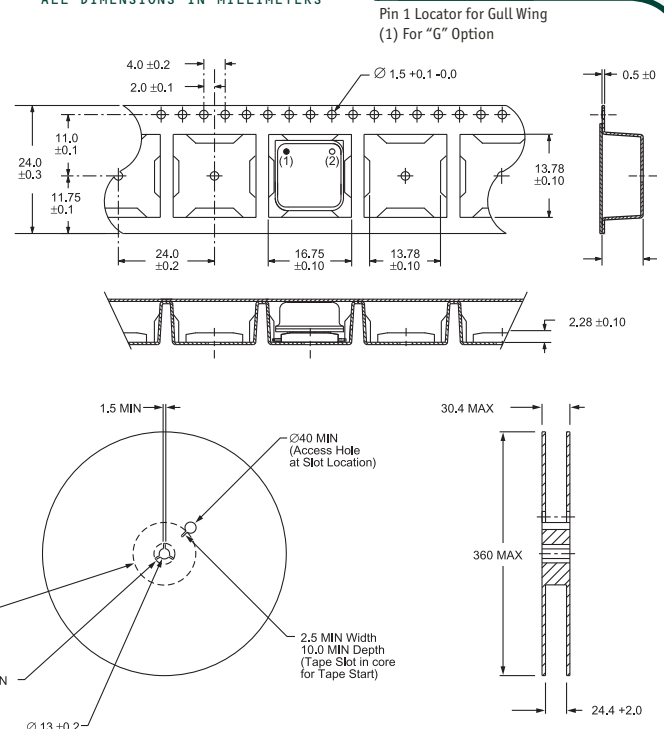
OUTPUT TYPE

L=TTL, C=CMOS

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: EP11 TS

Output Control Function

PD = Power Down

TS = Tri-State Enable High

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

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-883, Method 210
MIL-STD-883, Method 215

700 Pieces Per Reel
Compliant to EIA-481A

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EP11	8 pin DIP	5.0V	OS45	08/05



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
EP11 (8 Pin Dip)	Quartz Crystal Clock Oscillators XO (SPXO) HCMOS/TTL (CMOS) 5.0Vdc 8 Pin DIP Metal Thru-Hole
EP11 (14 Pin Dip)	Quartz Crystal Clock Oscillators XO (SPXO) HCMOS/TTL (CMOS) 5.0Vdc 14 Pin DIP Metal Thru-Hole

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
1-July-2012	31-December-2012	31-January-2013

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
EPH11	Quartz Crystal Clock Oscillators XO (SPXO) HCMOS/TTL (CMOS) 5.0Vdc 8 Pin DIP Metal Thru-Hole
EPF11	Quartz Crystal Clock Oscillators XO (SPXO) HCMOS/TTL (CMOS) 5.0Vdc 14 Pin DIP Metal Thru-Hole

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

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