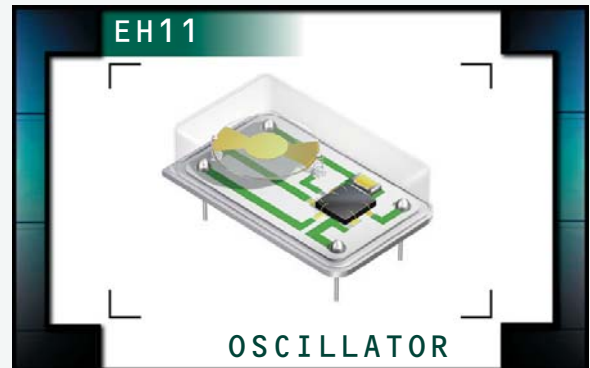


EH11 Series



- Crystal Clock Oscillators
- CMOS/TTL Output
- +5.0V Supply Voltage
- Tri-State Output Function
- Custom Lead Length & Gull Wing Options
- 14 pin DIP Metal Package
- RoHS Compliant (Pb-free)



ELECTRICAL SPECIFICATIONS

Frequency Range	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} ±10%		
Input Current	50mA Maximum (Unloaded)		
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, ±50ppm, ±25ppm, or ±20ppm Maximum	
Output Voltage Logic High (V_{OH})	w/TTL Load	2.4V _{DC} Minimum	I _{OH} = -16mA
	w/CMOS Load	V _{DD} -0.4V _{DC} Minimum	I _{OH} = -16mA
Output Voltage Logic Low (V_{OL})	w/TTL Load	0.4V _{DC} Maximum	I _{OL} = +16mA
	w/CMOS Load	0.5V _{DC} Maximum	I _{OL} = +16mA
Duty Cycle (V_{DD}=5.0V_{DC})	at 1.4V _{DC} w/TTL Load; at 50% of waveform w/CMOS Load (≤70.000MHz)	50 ±10(%) (Standard)	
	at 50% of waveform w/ TTL Load or w/CMOS Load (>70.000MHz)	50 ±10(%) (Standard)	
	at 50% of waveform w/TTL Load or w/CMOS Load	50 ±5(%) (Optional)	
Rise Time / Fall Time	0.8V _{DC} to 2.0V _{DC} w/TTL Load or 20% to 80% of Waveform w/CMOS Load (≤70.000MHz)	6 nSeconds Maximum	
	0.8V _{DC} to 2.0V _{DC} w/TTL Load or 20% to 80% of Waveform w/CMOS Load (>70.000MHz)	4 nSeconds Maximum	
Tri-State Input Voltage	V _{IH} :No Connection	Enables Output	
	V _{IH} :≥2.2V _{DC}	Enables Output	
	V _{IL} :≤0.8V _{DC}	Disables Output: High Impedance	
Aging (at 25°C)	±5ppm / year Maximum		
Start Up Time	10 mSeconds Maximum		
Load Drive Capability	≤70.000MHz	10TTL Load or 50pF CMOS Load Maximum	
	>70.000MHz	5TTL Load or 15pF CMOS Load Maximum	
Period Jitter: Absolute	±250pSec Maximum, ±100pSec Typical		
Period Jitter: One Sigma	±50pSec Maximum, ±30pSec Typical		

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EH11

PACKAGE
14 Pin DIP

VOLTAGE
5.0V

CLASS
OS44

REV. DATE
12/05

PART NUMBERING GUIDE

EH11 00 ET TS - 70.000M - G

FREQUENCY TOLERANCE / STABILITY

00=±100ppm Max., 45=±50ppm Max.
25=±25ppm Max., 20=±20ppm Max.

OPERATING TEMP. RANGE

Blank=0°C to 70°C, ET=-40°C to 85°C

DUTY CYCLE

Blank=50 ±10(%), T=50 ±5(%)

AVAILABLE OPTIONS

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

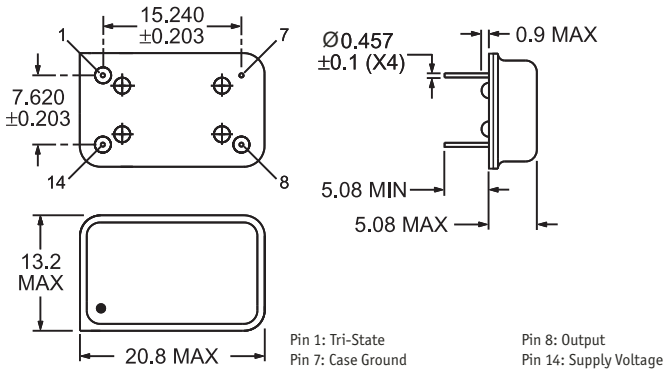
FREQUENCY

OUTPUT CONTROL FUNCTION

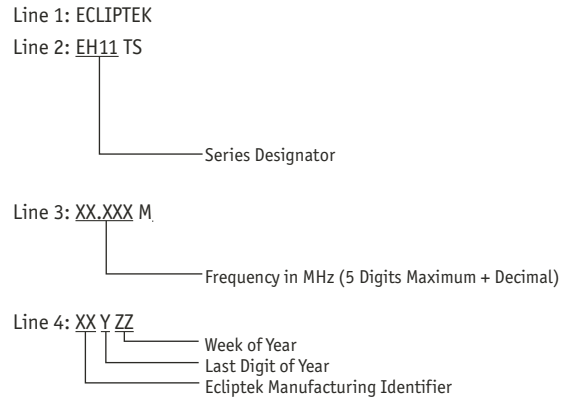
TS=Tri-State Enable High

NOTES

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS



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

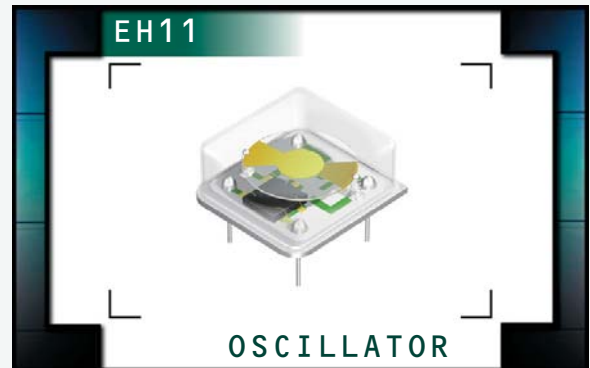
Characteristic	Specification
Solderability	MIL-STD-883, Method 2002
Temperature Cycling	MIL-STD-883, Method 1010
Resistance to Soldering Heat	MIL-STD-883, Method 210
Resistance to Solvents	MIL-STD-883, Method 215

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EH11	14 Pin DIP	5.0V	OS44	12/05

EH11 Series



- Crystal Clock Oscillators
- CMOS/TTL Output
- +5.0V Supply Voltage
- Tri-State Output Function
- Custom Lead Length & Gull Wing Options
- 8 pin DIP Metal Package
- RoHS Compliant (Pb-free)



ELECTRICAL SPECIFICATIONS

Frequency Range	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} ±10%		
Input Current	50mA Maximum (Unloaded)		
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, ±50ppm, ±25ppm, or ±20ppm Maximum	
Output Voltage Logic High (V_{OH})	w/TTL Load	2.4V _{DC} Minimum	I _{OH} = -16mA
	w/CMOS Load	V _{DD} -0.4V _{DC} Minimum	I _{OH} = -16mA
Output Voltage Logic Low (V_{OL})	w/TTL Load	0.4V _{DC} Maximum	I _{OL} = +16mA
	w/CMOS Load	0.5V _{DC} Maximum	I _{OL} = +16mA
Duty Cycle (V_{DD}=5.0V_{DC})	at 1.4V _{DC} w/TTL Load; at 50% of waveform w/CMOS Load (≤70.000MHz)	50 ±10(%) (Standard)	
	at 50% of waveform w/ TTL Load or w/CMOS Load (>70.000MHz)	50 ±10(%) (Standard)	
	at 50% of waveform w/TTL Load or w/CMOS Load	50 ±5(%) (Optional)	
Rise Time / Fall Time	0.8V _{DC} to 2.0V _{DC} w/TTL Load or 20% to 80% of Waveform w/CMOS Load (≤70.000MHz)	6 nSeconds Maximum	
	0.8V _{DC} to 2.0V _{DC} w/TTL Load or 20% to 80% of Waveform w/CMOS Load (>70.000MHz)	4 nSeconds Maximum	
Tri-State Input Voltage	V _{IH} :No Connection	Enables Output	
	V _{IH} :≥2.2V _{DC}	Enables Output	
	V _{IL} :≤0.8V _{DC}	Disables Output: High Impedance	
Aging (at 25°C)	±5ppm / year Maximum		
Start Up Time	10 mSeconds Maximum		
Load Drive Capability	≤70.000MHz	10TTL Load or 50pF CMOS Load Maximum	
	>70.000MHz	5TTL Load or 15pF CMOS Load Maximum	
Period Jitter: Absolute	±250pSec Maximum, ±100pSec Typical		
Period Jitter: One Sigma	±50pSec Maximum, ±30pSec Typical		

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EH11	PACKAGE 8 Pin DIP	VOLTAGE 5.0V	CLASS OS45	REV. DATE 08/05
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PART NUMBERING GUIDE

EH11 00 HS ET TS - 70.000M - G TR

FREQUENCY TOLERANCE / STABILITY

00=±100ppm Max., 45=±50ppm Max.
25=±25ppm Max., 20=±20ppm Max.

PACKAGE

HS=Half Size 8 Pin DIP

OPERATING TEMP. RANGE

Blank=0°C to 70°C, ET=-40°C to 85°C

DUTY CYCLE

Blank=50 ±10(%), T=50 ±5(%)

PACKAGING OPTIONS

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

AVAILABLE OPTIONS

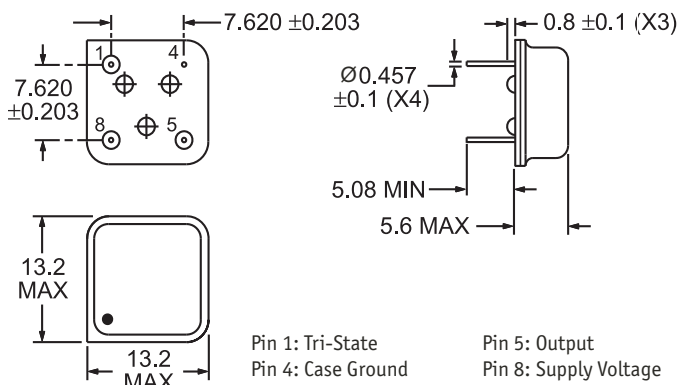
Blank=None (Standard)
CLXXX=Custom Lead Length
G=Half Size Gull Wing
G2=Half Size Gull Wing

FREQUENCY

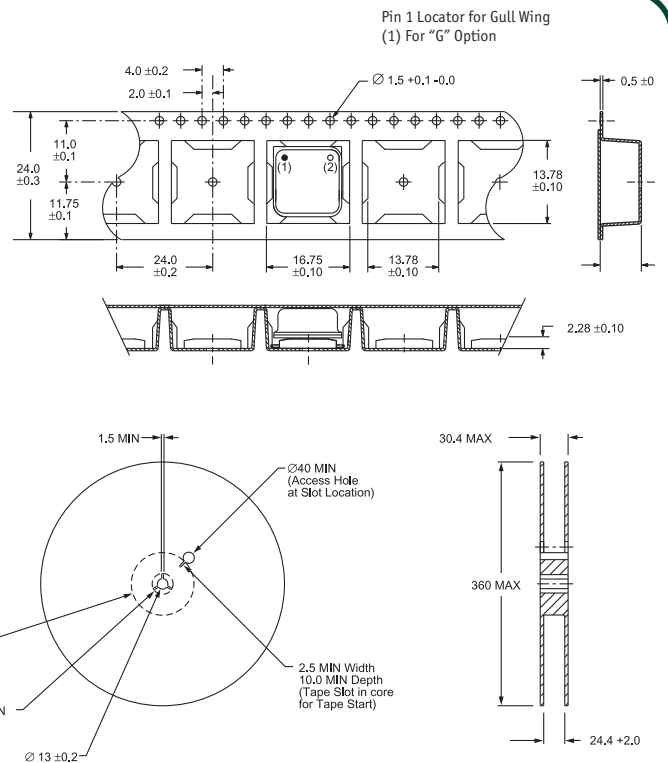
OUTPUT CONTROL FUNCTION

TS=Tri-State Enable High

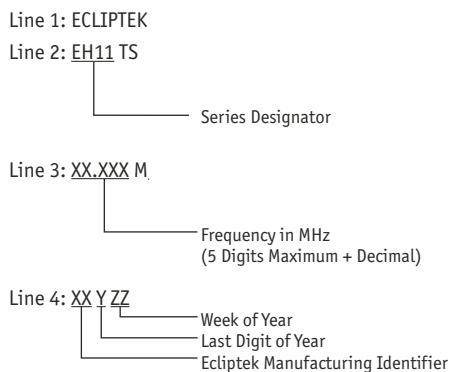
MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS



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-883, Method 210
Resistance to Solvents	MIL-STD-883, Method 215

700 Pieces Per Reel
Compliant to EIA-481A

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EH11	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
EH11 (8 Pin Dip)	Quartz Crystal Clock Oscillators XO (SPXO) HCMOS/TTL (CMOS) 5.0Vdc 8 Pin DIP Metal Thru-Hole
EH11 (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
EHH11	Quartz Crystal Clock Oscillators XO (SPXO) HCMOS/TTL (CMOS) 5.0Vdc 8 Pin DIP Metal Thru-Hole
EHF11	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](#).