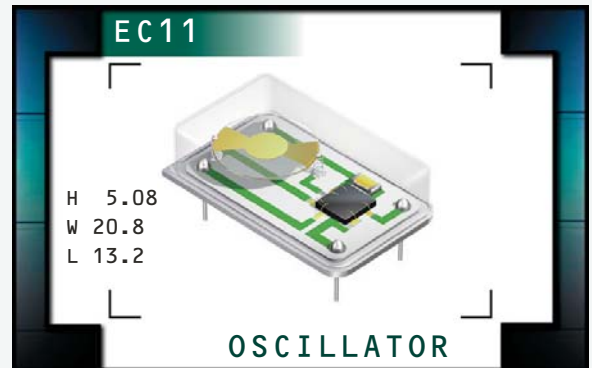


EC11 Series

- HCMOS/TTL output
- 5.0V supply voltage
- 14 pin DIP package
- Stability to 20ppm
- Custom lead length, gull wing options available



ELECTRICAL SPECIFICATIONS

Frequency Range		250.000kHz to 106.250MHz
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	250.000kHz to 24.000MHz	45mA Maximum
	24.001MHz to 50.000MHz	55mA Maximum
	50.001MHz to 66.667MHz	65mA Maximum
	66.668MHz to 106.250MHz	85mA Maximum
Frequency Tolerance / Stability	Inclusive of Operating Temperature Range, Supply Voltage, and Load	±100ppm, ±50ppm, ±25ppm, or ±20ppm Max. (0°C to 70°C Only)
Output Voltage Logic High (V_{OH})	w/TTL Load	2.4V _{DC} Minimum
	w/HCMOS Load	V_{DD} -0.5V _{DC} Minimum
Output Voltage Logic Low (V_{OL})	w/TTL Load	0.4V _{DC} Maximum
	w/HCMOS Load	0.5V _{DC} Maximum
Rise Time / Fall Time	0.4V _{DC} to 2.4V _{DC} w/TTL Load; 20% to 80% of Waveform w/HCMOS Load	6 nSeconds Maximum
Duty Cycle	at 1.4V _{DC} w/TTL Load; at 50% of Waveform w/HCMOS Load	50 ±10(%) (Standard)
	at 1.4V _{DC} w/TTL Load or w/HCMOS Load ≤ 70.000MHz	50 ±5(%) (Optional)
	at 50% of Waveform w/TTL Load or w/HCMOS Load > 70.000MHz	50 ±5(%) (Optional)
Load Drive Capability	250.000kHz to 24.000MHz	10TTL Load or 50pF HCMOS Load
	24.001MHz to 70.000MHz	10TTL Load or 15pF HCMOS Load
	70.001MHz to 106.250MHz	10LSTTL Load or 15pF HCMOS Load
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		10mSeconds Maximum
Period Jitter: Absolute		±100pSeconds Maximum
Period Jitter: One Sigma		±25pSeconds Maximum

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EC11	PACKAGE 14 pin DIP	VOLTAGE 5.0V	CLASS OS04	REV. DATE 12/02
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PART NUMBERING GUIDE

EC11 00 ETTS - 64.000M - G

FREQUENCY TOLERANCE / STABILITY

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

OPERATING TEMP. RANGE

Blank= 0°C to 70°C (Standard), ET= -40°C to 85°C

DUTY CYCLE

Blank= $50 \pm 10(\%)$ (Standard), T= $50 \pm 5(\%)$

AVAILABLE OPTIONS

Blank=None (Standard)
CLXXX=Custom Lead Length (See Page 133)
G=Full Size Gull Wing (See Page 132)

FREQUENCY

K=kHz, M=MHz

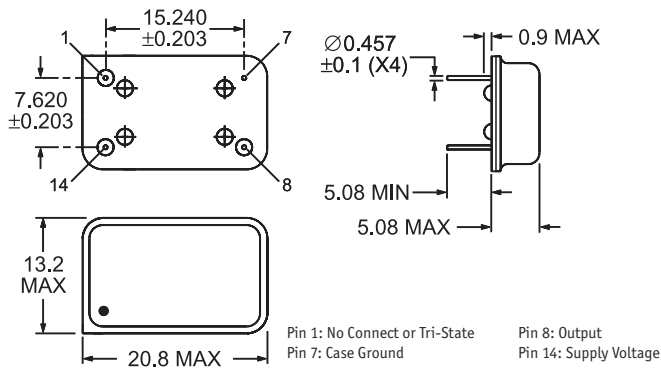
OUTPUT CONTROL FUNCTION

Blank=None (No Connection on Pin 1)
TS=Tri-State Enable High

NOTES

MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: EC11 TS

Output Control Function
Blank = None (No Connection on Pin 1)
TS = Tri-State Enable High

Series Designator

Line 3: XX.XXX M

M=MHz, K=kHz

Frequency (5 Digits Maximum + Decimal)

Line 4: XX Y ZZ

Week of Year

Last Digit of Year

Eclipse Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

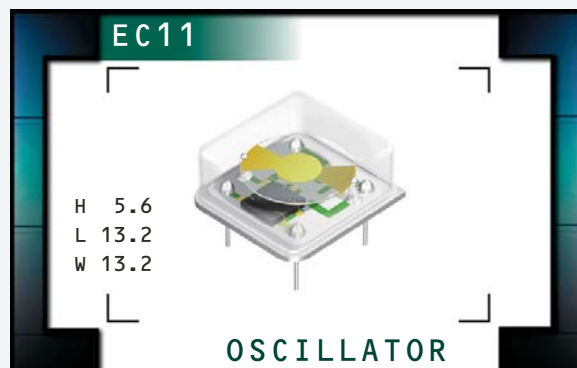
ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
Seal Integrity	Bubble test in Perfluorocarbon at $+125^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 60 seconds minimum.
Solderability	Sn63 Solder dip at $+230^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 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	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC11	14 pin DIP	5.0V	OS04	12/02

EC11 Series

- HCMOS/TTL output
- 5.0V supply voltage
- 8 pin DIP package
- Stability to 20ppm
- Custom lead length, gull wing options available



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range		250.000kHz to 106.250MHz
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	250.000kHz to 24.000MHz	45mA Maximum
	24.001MHz to 50.000MHz	55mA Maximum
	50.001MHz to 66.667MHz	65mA Maximum
	66.668MHz to 106.250MHz	85mA Maximum
Frequency Tolerance / Stability	Inclusive of Operating Temperature Range, Supply Voltage, and Load	±100ppm, ±50ppm, ±25ppm, or ±20ppm Max. (0°C to 70°C Only)
Output Voltage Logic High (V_{OH})	w/TTL Load	2.4V _{DC} Minimum
	w/HCMOS Load	V _{DD} -0.5V _{DC} Minimum
Output Voltage Logic Low (V_{OL})	w/TTL Load	0.4V _{DC} Maximum
	w/HCMOS Load	0.5V _{DC} Maximum
Rise Time / Fall Time	0.4V _{DC} to 2.4V _{DC} w/TTL Load; 20% to 80% of Waveform w/HCMOS Load	6 nSeconds Maximum
Duty Cycle	at 1.4V _{DC} w/TTL Load; at 50% of Waveform w/HCMOS Load	50 ±10(%) (Standard)
	at 1.4V _{DC} w/TTL Load or w/HCMOS Load ≤ 70.000MHz	50 ±5(%) (Optional)
	at 50% of Waveform w/TTL Load or w/HCMOS Load > 70.000MHz	50 ±5(%) (Optional)
Load Drive Capability	250.000kHz to 24.000MHz	10TTL Load or 50pF HCMOS Load
	24.001MHz to 70.000MHz	10TTL Load or 15pF HCMOS Load
	70.001MHz to 106.250MHz	10LSTTL Load or 15pF HCMOS Load
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		10mSeconds Maximum
Period Jitter: Absolute		±100pSeconds Maximum
Period Jitter: One Sigma		±25pSeconds Maximum

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EC11	PACKAGE 8 pin DIP	VOLTAGE 5.0V	CLASS OS05	REV. DATE 12/02
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PART NUMBERING GUIDE

EC11 00 HS ET TS - 64.000M - G TR

FREQUENCY TOLERANCE / STABILITY

00=±100ppm Max.(Standard), 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 (Standard), ET=-40°C to 85°C

DUTY CYCLE

Blank=50 ±10(%) (Standard), T=50 ±5(%)

OUTPUT CONTROL FUNCTION

Blank=None (No Connection on Pin 1), TS=Tri-State Enable High

PACKAGING OPTIONS

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

AVAILABLE OPTIONS

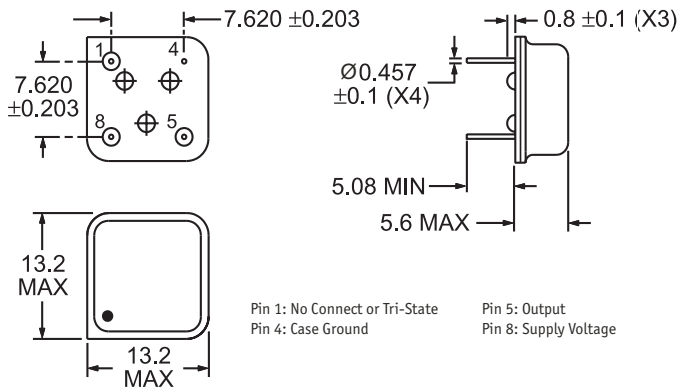
Blank=None (Standard)
CLXXX=Custom Lead Length (See Page 133)
G=Half Size Gull Wing (See Page 132)
G2=Half Size Gull Wing (See Page 132)

FREQUENCY

K=kHz, M=MHz

MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: EC11 TS

Output Control Function
Blank = None (No Connection on Pin 1)
TS = Tri-State Enable High

Series Designator

Line 3: XX.XXX M

M=MHz, K=kHz

Frequency (5 Digits Maximum + Decimal)

Line 4: XX Y ZZ

Week of Year

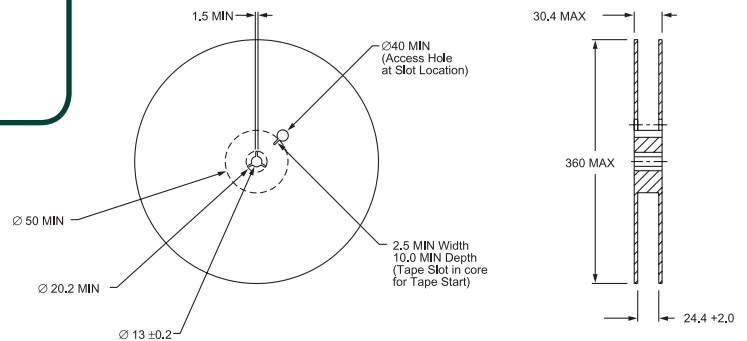
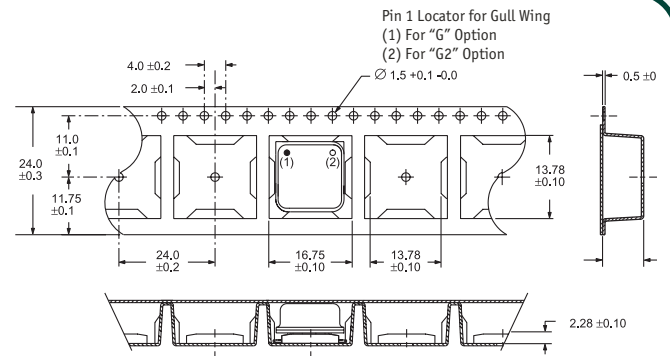
Last Digit of Year

Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



700 Pieces Per Reel
Compliant to EIA-481A

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
EC11

PACKAGE
8 pin DIP

VOLTAGE
5.0V

CLASS
OS05

REV. DATE
12/02