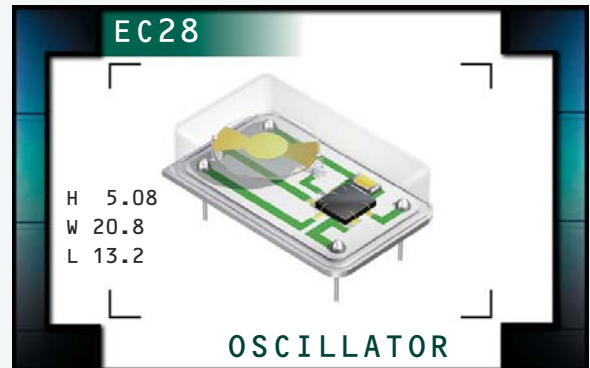


EC28 Series



ECLIPTEK[®]
CORPORATION

- RoHS Compliant (Pb-free)
- HCMOS output
- 2.5V supply voltage
- 14 pin DIP package
- Stability to ± 20 ppm
- Custom lead length, gull wing options available



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range (MHz)		1.544MHz to 33.000MHz
Operating Temperature Range (OTR)	± 100 ppm, ± 50 ppm, or 25ppm	0°C to 70°C or -40°C to 85°C
Storage Temperature Range (STR)		-55°C to 125°C
Supply Voltage (V_{DD})		2.5V _{DC} $\pm 5\%$
Input Current (I_{DD})	≤ 24.000 MHz	10mA Maximum
	> 24.000 MHz	20mA Maximum
Frequency Tolerance / Stability	Inclusive of Operating Temperature Range, Supply Voltage, and Load	± 100 ppm, ± 50 ppm, ± 25 ppm, or ± 20 ppm Maximum (0°C to 70°C Only)
Output Voltage Logic High (V_{OH})		90% of V _{DD} Minimum I _{OH} =-4mA
Output Voltage Logic Low (V_{OL})		10% of V _{DD} Minimum I _{OL} =+4mA
Rise Time / Fall Time (T_r/T_f)	20% to 80% of Waveform ≤ 24.000 MHz	6 nSeconds Maximum
	20% to 80% of Waveform > 24.000 MHz	4 nSeconds Maximum
Duty Cycle (SYM)	at 50% of Waveform	50 ± 10 (%) (Standard) or 50 ± 5 (%) (Optional)
Load Drive Capability (C_{LOAD})		15pF HCMOS Load
Tri-State Input Voltage	V _{IH} : No Connection	Enables Output
	V _{IH} : $\geq 90\%$ of V _{DD}	Enables Output
	V _{IL} : $\leq 10\%$ of V _{DD}	Disables Output: High Impedance
Aging (at 25°C)		± 5 ppm / year Maximum
Start Up Time (T_s)		10 mSeconds Maximum
Period Jitter: Absolute		± 100 pSeconds Maximum
Period Jitter: One Sigma		± 25 pSeconds Maximum

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EC28

PACKAGE
14 pin DIP

VOLTAGE
2.5V

CLASS
OS53

REV. DATE
07/06

PART NUMBERING GUIDE

EC28 00 ET T TS - 32.000M - G

FREQUENCY TOLERANCE / STABILITY

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

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(%)

AVAILABLE OPTIONS

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

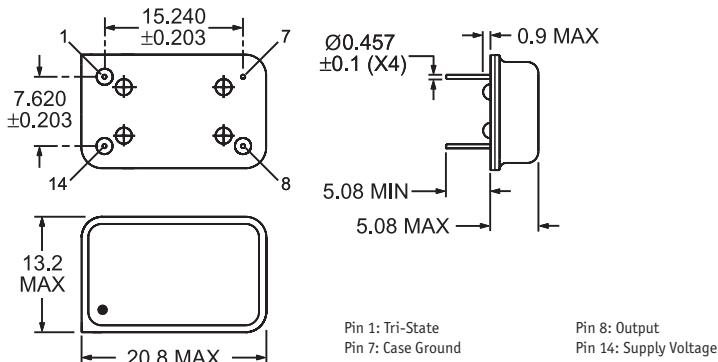
FREQUENCY

OUTPUT CONTROL FUNCTION

TS=Tri-State Enable High

NOTES

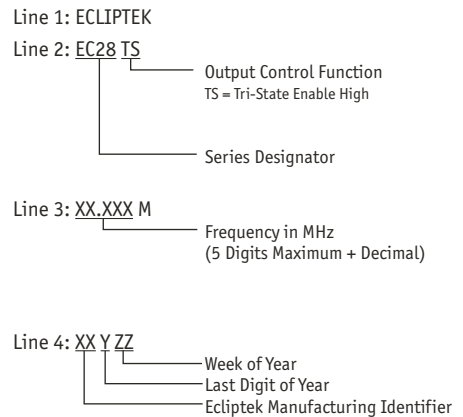
MECHANICAL DIMENSIONS
 ALL DIMENSIONS IN MILLIMETERS



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

MARKING SPECIFICATIONS



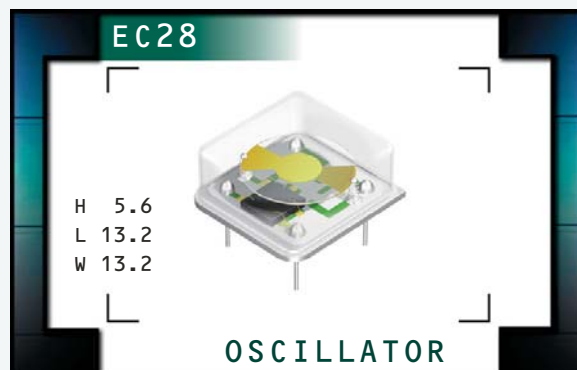
MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EC28	PACKAGE 14 pin DIP	VOLTAGE 2.5V	CLASS OS53	REV. DATE 07/06
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EC28 Series



ECLIPTEK[®]
CORPORATION

- RoHS Compliant (Pb-free)
- HCMOS output
- 2.5V supply voltage
- 8 pin DIP package
- Stability to ± 20 ppm
- Custom lead length, gull wing options available



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range (MHz)		1.544MHz to 33.000MHz
Operating Temperature Range (OTR)	± 100 ppm, ± 50 ppm, or ± 25 ppm ± 20 ppm	0°C to 70°C or -40°C to 85°C 0°C to 70°C
Storage Temperature Range (STR)		-55°C to 125°C
Supply Voltage (V_{DD})		2.5V _{DC} $\pm 5\%$
Input Current (I_{DD})	≤ 24.000 MHz > 24.000 MHz	10mA Maximum 20mA Maximum
Frequency Tolerance / Stability	Inclusive of Operating Temperature Range, Supply Voltage, and Load	± 100 ppm, ± 50 ppm, ± 25 ppm, or ± 20 ppm Maximum (0°C to 70°C Only)
Output Voltage Logic High (V_{OH})		90% of V _{DD} Minimum I _{OH} =-4mA
Output Voltage Logic Low (V_{OL})		10% of V _{DD} Maximum I _{OL} =+4mA
Rise Time / Fall Time (T_R/T_F)	20% to 80% of Waveform ≤ 24.000 MHz 20% to 80% of Waveform > 24.000 MHz	6 nSeconds Maximum 4 nSeconds Maximum
Duty Cycle (SYM)	at 50% of Waveform	50 ± 10 (%) (Standard) or 50 ± 5 (%) (Optional)
Load Drive Capability (C_{LOAD})		15pF HCMOS Load
Tri-State Input Voltage	V _{IH} : No Connection V _{IH} : $\geq 90\%$ of V _{DD} V _{IL} : $\leq 10\%$ of V _{DD}	Enables Output Enables Output Disables Output: High Impedance
Aging (at 25°C)		± 5 ppm / year Maximum
Start Up Time (T_s)		10mSeconds Maximum
Period Jitter: Absolute		± 100 pSeconds Maximum
Period Jitter: One Sigma		± 25 pSeconds Maximum

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EC28

PACKAGE
8 pin DIP

VOLTAGE
2.5V

CLASS
0554

REV. DATE
07/06

PART NUMBERING GUIDE

EC28 00 HS ET TS - 32.000M - G TR

FREQUENCY TOLERANCE / STABILITY

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

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(%)

PACKAGING OPTIONS

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

AVAILABLE OPTIONS

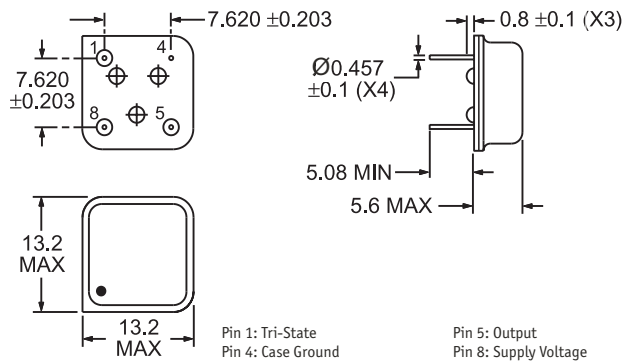
Blank=None (Standard)
 CLXX=Custom Lead Length (See Page 133)
 G=Half Size Gull Wing (See Page 132)
 G2=Half Size Gull Wing (See Page 132)

FREQUENCY

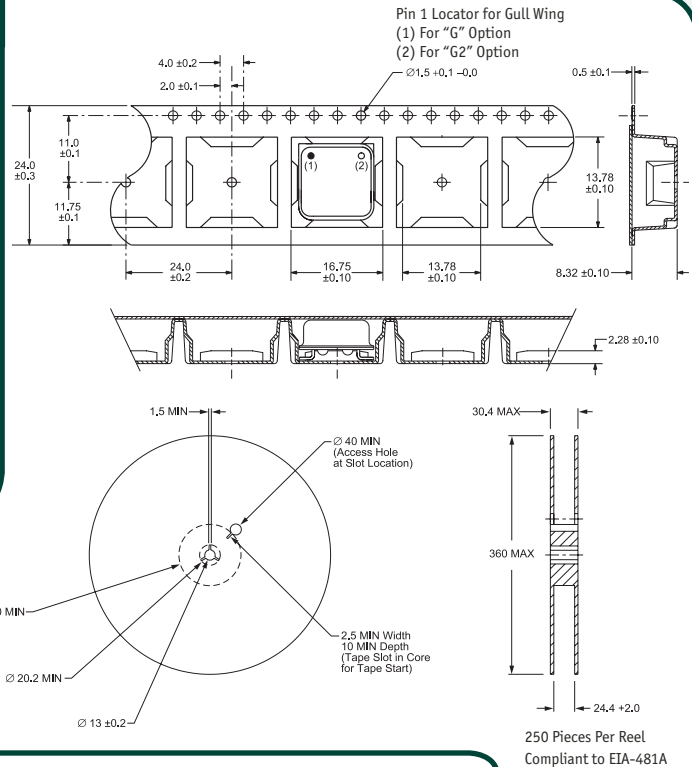
OUTPUT CONTROL FUNCTION

TS=Tri-State Enable High

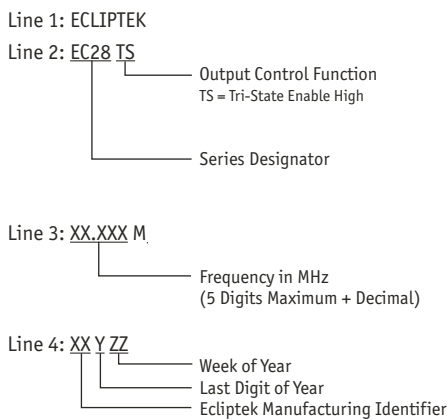
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS



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
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	EC28	8 pin DIP	2.5V	OS54	07/06