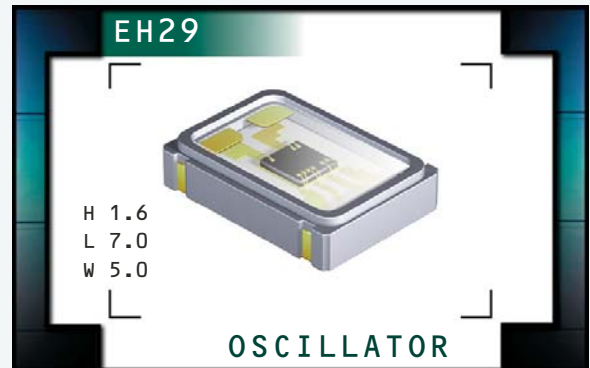


# EH29 Series



ECLIPTEK<sup>®</sup>  
CORPORATION

- Crystal Clock Oscillators
- LVCMOS Output
- +1.8V Supply Voltage
- Tri-State Output Function
- 4 Pad Ceramic SMD Package
- Low Stand-by Current
- RoHS Compliant (Pb-Free)



## NOTES

### ELECTRICAL SPECIFICATIONS

<b>Frequency Range</b>		2.500MHz to 110.000MHz
<b>Operating Temperature Range</b>		0°C to +70°C or -40°C to +85°C
<b>Storage Temperature Range</b>		-55°C to +125°C
<b>Supply Voltage (V<sub>DD</sub>)</b>		1.8V <sub>DC</sub> ±5%
<b>Input Current (No Load)</b>	2.500MHz to 25.000MHz	3.5mA Maximum
	25.001MHz to 75.000MHz	4mA Maximum
	75.001MHz to 110.000MHz	5mA Maximum
<b>Frequency Tolerance / Stability</b>	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, 260°C Reflow, Shock, and Vibration	±100ppm Maximum ±50ppm Maximum ±25ppm Maximum ±20ppm Maximum
<b>Output Voltage Logic High (V<sub>OH</sub>)</b>		90% of V <sub>DD</sub> Minimum I <sub>OH</sub> = -8mA
<b>Output Voltage Logic Low (V<sub>OL</sub>)</b>		10% of V <sub>DD</sub> Maximum I <sub>OL</sub> = +8mA
<b>Rise Time / Fall Time</b>	2.500MHz to 50.000MHz 20% to 80% of Waveform	6 nSeconds Maximum
	50.001MHz to 75.000MHz 20% to 80% of Waveform	4 nSeconds Maximum
	75.001MHz to 110.000MHz 20% to 80% of Waveform	2 nSeconds Maximum
<b>Load Drive Capability</b>		15pF Maximum
<b>Duty Cycle</b>	at 50% of Waveform	50 ±10% (Standard) or
	at 50% of Waveform (Only available over 2.5MHz to 75MHz)	50 ±5% (Optional)
<b>Tri-State Input Voltage</b>	V <sub>IH</sub> : ≥90% of V <sub>DD</sub> or No Connection	Enables Output
	V <sub>IH</sub> : ≤10% of V <sub>DD</sub>	Disables Output: High Impedance
<b>Standby Current</b>	Pin 1 = Ground	10µA Maximum
<b>Aging (at 25°C)</b>		±5ppm / year Maximum
<b>Start Up Time</b>		10mSeconds Maximum
<b>Period Jitter: Absolute</b>		±100pSec Maximum

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
EH29

PACKAGE  
CERAMIC

VOLTAGE  
1.8V

CLASS  
057B

REV. DATE  
10/09

## PART NUMBERING GUIDE

### EH29 00 ET TS - 24.000M TR

#### FREQUENCY TOLERANCE / STABILITY

00 = ±100ppm Maximum  
 45 = ±50ppm Maximum  
 25 = ±25ppm Maximum  
 20 = ±20ppm Maximum

#### 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

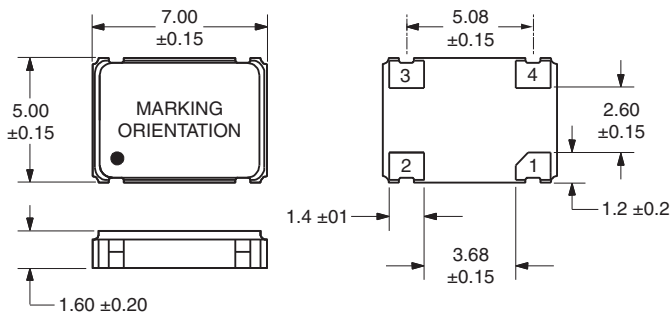
Blank = Bulk  
 TR = Tape & Reel

#### FREQUENCY

#### OUTPUT CONTROL FUNCTION

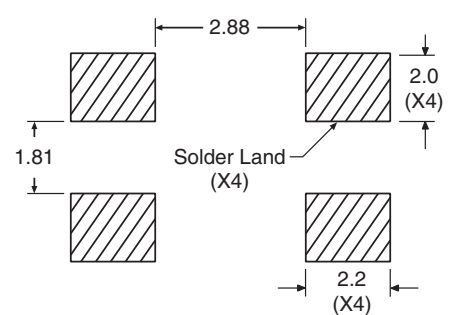
TS = Tri-State (High Impedance)

#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



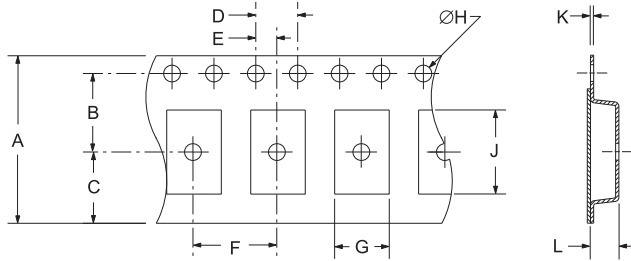
Pin 1: Tri-State  
 Pin 2: Case Ground  
 Pin 3: Output  
 Pin 4: Supply Voltage

#### SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS

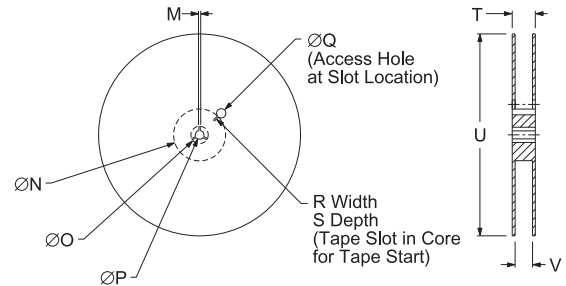


Tolerances = ±0.1

#### TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



REEL	A	B	C	D	E
	16+0.3-0.1	7.5±0.1	6.75±0.1	4.0±0.1	2.0±0.1
F	G	H	J	K	L
8.0±0.1	B0*	1.5+0.1-0.0	A0*	0.3±0.05	K0*



REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN
R	S	T	U	V	QTY/REEL
2.5 MIN	10 MIN	22.4 MAX	360 MAX	16.4+2-0	1,000

\*Compliant to EIA 481A

#### ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
ESD Susceptibility	MIL-STD-883, Method 3015, Class 1, HBM: 1500V
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Flammability	UL94-V0
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A

#### MARKING SPECIFICATIONS

Line 1: ECLIPTEK  
 Line 2: XX.XXX M  
 Frequency in MHz (5 Digits Maximum + Decimal)  
 Line 3: XXXXXX  
 Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EH29	CERAMIC	1.8V	OS7B	10/09