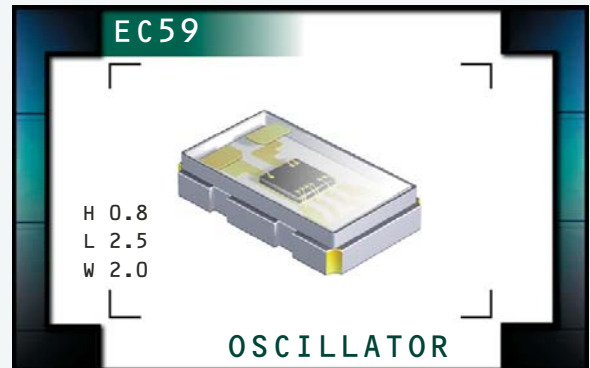


EC59 Series



ECLIPTEK[®]
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)



ELECTRICAL SPECIFICATIONS

Frequency Range	1.000MHz	1.125MHz	1.250MHz	1.500MHz	1.536MHz	1.5625MHz	1.625MHz
	1.6875MHz	1.789773MHz	1.875MHz	2.000MHz	2.250MHz	2.500MHz	3.000MHz
	3.072MHz	3.125MHz	3.250MHz	3.375MHz	3.579545MHz	3.750MHz	4.000MHz
	4.500MHz	5.000MHz	6.000MHz	6.144MHz	6.250MHz	6.500MHz	6.750MHz
	7.15909MHz	7.500MHz	8.000MHz	9.000MHz	10.000MHz	12.000MHz	12.288MHz
	12.500MHz	13.000MHz	13.500MHz	14.31818MHz	15.000MHz	16.000MHz	16.384MHz
	16.500MHz	18.000MHz	19.200MHz	20.000MHz	24.000MHz	24.576MHz	25.000MHz
	26.000MHz	27.000MHz	28.63636MHz	30.000MHz	32.000MHz	32.768MHz	33.000MHz
	36.000MHz	38.400MHz	40.000MHz	48.000MHz	49.152MHz	50.000MHz	54.000MHz

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, 260°C Reflow, Shock, and Vibration	±100ppm Maximum ±50ppm Maximum
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Operating Temperature Range	-10°C to +70°C or -40°C to +85°C
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Supply Voltage (V_{DD})	1.8V _{DC} ±5%
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Input Current (No Load)	1.000MHz to 19.999MHz	2.5mA Maximum
	20.000MHz to 39.999MHz	3mA Maximum
	40.000MHz to 54.000MHz	3.5mA Maximum

Output Voltage Logic High (V_{OH})	90% of V _{DD} Minimum I _{OH} = -4mA
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Output Voltage Logic Low (V_{OL})	10% of V _{DD} Maximum I _{OL} = +4mA
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Rise Time / Fall Time	20% to 80% of Waveform	10 nSeconds Maximum
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Duty Cycle	at 50% of Waveform	50 ±10% (Standard) or 50 ±5% (Optional)
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Load Drive Capability	15pF Maximum
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Tri-State Input Voltage	V _{IH} : ≥90% of V _{DD} or No Connection	Enables Output
	V _{IL} : ≤10% of V _{DD}	Disables Output: High Impedance

Standby Current	10µA Maximum
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RMS Phase Jitter	12kHz to 20MHz offset frequency	1pSec Maximum
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Start Up Time	10mSeconds Maximum
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Storage Temperature Range	-55°C to +125°C
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MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EC59	PACKAGE CERAMIC	VOLTAGE 1.8V	CLASS 057W	REV. DATE 06/10
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PART NUMBERING GUIDE

EC59 00 ETTTS - 24.000M TR

FREQUENCY TOLERANCE / STABILITY

00=±100ppm Maximum
45=±50ppm 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

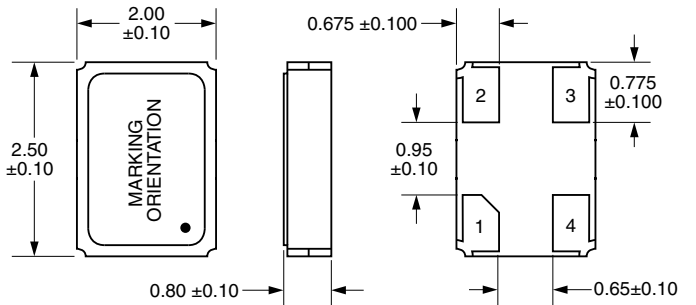
Blank=Bulk
TR=Tape & Reel

FREQUENCY

OUTPUT CONTROL FUNCTION

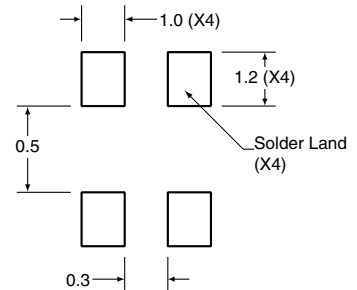
TS=Tri-State

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



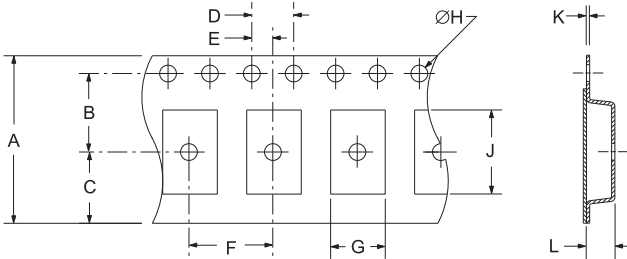
Pin 1: Tri-State
Pin 2: Case Ground
Pin 3: Output
Pin 4: Supply Voltage

SUGGESTED SOLDER PAD LAYOUT
ALL DIMENSIONS IN MILLIMETERS

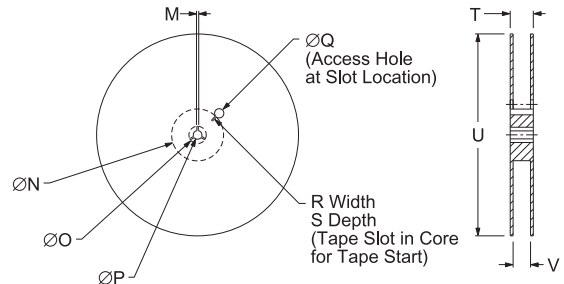


All Tolerances are ±0.1

TAPE AND REEL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



REEL	A	B	C	D	E
	8.0 ±.2	3.5 ±.1	2.75 ±.1	4 ±.1	2 ±.1
F	G	H	J	K	L
4 ±.1	B0*	1.55 ±.05	A0*	.25 ±.05	K0*



REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13 ±.2	40 MIN
R	S	T	U	V	QTY/REEL
2.5 MIN	10 MIN	14.4 MAX	360 MAX	8.4 ±1.5-0	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: EXX.X
Nominal Frequency in MHz

Line 2: XXXXX
Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC59	CERAMIC	1.8V	OS7W	06/10