

EC39 Series



ECLIPTEK[®]
CORPORATION

- RoHS Compliant (Pb-Free)
- LVCMOS output
- 1.8V Supply Voltage
- Ceramic SMD package
- Stability to ± 20 ppm
- Standby Function
- Available on Tape and Reel



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range (F₀)		2.5MHz to 80MHz and 98.304MHz, 100MHz, 106.250MHz
Operating Temperature Range (OTR)		-10°C to 70°C -40°C to 85°C
Storage Temperature Range (STR)		-55°C to 125°C
Supply Voltage (V_{DD})		1.8V _{DC} $\pm 5\%$
Input Current (I_{DD})	2.500MHz to 10.000MHz	3mA Maximum
	10.001MHz to 34.999MHz	4mA Maximum
	35.000MHz to 50.000MHz	8mA Maximum
	50.001MHz to 70.000MHz	10mA Maximum
	70.001MHz to 90.000MHz	18mA Maximum
	90.001MHz to 106.250MHz	25mA Maximum
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	± 100 ppm, ± 50 ppm, 25ppm, or ± 20 ppm Maximum
Output Voltage Logic High (V_{OH})	I _{OH} = -4.0mA	90% of V _{DD} Minimum
Output Voltage Logic Low (V_{OL})	I _{OL} = +4.0mA	10% of V _{DD} Maximum
Rise Time / Fall Time (T_R/T_F)	20% to 80% of Waveform ≤ 40.000 MHz	6 nSeconds Maximum
	20% to 80% of Waveform > 40.000 MHz	3 nSeconds Maximum
Duty Cycle (SYM)	at 50% of Waveform	50 ± 10 (%) (Standard) 50 ± 5 (%) (Optional)
Load Drive Capability (C_{LOAD})		15pF Maximum
Tri-State Input Voltage	No Connection	Enables Output
	V _{IH} : 90% of V _{DD} Minimum	Enables Output
	V _{IL} : 10% of V _{DD} Maximum	Disables Output: High Impedance
Standby Current	Disabled Output: High Impedance	10 μ A Maximum
Start Up Time (T_S)		10 mSeconds Maximum
RMS Phase Jitter	12kHz to 20MHz offset frequency	1pSeconds Maximum

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC39	CERAMIC	1.8V	OS1F	08/08

PART NUMBERING GUIDE

EC39 00 ET TS - 30.000M TR

FREQUENCY TOLERANCE / STABILITY

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

PACKAGING OPTIONS

Blank=Bulk (Standard)
 TR=Tape and Reel

FREQUENCY

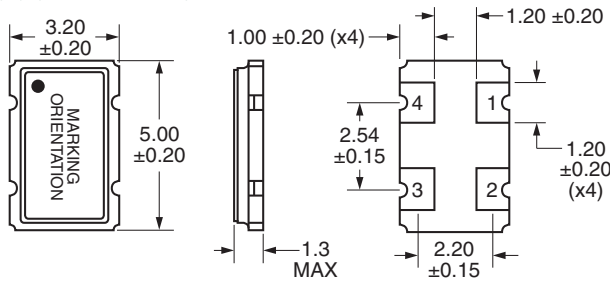
DUTY CYCLE

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

OPERATING TEMPERATURE RANGE

Blank=-10°C to 70°C (Standard)
 ET=-40°C to 85°C

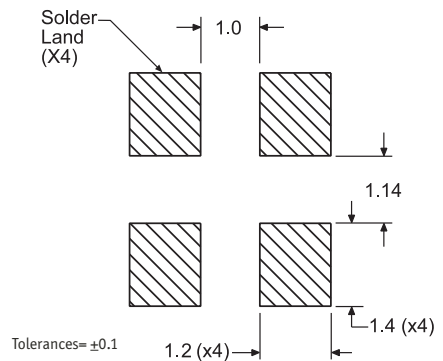
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



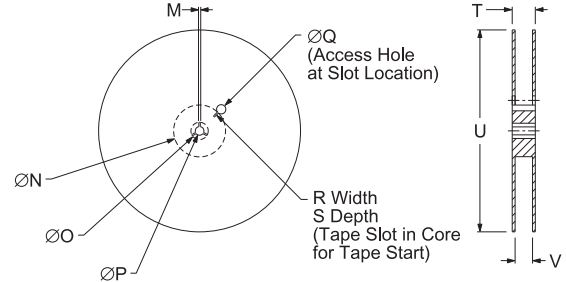
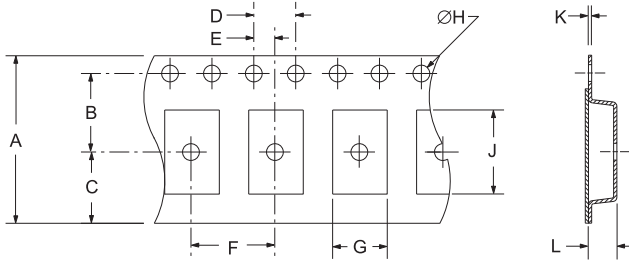
Note: Pin 1 Chamfer not shown.

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

SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E	
	16.0±0.3	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*	0.30±0.1	K0*

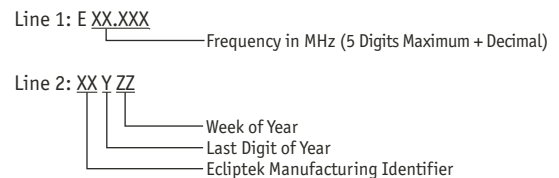
REEL	M	N	O	P	Q	
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN	
R	S	T	U	V	QTY/REEL	
	2.5 MIN	10 MIN	18.4 MAX	180 MAX	12.4+2-0	1,000

*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



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