

# EC39 Series



ECLIPTEK<sup>®</sup>  
CORPORATION

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



## ELECTRICAL SPECIFICATIONS

**Frequency Range ( $F_0$ )** 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<sub>DC</sub>  $\pm 5\%$

<b>Input Current (<math>I_{DD}</math>)</b>	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,  $\pm 100$ ppm,  $\pm 50$ ppm, 25ppm, or  
Frequency Stability over the Operating Temperature Range,  $\pm 20$ ppm Maximum  
Supply Voltage Change, Output Load Change, First Year  
Aging at 25°C, Shock, and Vibration

**Output Voltage Logic High ( $V_{OH}$ )**  $I_{OH} = -4.0$ mA 90% of  $V_{DD}$  Minimum

**Output Voltage Logic Low ( $V_{OL}$ )**  $I_{OL} = +4.0$ mA 10% of  $V_{DD}$  Maximum

**Rise Time / Fall Time ( $T_R/T_F$ )** 20% to 80% of Waveform  $\leq 40.000$ MHz 6 nSeconds Maximum  
20% to 80% of Waveform  $> 40.000$ MHz 3 nSeconds Maximum

**Duty Cycle (SYM)** at 50% of Waveform 50  $\pm 10$ (%) (Standard)  
50  $\pm 5$ (%) (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 $\mu$ A Maximum

**Start Up Time ( $T_S$ )** 10 mSeconds Maximum

**RMS Phase Jitter** 12kHz to 20MHz offset frequency 1pSeconds Maximum

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
EC39

PACKAGE  
CERAMIC

VOLTAGE  
1.8V

CLASS  
OS1F

## 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

#### OPERATING TEMPERATURE RANGE

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

#### PACKAGING OPTIONS

Blank=Bulk (Standard)  
 TR=Tape and Reel

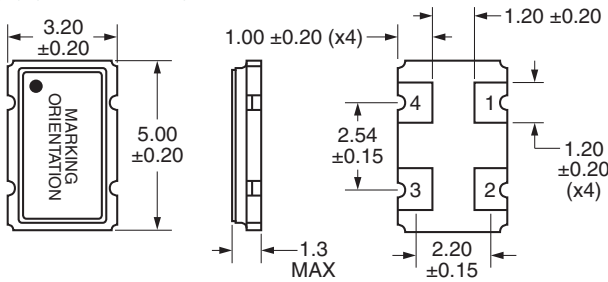
#### FREQUENCY

#### DUTY CYCLE

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

#### MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS

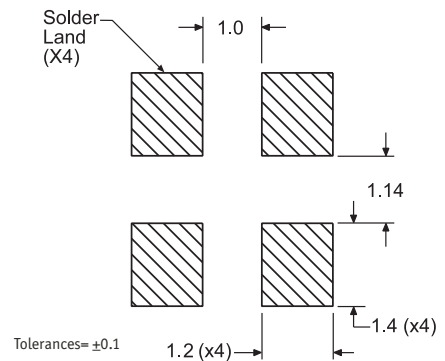


Note: Pin 1 Chamfer not shown.

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

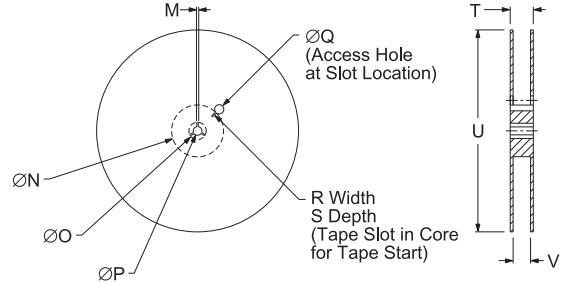
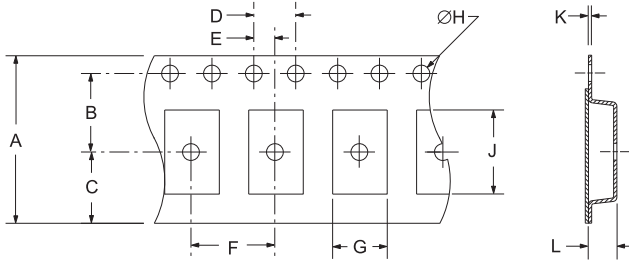
#### SUGGESTED SOLDER PAD LAYOUT

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*

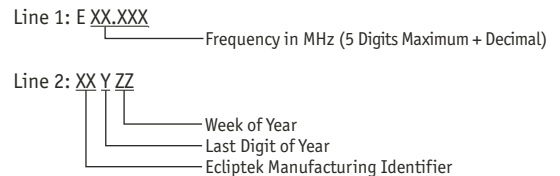
REEL	M	N	O	P	Q	
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN	
R	S	T	U	V	QTY/REEL	
	2.5 MIN	10 MIN	18.4 MAX	180 MAX	12.4+2-0	1,000

\*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



MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS
ECLIPTEK CORP.	OSCILLATOR	EC39	CERAMIC	1.8V	OS1F