

EH49 Series



- 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		2.600MHz to 133.000MHz
<i>Some frequencies within this range may not be available</i>		
Operating Temperature Range		0°C to +70°C or -40°C to +85°C
Storage Temperature Range		-55°C to +125°C
Supply Voltage (V_{DD})		1.8V _{DC} ±5%
Input Current (No Load)	2.600MHz to 25.000MHz	3.5mA Maximum
	25.001MHz to 75.000MHz	4mA Maximum
	75.001MHz to 100.000MHz	5mA Maximum
	100.001MHz to 133.000MHz	8mA Maximum
Frequency Tolerance / Stability <i>Some tolerance stability options may not be available</i>	Inclusive of all conditions: Calibration Tolerance at 25°C, ±100ppm Maximum	
	Frequency Stability over the Operating Temperature Range, ±50ppm Maximum	
	Supply Voltage Change, Output Load Change, First Year Aging at 25°C, 260°C Reflow, Shock, and Vibration ±25ppm Maximum	
	±20ppm Maximum	
Output Voltage Logic High (V_{OH})		90% of V _{DD} Minimum I _{OH} = -8mA
Output Voltage Logic Low (V_{OL})		10% of V _{DD} Maximum I _{OL} = +8mA
Rise Time / Fall Time	2.600MHz to 50.000MHz 20% to 80% of Waveform	6nSeconds Maximum
	50.001MHz to 75.000MHz 20% to 80% of Waveform	4nSeconds Maximum
	75.001MHz to 133.000MHz 20% to 80% of Waveform	2nSeconds Maximum
Load Drive Capability		15pF Maximum
Output Logic Type		CMOS
Duty Cycle	at 50% of Waveform	50 ±10(%)
	at 50% of Waveform (Only available over 2.6MHz to 50MHz)	50 ±5(%)
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	Pin 1 = Ground	10µA Maximum
Aging (at 25°C)		±5ppm / year Maximum
Start Up Time		10mSeconds Maximum
RMS Phase Jitter	F _j = 12kHz to 20MHz	20pSec Typical, 30pSec Maximum
Period Jitter (RMS)		15pSec Typical
Period Jitter (pk-pk)		100pSec Typical, 200pSec Maximum

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EH49

PACKAGE
CERAMIC

VOLTAGE
1.8V

CLASS
057C

REV. DATE
09/11

PART NUMBERING GUIDE

EH49 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

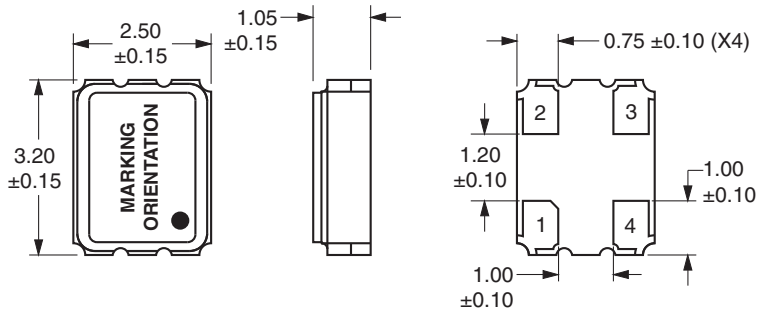
FREQUENCY

OUTPUT CONTROL FUNCTION

TS = Tri-State (High Impedance)

MECHANICAL DIMENSIONS

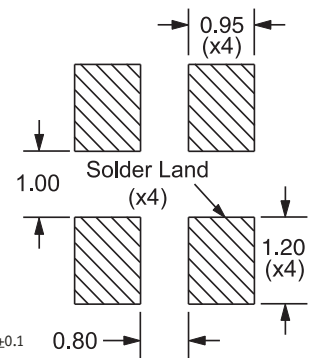
ALL DIMENSIONS IN MILLIMETERS



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

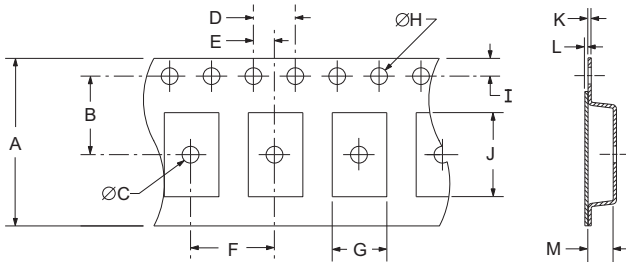
SUGGESTED SOLDER PAD LAYOUT

ALL DIMENSIONS IN MILLIMETERS

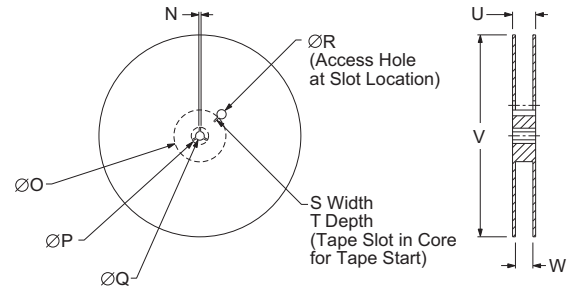


TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E	F
	8.0 ±0.3	3.50 ±0.05	1.0 MIN	4.0 ±0.1	2.00 ±0.05	4.0 ±0.1
G	H	I	J	K	L	M
AO	1.5 +0.1/-0.0	1.75 ±0.10	BO	0.6 MAX	0.10 MAX	KO



REEL	N	O	P	Q	R	
	1.5 MIN	50 MIN	20.2 MIN	13.0 ±0.2	40 MIN	
S	T	U	V	W	QTY/REEL	
	2.5 MIN	10 MIN	14.4 MAX	180 MAX	8,4 ±1.5/-0.0	1,000

Note: Compliant to EIA-481

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: EPO
 Line 2: XXXXX
 Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EH49	CERAMIC	1.8V	OS7C	09/11