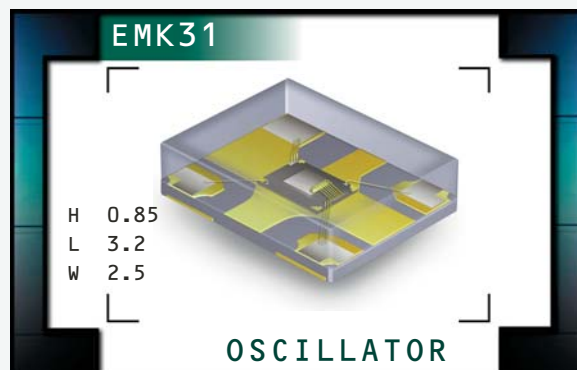


EMK31 Series

- MEMS First™ Resonator Technology
- RoHS Compliant (Pb-Free)
- 2.5mm x 3.2mm Surface Mount Package
- LVHCMOS Output
- 1.8V Supply Voltage
- Stability to ± 50 ppm
- 30,000 G Shock Resistance
- Available on Tape & Reel
- Tri-State and Power Down Options



ECLIPTEK
CORPORATION



ELECTRICAL SPECIFICATIONS

Nominal Frequency		1.000MHz to 125MHz
Operating Temperature Range		-40°C to 85°C
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{DD})		1.8V _{DC} $\pm 5\%$
Input Current	≤ 25.000 MHz	15mA Maximum
	> 25.000 MHz	18mA 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, 1st Year Aging at 25°C, 260°C Reflow, Shock, and Vibration	
Output Voltage Logic High (V_{OH})	$I_{OH} = -8$ mA	90% of V_{DD} Minimum
Output Voltage Logic Low (V_{OL})	$I_{OL} = +8$ mA	10% of V_{DD} Maximum
Rise Time / Fall Time	20% to 80% of waveform	2nSeconds Maximum
Duty Cycle	at 50% of waveform	50 ± 5 (%)
Load Drive Capability	15pF HCMOS Load Maximum	
Output Control Function	Tri-State or Power Down	
Output Control Input Voltage	V_{IH} of 70% of V_{DD} Minimum or No Connection	Enables Output
	V_{IL} of 30% of V_{DD} Maximum	Disables Output: High Impedance State for Tri-state, Logic Low for Power Down
Standby Current	50 μ A Maximum	
Peak to Peak Jitter (tPK)	1.000MHz to 12.287999MHz	500pSec Maximum, 200pSec Typical
	12.288MHz to 125.000MHz	250pSec Maximum, 100pSec Typical
Aging	First Year at 25°C	± 1 ppm Maximum
Start Up Time	50mSec Maximum	

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EMK31

PACKAGE
PLASTIC

VOLTAGE
1.8V

CLASS
OS5K

REV. DATE
11/07

PART NUMBERING GUIDE

EMK31 H 2 H - 50.000M TR

FREQUENCY TOLERANCE & STABILITY/ OPERATING TEMPERATURE RANGE

G=±100ppm Maximum over -40°C to +85°C
H=±50ppm Maximum over -40°C to +85°C

DUTY CYCLE

2=50% ±5%

LOGIC CONTROL

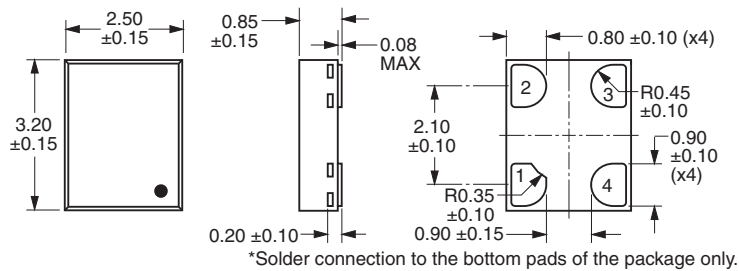
H=Tri-State (High Impedance)
J=Power Down (Logic Low)

AVAILABLE OPTIONS

Blank=Bulk
TR=Tape and Reel (Standard)

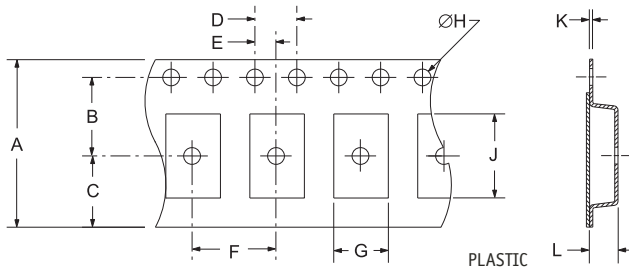
FREQUENCY

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



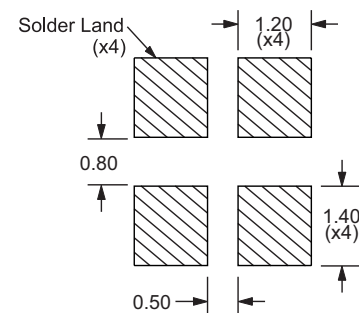
Pin 1: Tri-State or Power Down Pin 2: Case Ground Pin 3: Output Pin 4: Supply Voltage

TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS

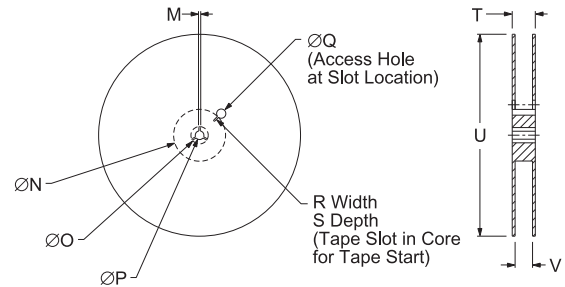


A		B		C		D		E			
12.0±0.3		5.5±0.05		4.75±.05		4.0±0.1		2.0±0.1			
F		G		H		J		K		L	
4.0+0.2		A0*		1.5 +.1/-0		B0*		0.3 +0.05		K0*	

SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



Tolerances= ±0.1



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 481C

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic

ESD Susceptibility
Flammability
Mechanical Shock
Moisture Resistance
Moisture Sensitivity Level
Resistance to Soldering Heat
Resistance to Solvents
Solderability

Specification

MIL-STD-883, Method 3015, Class 2, HBM: 2000V
UL94-V0
MIL-STD-883, Method 2002, Condition G, 30,000G
MIL-STD-883, Method 1004
J-STD-020, MSL 1
MIL-STD-202, Method 210, Condition K
MIL-STD-202, Method 215
MIL-STD-883, Method 2003 (Four I/O Pads on bottom of package only)
MIL-STD-883, Method 1010, Condition B
MIL-STD-883, Method 1011, Condition B
MIL-STD-883, Method 2007, Condition A, 20G

MEMS First™ is a registered trademark of SiTime Corporation.

MARKING SPECIFICATIONS

Line 1: XXXX

EclipseTek Manufacturing Lot Code

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EMK31	PLASTIC	1.8V	OS5K	11/07