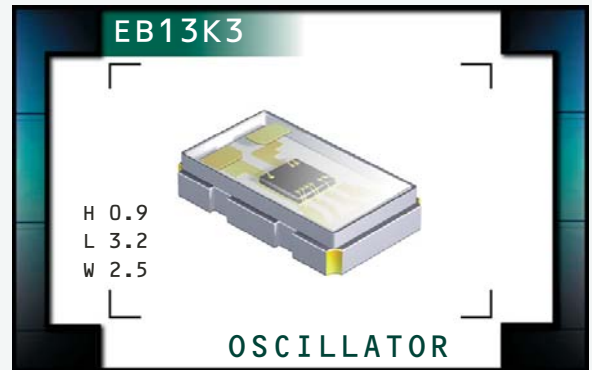


# EB13K3 Series



ECLIPTEK<sup>®</sup>  
CORPORATION

- Crystal Clock Oscillators
- LVCMOS Output
- +3.3V Supply Voltage
- Tri-State Output Function
- 4 Pad Ceramic SMD Package
- Low Input Current
- RoHS Compliant (Pb-Free)



## NOTES

## ELECTRICAL SPECIFICATIONS

<b>Frequency Range</b>		32.768kHz
<b>Operating Temperature Range</b>		-20°C to +70°C or -40°C to +85°C
<b>Storage Temperature Range</b>		-55°C to +125°C
<b>Supply Voltage (<math>V_{DD}</math>)</b>		3.3V <sub>DC</sub> ±5%
<b>Input Current</b>	No Load	1.6µA Maximum
<b>Frequency Tolerance / Stability</b>	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	±175ppm Maximum ±100ppm Max. (-20°C to +70°C only)
<b>Output Voltage Logic High (<math>V_{OH}</math>)</b>		90% of $V_{DD}$ Minimum $I_{OH} = -2mA$
<b>Output Voltage Logic Low (<math>V_{OL}</math>)</b>		10% of $V_{DD}$ Maximum $I_{OL} = +2mA$
<b>Rise Time / Fall Time</b>	20% to 80% of Waveform	200nSeconds Maximum
<b>Load Drive Capability</b>		15pF Maximum
<b>Duty Cycle</b>	at 50% of Waveform	50 ±10(%)
<b>Tri-State Input Voltage</b>	$V_{IH} \geq 90\%$ of $V_{DD}$ or No Connect $V_{IH} \leq 10\%$ of $V_{DD}$	Enables Output Disables Output: High Impedance
<b>Standby Current</b>	Disabled Output: High Impedance	1.0µA Maximum
<b>Start Up Time</b>		1.0 Seconds Maximum

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
EB13K3

PACKAGE  
CERAMIC

VOLTAGE  
3.3V

CLASS  
OS8B

REV. DATE  
04/10

## PART NUMBERING GUIDE

### EB13K3 A C 1 H - 32.768K TR

#### FREQUENCY TOLERANCE / STABILITY

A = ±100ppm Maximum  
 B = ±175ppm Maximum

#### OPERATING TEMPERATURE RANGE

C = -20°C to +70°C  
 D = -40°C to +85°C

#### DUTY CYCLE

1 = 50 ±10(%)

#### AVAILABLE OPTIONS

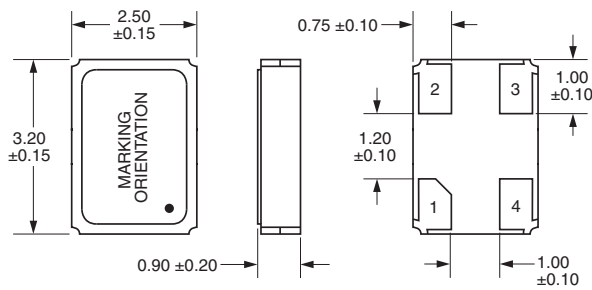
Blank = Bulk  
 TR = Tape & Reel

#### FREQUENCY

#### PIN 1 CONNECTION

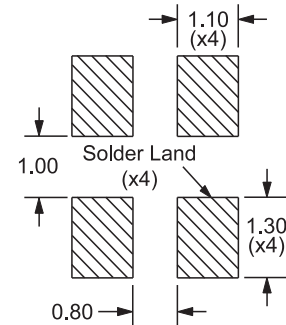
H = Tri-State (High Impedance)

#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



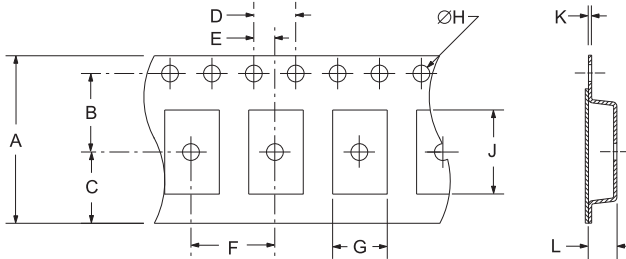
Pin 1: Tri-State  
 Pin 2: Case Ground  
 Pin 3: Output  
 Pin 4: Supply Voltage

#### SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS

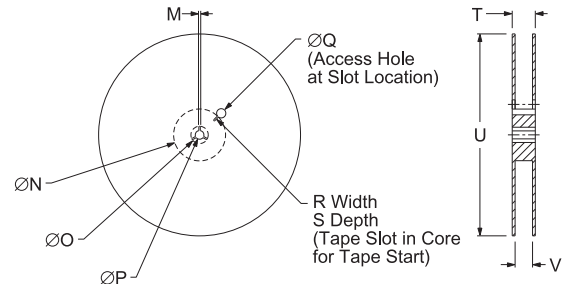


Tolerances = ±0.1

#### TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



REEL	A	B	C	D	E
	8.0±0.2	3.5±0.1	2.75±0.1	4.0±0.1	2.0±0.1
F	G	H	J	K	L
4.0±0.1	2.8±.1	1.50+0.10	3.5±.1	0.25 ±0.05	1.35±.1



REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.5	40 MIN
R	S	T	U	V	QTY/REEL
2.5 MIN	10 MIN	14.4 MAX	180 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: E32.7 — Frequency in kHz (3 digits Maximum + Decimal)  
 Line 2: XXXXX — Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EB13K3	CERAMIC	3.3V	OS8B	04/10