

# EPSA23BBJB-10.050M

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## REGULATORY COMPLIANCE (Data Sheet downloaded on Nov 17, 2019)



◀ Click badges to download compliance docs

Regulatory Compliance standards are subject to updates by governing bodies. Click the badges to download the latest compliance docs for this part number directly from Ecliptek.



## ITEM DESCRIPTION

Spread Spectrum Quartz Crystal Clock Oscillators LVCMOS (CMOS) 3.3Vdc 4 Pad 3.2mm x 5.0mm Ceramic Surface Mount (SMD) 10.050MHz  $\pm 50$ ppm Maximum -40°C to +85°C Power Down  $\pm 0.50\%$  Center Spread

## ELECTRICAL SPECIFICATIONS

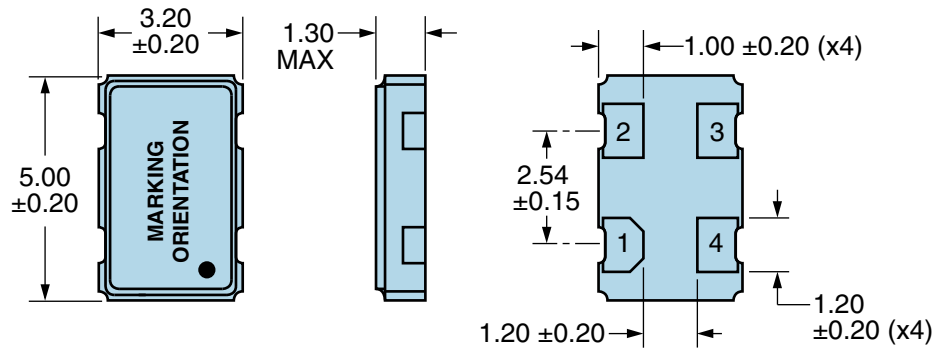
Nominal Frequency	10.050MHz
Frequency Tolerance/Stability	$\pm 50$ ppm Maximum (Inclusive of all conditions: Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, First Year Aging at 25°C, Shock, and Vibration.)
Operating Temperature Range	-40°C to +85°C
Supply Voltage	3.3Vdc $\pm 10\%$
Maximum Supply Voltage	-0.5Vdc to +4.2Vdc
Input Current	15mA Maximum
Output Voltage Logic High (Voh)	90% of Vdd Minimum (IOH=-8mA)
Output Voltage Logic Low (Vol)	10% of Vdd Maximum (IOL=+8mA)
Rise/Fall Time	3nSec Maximum (Measured at 10% to 90% of Waveform)
Duty Cycle	50 $\pm 5$ (%) (Measured at 50% of waveform)
Load Drive Capability	15pF Maximum
Output Logic Type	CMOS
Output Control Function	Power Down (Disabled Output: High Impedance)
Power Down Input Voltage (Vih and Vil)	70% of Vdd Minimum or No Connection to Enable Output, 30% of Vdd Maximum to Disable Output
Power Down Output Enable Time	3mSec Maximum
Power Down Output Disable Time	100nSec Maximum
Standby Current	10 $\mu$ A Maximum (Unloaded; Pad 1=Ground)
Spread Spectrum	$\pm 0.50\%$ Center Spread
Modulation Frequency	30kHz Minimum, 32kHz Typical, 45kHz Maximum
Period Jitter	100pSec Maximum (Cycle to Cycle; Spread Spectrum-On)
Start Up Time	10mSec Maximum
Storage Temperature Range	-55°C to +125°C

## ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

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

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### MECHANICAL DIMENSIONS (all dimensions in millimeters)



PIN	CONNECTION
1	Power Down
2	Case/Ground
3	Output
4	Supply Voltage

LINE	MARKING
1	<b>E10.050</b> <i>E=Ecliptek Designator</i>
2	<b>XXXXX</b> <i>XXXXX=Ecliptek Manufacturing Identifier</i>

### Suggested Solder Pad Layout

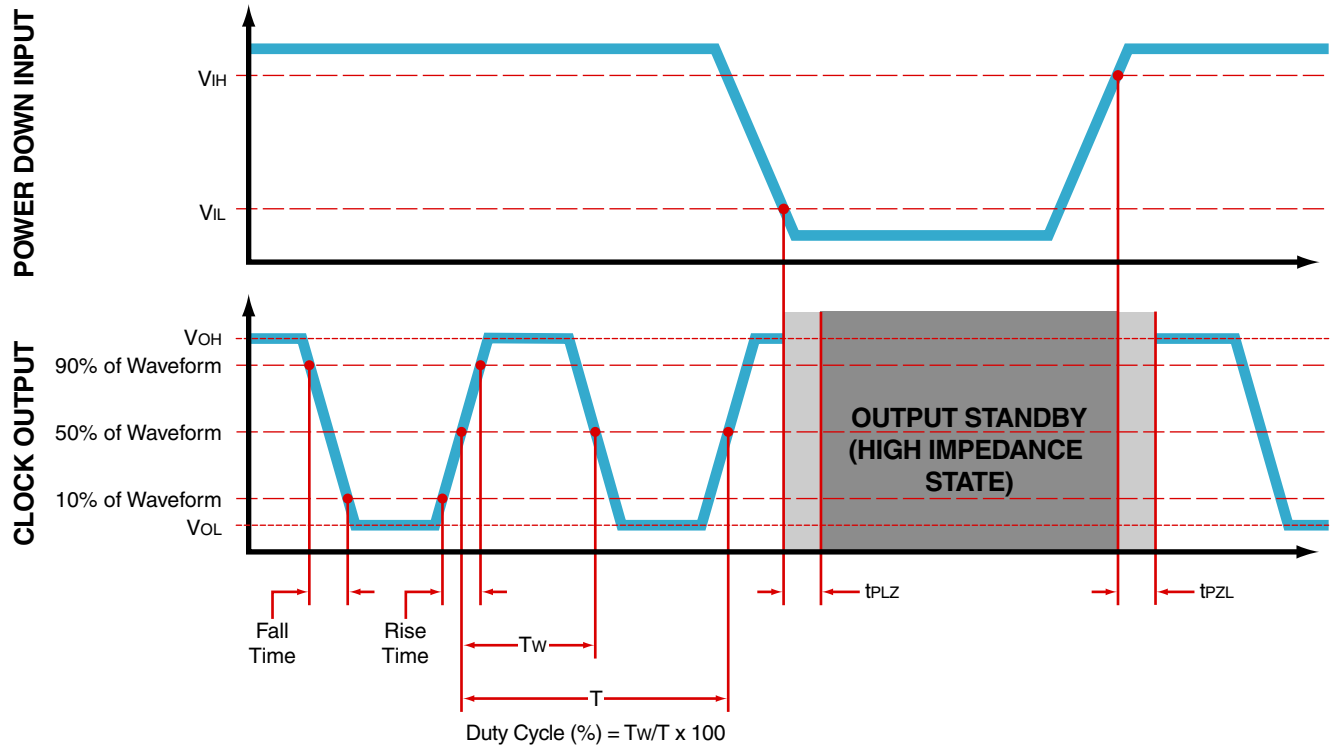
All Dimensions in Millimeters



All Tolerances are ±0.1

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**OUTPUT WAVEFORM & TIMING DIAGRAM**



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## Test Circuit for CMOS Output



Note 1: An external 0.01µF ceramic bypass capacitor in parallel with a 0.1µF high frequency ceramic bypass capacitor close (less than 2mm) to the package ground and supply voltage pin is required.

Note 2: A low input capacitance (<12pF), 10X Attenuation Factor, High Impedance (>10Mohms), and High bandwidth (>300MHz) passive probe is recommended.

Note 3: Capacitance value CL includes sum of all probe and fixture capacitance. See applicable specification sheet for 'Load Drive Capability'.