

EB52E8E2V-12.800M TR



ELECTRICAL SPECIFICATIONS

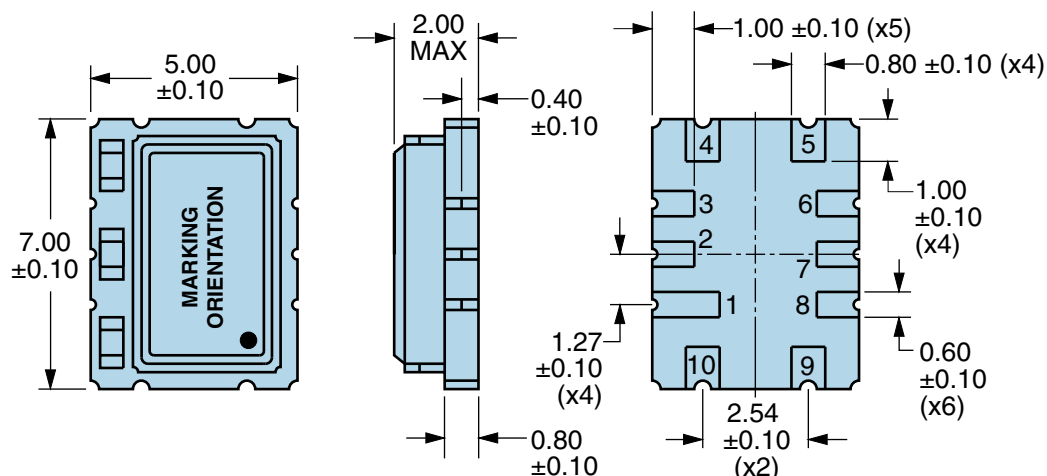
Nominal Frequency	12.800MHz
Frequency Tolerance	±1.0ppm Maximum (Measured at 25°C ±2°C, at Vdd=3.3Vdc and Vc=1.65Vdc)
Frequency Stability	±0.5ppm Maximum (Not available with Operating Temperature Range of -40°C to +85°C)
Frequency Stability vs. Input Voltage	±0.3ppm Maximum (±5%)
Frequency Stability vs. Load	±0.3ppm Maximum (±10%)
Frequency Stability vs. Aging	±1ppm/year Maximum (at 25°C)
Operating Temperature Range	-40°C to +85°C
Supply Voltage	3.3Vdc ±5%
Input Current	10mA Maximum
Output Voltage Logic High (Voh)	90% of Vdd Minimum (IOH = -4mA)
Output Voltage Logic Low (Vol)	10% of Vdd Maximum (IOL = +4mA)
Rise/Fall Time	5nSec Maximum (Measured at 20% to 80% of Waveform)
Duty Cycle	50 ±5(%) (Measured at 50% of Waveform)
Load Drive Capability	15pF Maximum
Output Logic Type	CMOS
Control Voltage	1.65Vdc ±1.65Vdc
Control Voltage Range	0.0Vdc to Vdd
Frequency Deviation	±5ppm Minimum
Linearity	5% Maximum
Transfer Function	Positive Transfer Characteristic
Input Impedance	100kOhms Minimum
Phase Noise	-80dBc/Hz at 10Hz Offset, -115dBc/Hz at 100Hz Offset, -135dBc/Hz at 1kHz Offset, and -145dBc/Hz at ≥10kHz Offset (Typical Values at 12.800MHz)
Tri-State Input Voltage (Vih and Vil)	+0.9Vdd Minimum to Enable Output; +0.1Vdd Maximum to Disable Output (High Impedance); No Connect to Enable Output
RMS Phase Jitter	1pSec Maximum (Fj = 12kHz to 20MHz)
Start Up Time	10mSec Maximum
Storage Temperature Range	-40°C to +125°C

ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

Fine Leak Test	MIL-STD-883, Method 1014 Condition A
Gross Leak Test	MIL-STD-883, Method 1014 Condition C
Mechanical Shock	MIL-STD-202, Method 213 Condition C
Resistance to Soldering Heat	MIL-STD-202, Method 210
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010
Vibration	MIL-STD-883, Method 2007 Condition A

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MECHANICAL DIMENSIONS (all dimensions in millimeters)

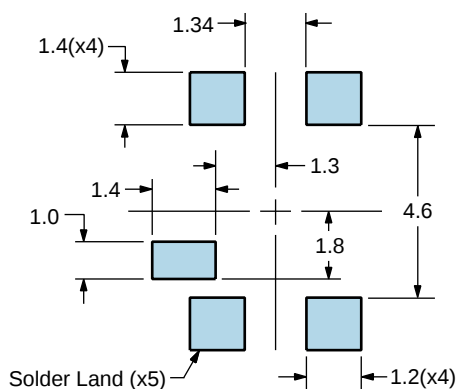


PIN	CONNECTION
1	Do Not Connect
2	Do Not Connect
3	Do Not Connect
4	Ground
5	Output
6	Do Not Connect
7	Do Not Connect
8	Tri-State
9	Supply Voltage
10	Voltage Control

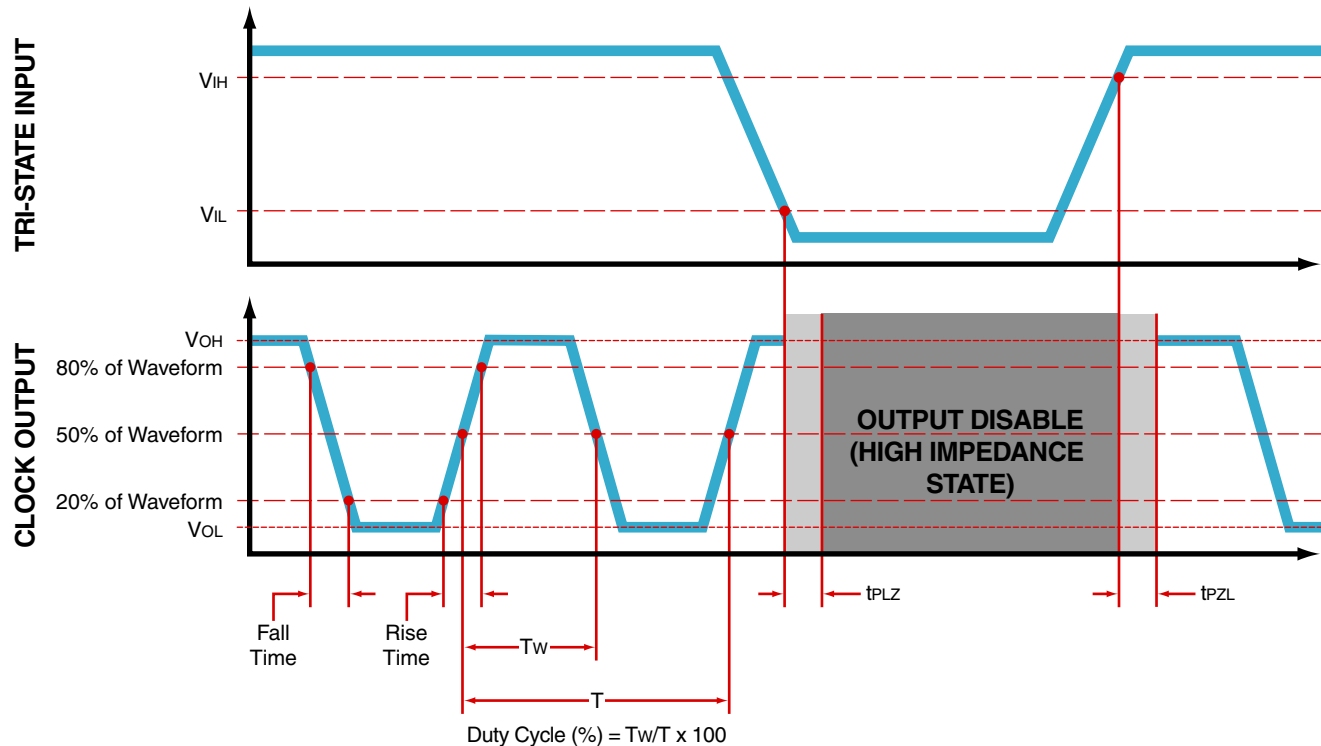
LINE	MARKING
1	EXX.XXX <i>E=Ecliptek Designator XX.XXX=Nominal Frequency in MHz</i>
2	XXYYZ <i>XX=Ecliptek Manufacturing Code Y=Last Digit of the Year ZZ=Week of the Year</i>

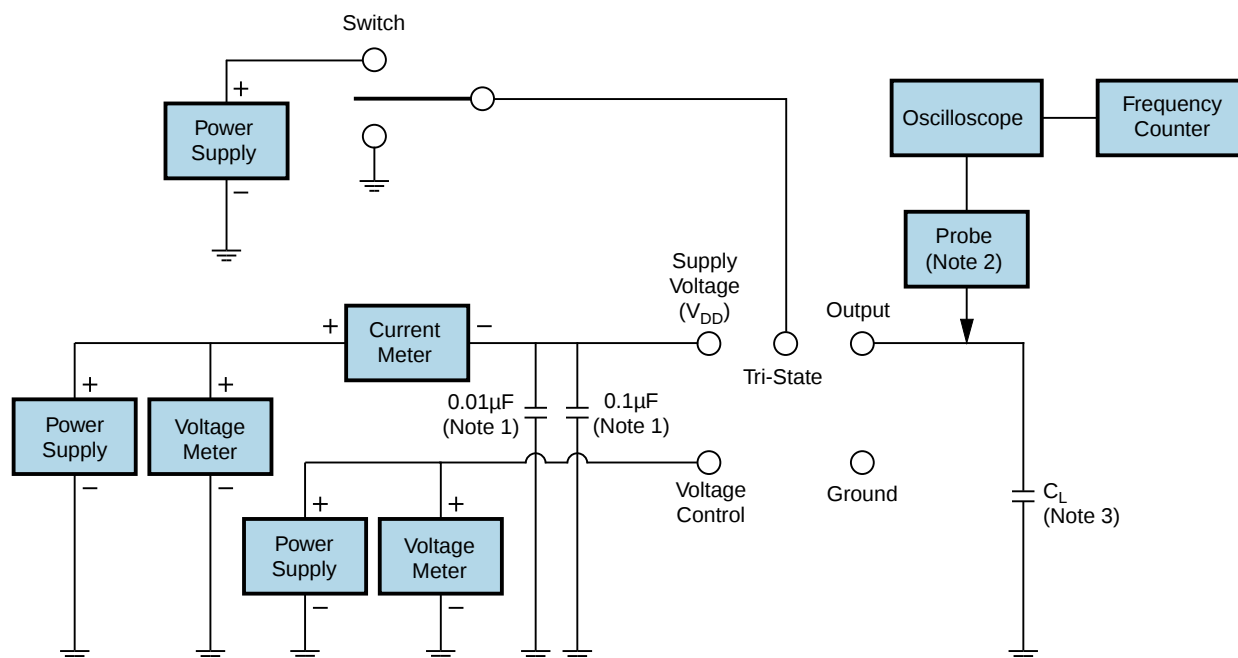
Suggested Solder Pad Layout

All Dimensions in Millimeters



All Tolerances are ± 0.1

EB52E8E2V-12.800M TR **OUTPUT WAVEFORM & TIMING DIAGRAM**



Note 3: Capacitance value C_1 includes sum of all probe and fixture capacitance.

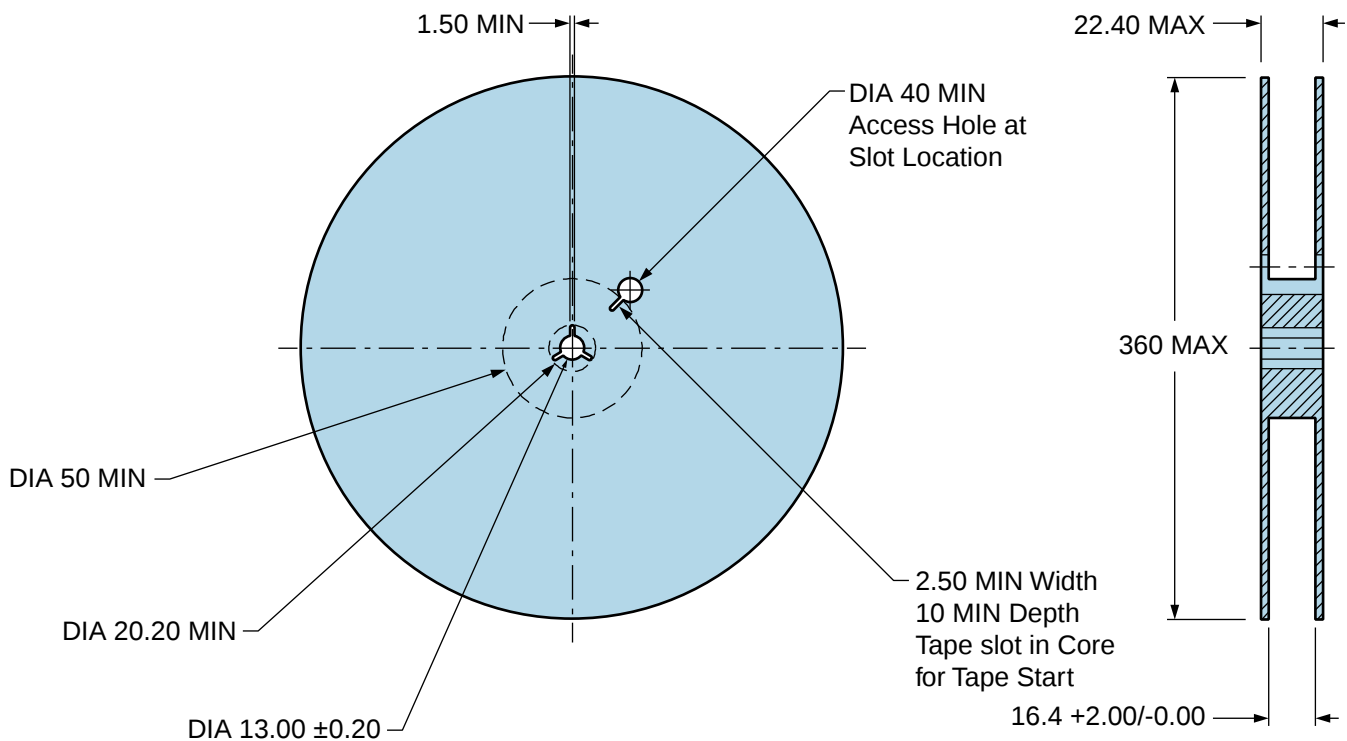
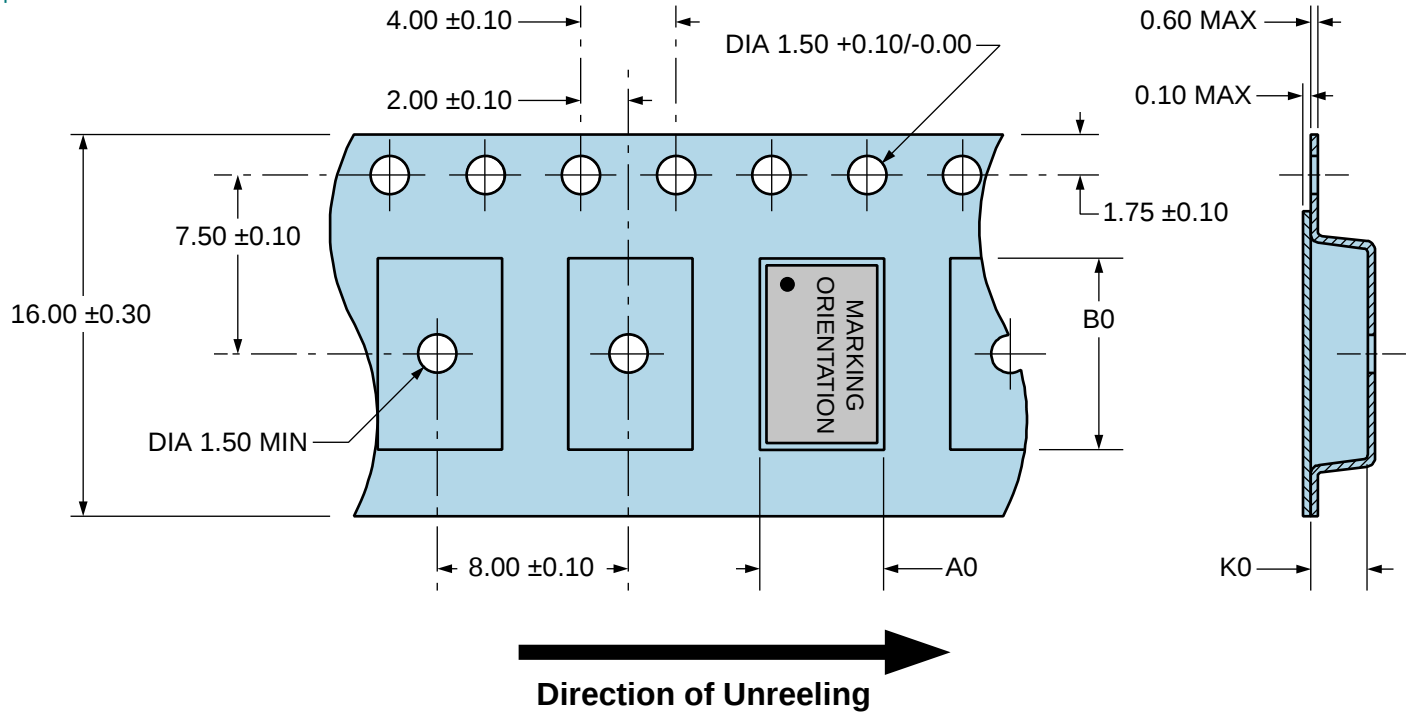
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Tape & Reel Dimensions

Quantity Per Reel: 1,000 units

All Dimensions in Millimeters

Compliant to EIA-481



Recommended Solder Reflow Methods



Low Temperature Infrared/Convection 230°C

T_s MAX to T_L (Ramp-up Rate) 5°C/Second Maximum

Preheat

- Temperature Minimum (T_s MIN) N/A
- Temperature Typical (T_s TYP) 150°C
- Temperature Maximum (T_s MAX) N/A
- Time (t_s MIN) 30 - 60 Seconds

Ramp-up Rate (T_L to T_P) 5°C/Second Maximum

Time Maintained Above:

- Temperature (T_L) 150°C
- Time (t_L) 200 Seconds Maximum

Peak Temperature (T_P) 230°C Maximum

Target Peak Temperature (T_P Target) 230°C Maximum 2 Times

Time within 5°C of actual peak (t_p) 10 Seconds Maximum 2 Times

Ramp-down Rate 5°C/Second Maximum

Time 25°C to Peak Temperature (t) N/A

Moisture Sensitivity Level Level 1

Additional Notes Temperatures shown are applied to body of device.

Low Temperature Manual Soldering

185°C Maximum for 10 Seconds Maximum, 2 times Maximum. (Temperatures listed are applied to body of device.)

High Temperature Manual Soldering

260°C Maximum for 5 Seconds Maximum, 2 times Maximum. (Temperatures listed are applied to body of device.)