E8WSDC12-32.768K TR

Click part number to visit Part Number Details page

Ecliptek

REGULATORY COMPLIANCE (Data Sheet downloaded on Dec 15, 2019)

Lead Free COMPLIANT | EU RoHS 2011/65 + 2015/863 COMPLIANT | China RoHS COMPLIANT | REACH 191 SVHC COMPLIANT

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.

DRC CONFLICT FREE

ITEM DESCRIPTION

Watch Crystal Resonator 1.5mm x 3.2mm x 0.9mm 2 Pad Ceramic Surface Mount (SMD) 32.768KHz ±20ppm at 25°C -40°C to +85°C 12.5pF Parallel Resonant

ELECTRICAL SPECIFICATIONS

Nominal Frequency	32.768KHz
Frequency Tolerance	±20ppm at 25°C
Frequency Stability Temperature Coefficient	-0.04ppm/(Change in °C)² Maximum
Turn over Temperature	25°C ±5°C
Aging at 25°C	±3ppm/year Maximum
Operating Temperature Range	-40°C to +85°C
Load Capacitance	12.5pF Parallel Resonant
Shunt Capacitance	1.0pF Typical, 1.5pF Maximum
Motional Capacitance	4.0fF Typical
Equivalent Series Resistance	70,000 Ohms Maximum
Mode of Operation	Fundamental
Drive Level	0.5µWatt Maximum
Crystal Cut	Tuning Fork
Storage Temperature Range	-40°C to +85°C
Insulation Resistance	500 Megaohms Minimum (Measured at 100Vdc)

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, Condition K
Solderability	MIL-STD-883, Method 2003
Vibration	MIL-STD-883, Method 2007, Condition A

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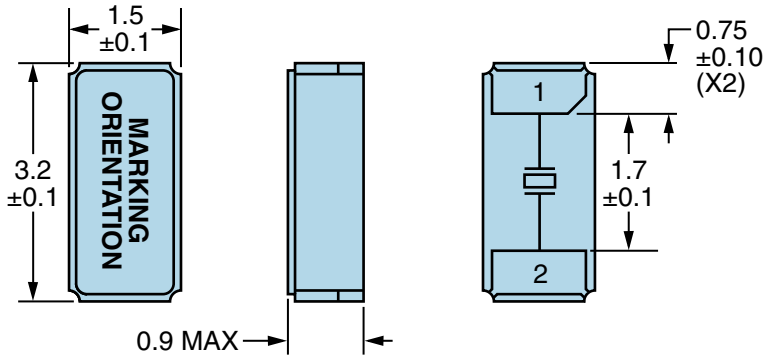
MECHANICAL DIMENSIONS (all dimensions in millimeters)



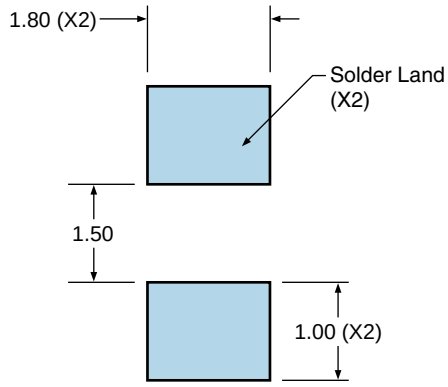
PIN	CONNECTION
1	Crystal
2	Crystal

LINE	MARKING
1	**XXXXXXXX** *XXXXXXXX=Ecliptek Manufacturing Identifier (8 Characters Maximum)*

Seam Sealed
Terminal Plating Thickness: Gold (0.3 to 1.0µm) over Nickel (3.0 to 4.0µm).

Suggested Solder Pad Layout

All Dimensions in Millimeters



All Tolerances are ±0.1

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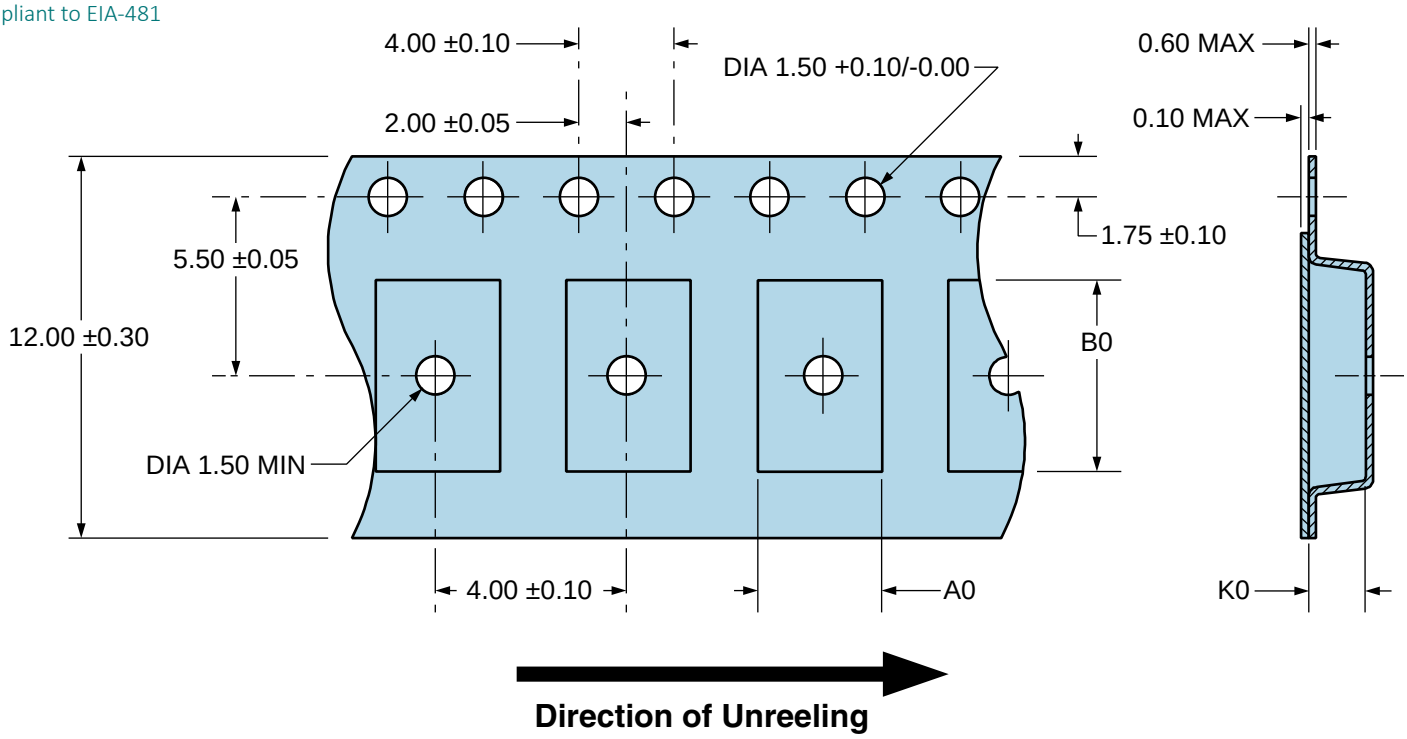
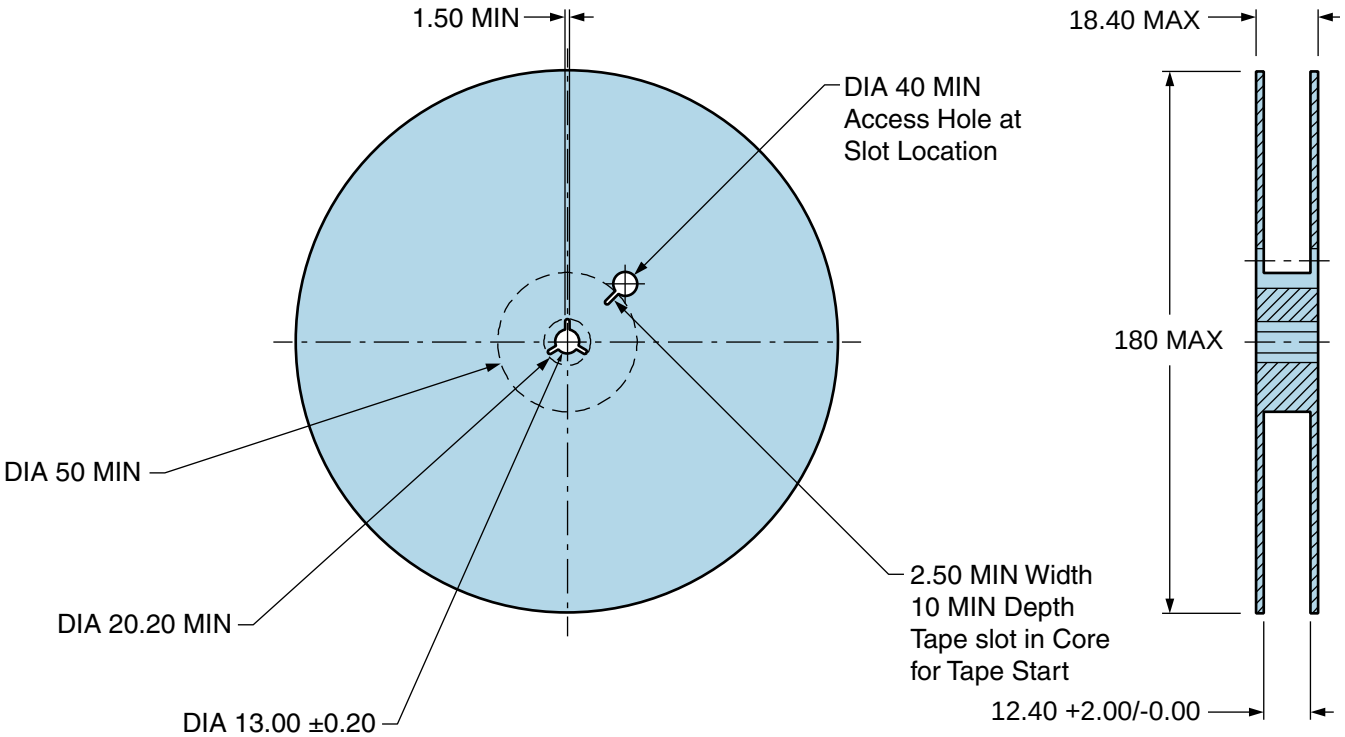
Tape & Reel Dimensions

Quantity Per Reel: 3,000 units

All Dimensions in Millimeters

Compliant to EIA-481





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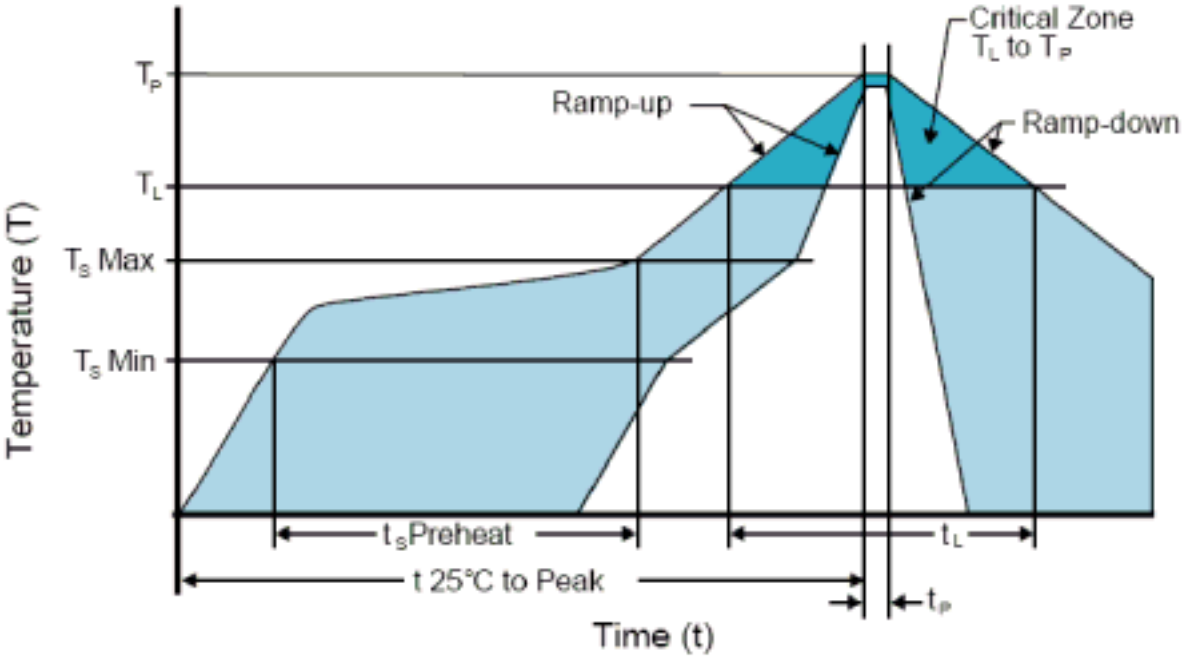
Recommended Solder Reflow Methods



High Temperature Infrared/Convection

T_S MAX to T_L (Ramp-up Rate)	3°C/Second Maximum
Preheat	
- Temperature Minimum (T_S MIN)	150°C
- Temperature Typical (T_S TYP)	175°C
- Temperature Maximum (T_S MAX)	200°C
- Time (t_S MIN)	60 - 180 Seconds
Ramp-up Rate (T_L to T_P)	3°C/Second Maximum
Time Maintained Above:	
- Temperature (T_L)	217°C
- Time (t_L)	60 - 150 Seconds
Peak Temperature (T_P)	260°C Maximum for 10 Seconds Maximum
Target Peak Temperature (T_P Target)	250°C +0/-5°C
Time within 5°C of actual peak (t_p)	20 - 40 Seconds
Ramp-down Rate	6°C/Second Maximum
Time 25°C to Peak Temperature (t)	8 Minutes Maximum
Moisture Sensitivity Level	Level 1
Additional Notes	Temperatures shown are applied to body of device.

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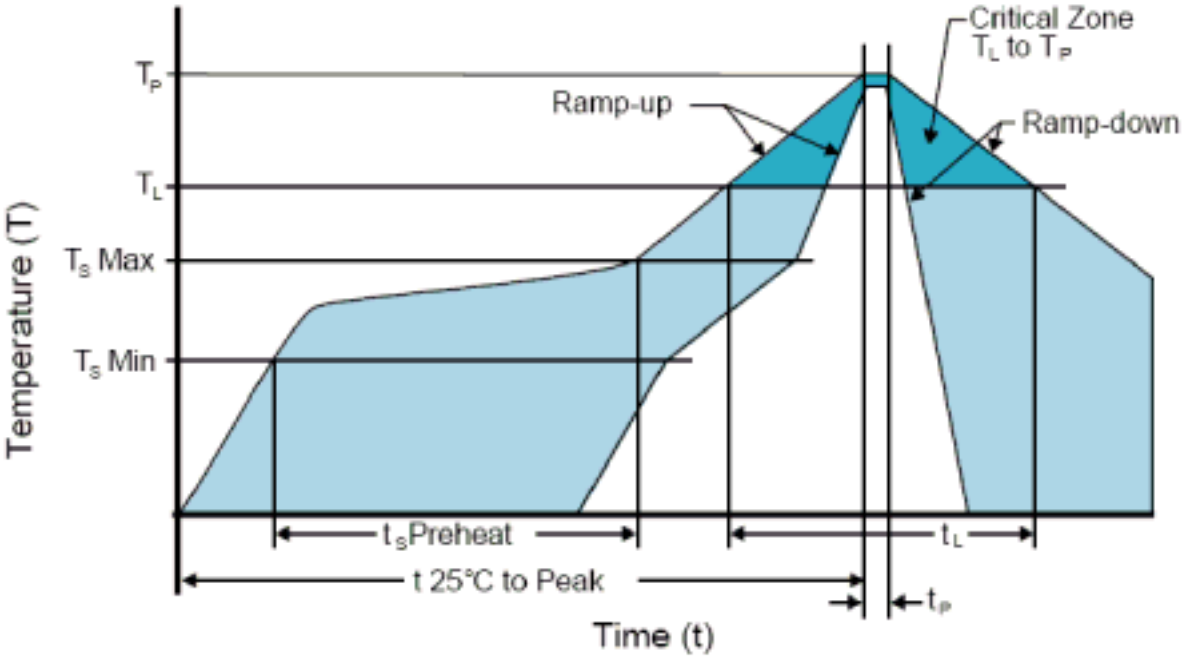

Low Temperature Infrared/Convection 245°C

TS MAX to TL (Ramp-up Rate)	5°C/Second Maximum
Preheat	
- Temperature Minimum (TS MIN)	N/A
- Temperature Typical (TS TYP)	150°C
- Temperature Maximum (TS MAX)	N/A
- Time (tS MIN)	30 - 60 Seconds
Ramp-up Rate (TL to TP)	5°C/Second Maximum
Time Maintained Above:	
- Temperature (TL)	150°C
- Time (tL)	200 Seconds Maximum
Peak Temperature (TP)	245°C Maximum
Target Peak Temperature (TP Target)	245°C Maximum 2 Times / 230°C Maximum 1 Time
Time within 5°C of actual peak (tp)	10 Seconds Maximum 2 Times / 80 Seconds Maximum 1 Time
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 shown are applied to body of device.)

High Temperature Manual Soldering

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

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