

REGULATORY COMPLIANCE

 <p>Lead Free COMPLIANT</p>	 <p>EU RoHS 2011/65 + 2015/863 COMPLIANT</p>	 <p>China RoHS COMPLIANT</p>	 <p>REACH SVHC COMPLIANT</p>
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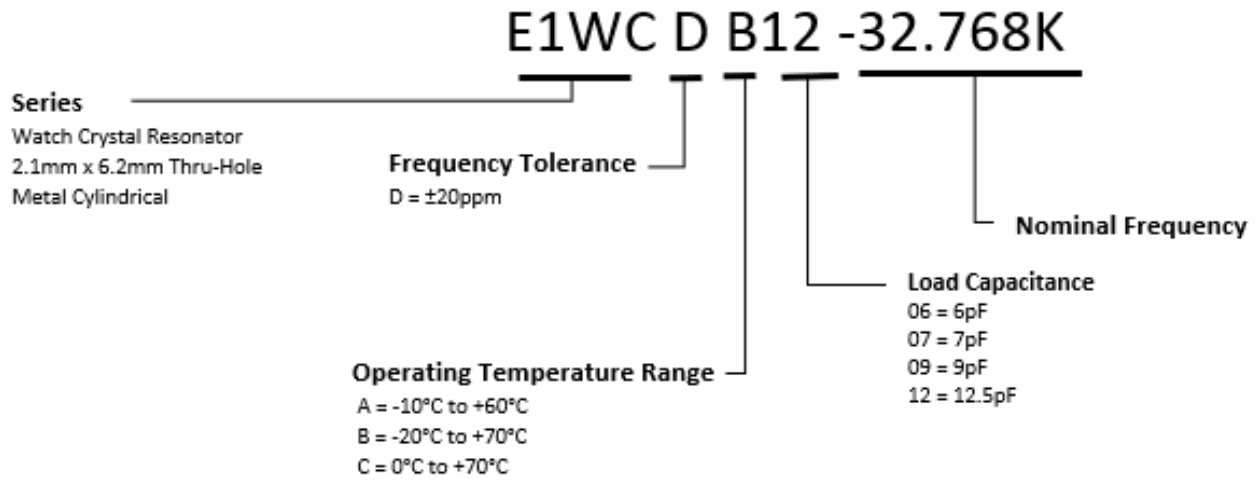
ITEM DESCRIPTION

Watch Crystal Resonator 2.1mm x 6.2mm Thru-Hole Metal Cylindrical 32.768KHz

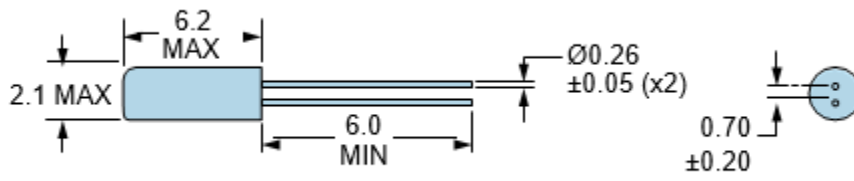
ELECTRICAL SPECIFICATIONS

Nominal Frequency	32.768kHz
Frequency Tolerance	±20ppm at 25°C
Frequency Stability Temperature Coefficient	-0.035±0.01ppm/(Change in °C) ² Maximum
Turn over Temperature	25°C ±5°C
Aging at 25°C	±3ppm/year Maximum
Operating Temperature Range	-10°C to +60°C (See options)
Load Capacitance	6 pF Parallel Resonant 7 pF Parallel Resonant 9 pF Parallel Resonant 12.5pF Parallel Resonant
Shunt Capacitance	0.8 to 1.7pF Typical
Motional Capacitance	1.0 to 4.0fF Typical
Equivalent Series Resistance	35,000 Ohms Maximum
Mode of Operation	Fundamental
Drive Level	1µWatt Maximum
Crystal Cut	Tuning Fork
Storage Temperature Range	-40°C to +85°C
Insulation Resistance	(Measured at 100Vdc) 500 Megaohms Minimum

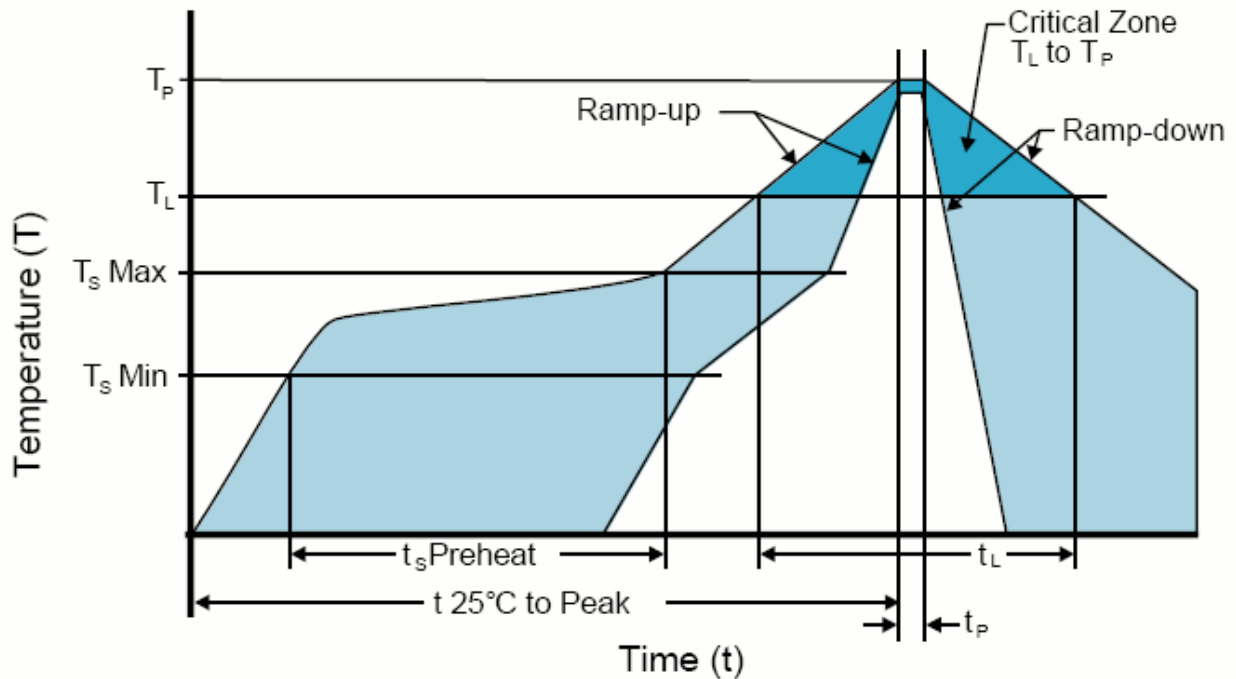
PART NUMBERING GUIDE



MECHANICAL DIMENSIONS



RECOMMENDED SOLDER REFLOW METHOD



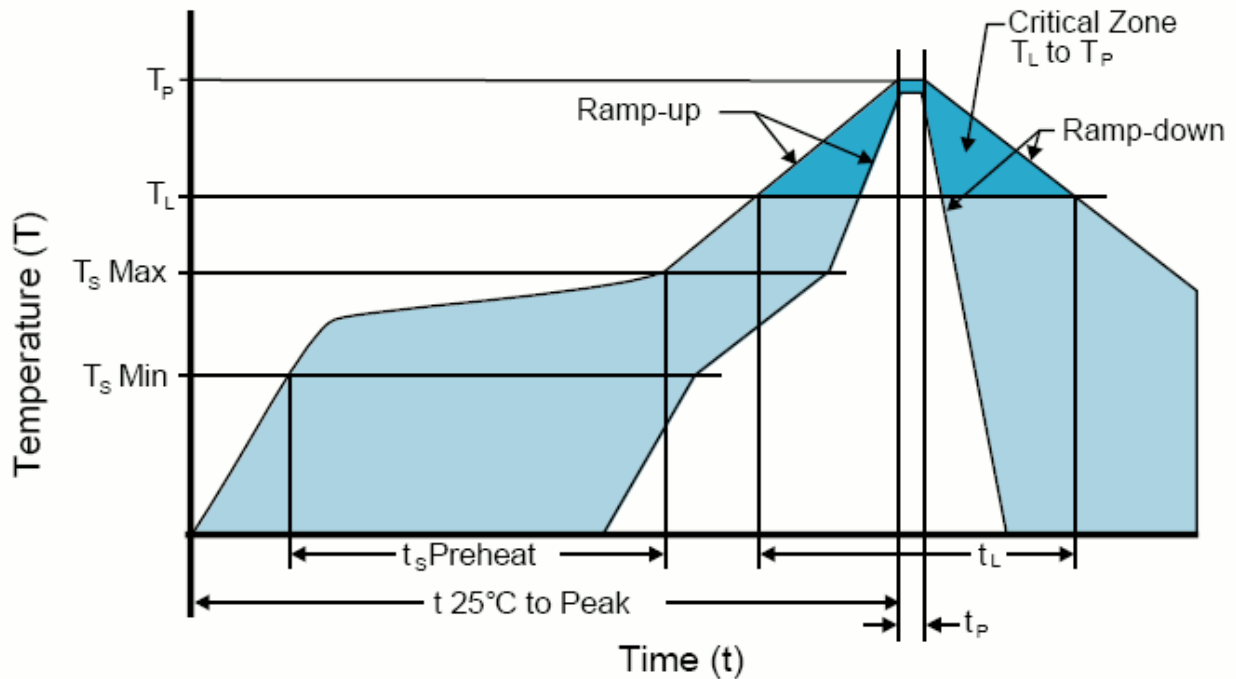
HIGH TEMPERATURE INFRARED/CONVECTION

$T_S\ MAX$ 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)	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.

High Temperature Manual Soldering

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

RECOMMENDED SOLDER REFLOW METHOD



LOW TEMPERATURE INFRARED/CONVECTION	
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)	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)	245°C Maximum
Target Peak Temperature (T _P Target)	245°C Maximum 2 Times / 230°C Maximum 1 Time
Time within 5°C of actual peak (t _p)	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.)