

EC2SMB-6.290M

[Click part number to visit Part Number Details page](#)

REGULATORY COMPLIANCE (Data Sheet downloaded on Mar 10, 2017)



ITEM DESCRIPTION

Quartz Crystal Resonator HC49/UP 2 Pad Surface Mount (SMD) 4.5mm Height Metal Resistance Weld Seal 6.290MHz ± 50 ppm at 25°C, ± 100 ppm over -40°C to +85°C 18pF Parallel Resonant

ELECTRICAL SPECIFICATIONS

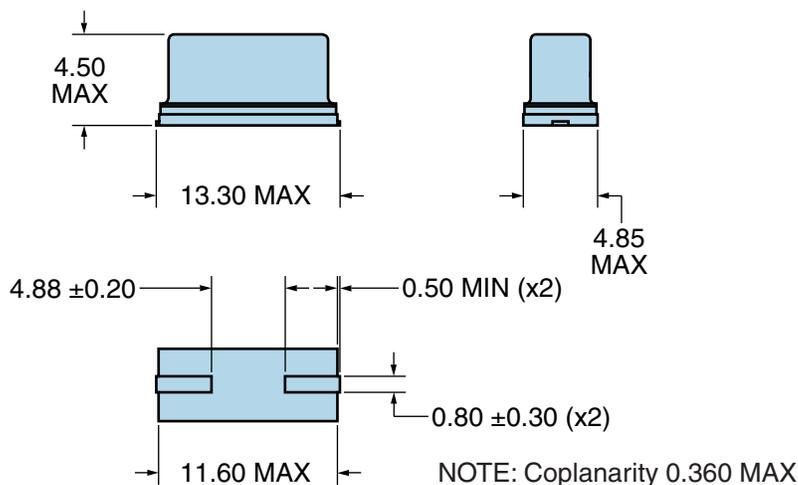
Nominal Frequency	6.290MHz
Frequency Tolerance/Stability	± 50 ppm at 25°C, ± 100 ppm over -40°C to +85°C
Aging at 25°C	± 5 ppm/year Maximum
Load Capacitance	18pF Parallel Resonant
Shunt Capacitance (C0)	7pF Maximum
Equivalent Series Resistance	120 Ohms Maximum
Mode of Operation	AT-Cut Fundamental
Drive Level	1mWatt Maximum
Storage Temperature Range	-40°C to +85°C
Insulation Resistance	500 Megaohms Minimum 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
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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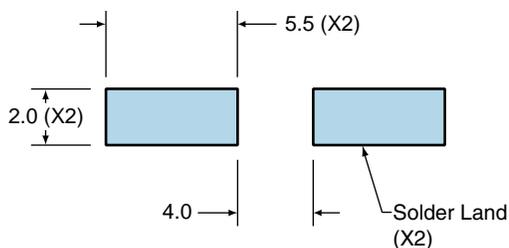
MECHANICAL DIMENSIONS (all dimensions in millimeters)



LINE	MARKING
1	E6.2900M E=Ecliptek Designator M=Frequency Unit of Measure

Suggested Solder Pad Layout

All Dimensions in Millimeters

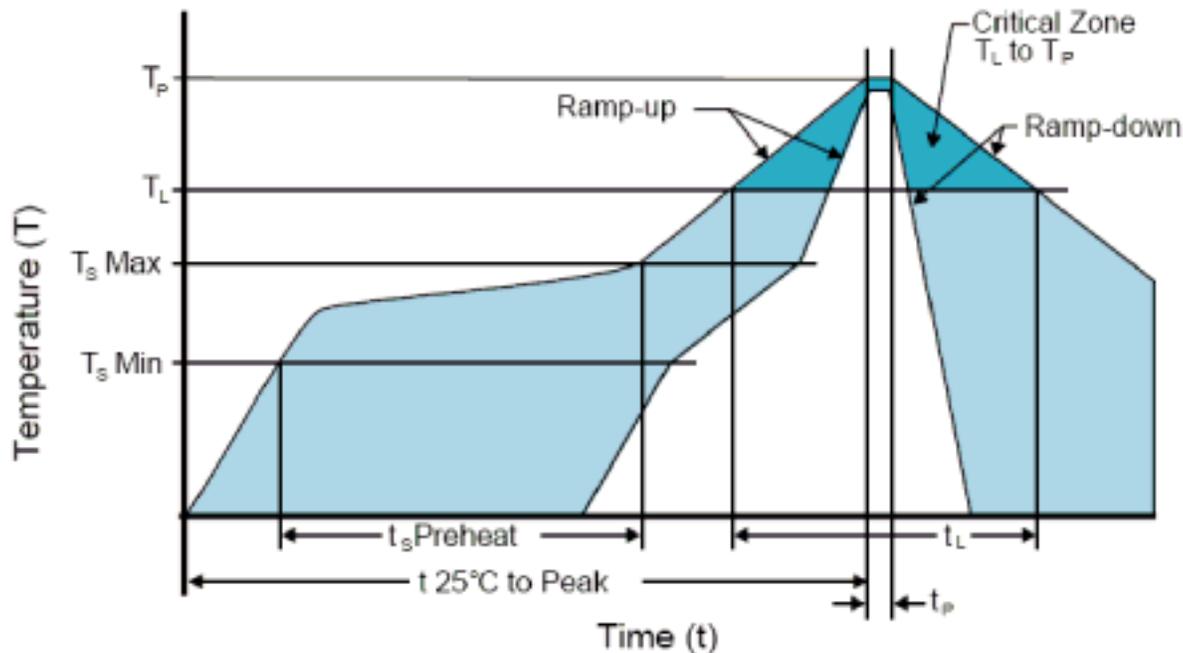


All Tolerances are ±0.1

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Recommended Solder Reflow Methods



High Temperature Infrared/Convection

Ts MAX to TL (Ramp-up Rate)	3°C/Second Maximum
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Preheat

- Temperature Minimum (Ts MIN)	150°C
- Temperature Typical (Ts TYP)	175°C
- Temperature Maximum (Ts MAX)	200°C
- Time (ts MIN)	60 - 180 Seconds

Ramp-up Rate (TL to TP)	3°C/Second Maximum
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Time Maintained Above:

- Temperature (TL)	217°C
- Time (tL)	60 - 150 Seconds

Peak Temperature (TP)	260°C Maximum for 10 Seconds Maximum
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Target Peak Temperature (TP Target)	250°C +0/-5°C
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Time within 5°C of actual peak (tp)	20 - 40 Seconds
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Ramp-down Rate	6°C/Second Maximum
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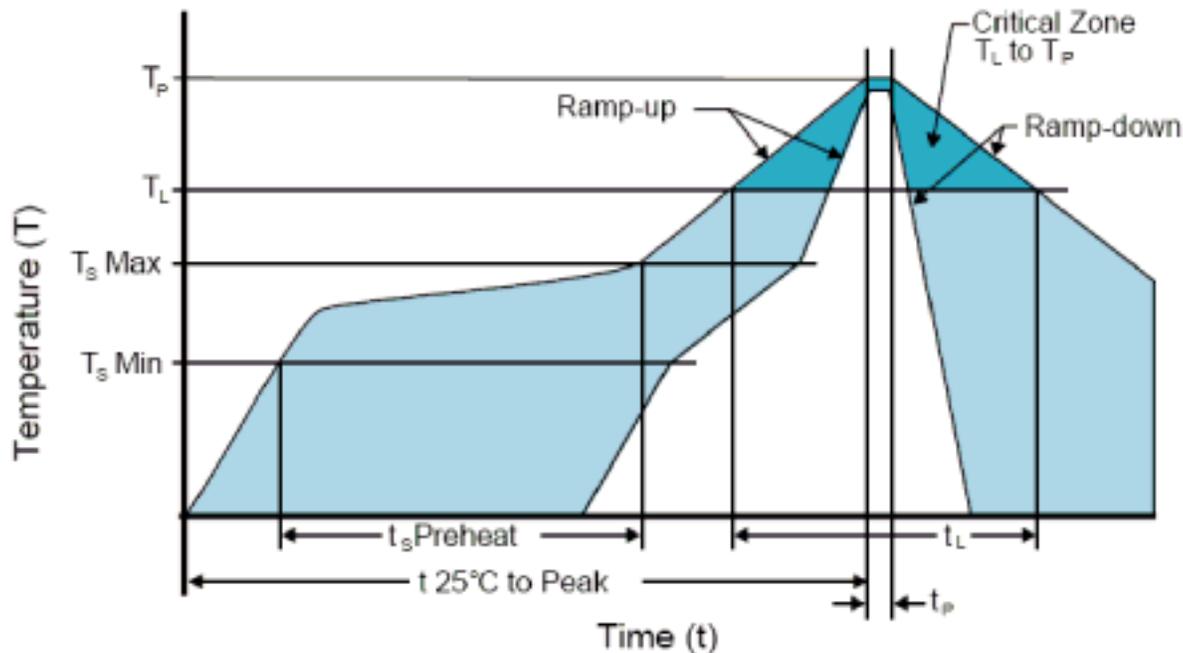
Time 25°C to Peak Temperature (t)	8 Minutes Maximum
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Moisture Sensitivity Level	Level 1
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Recommended Solder Reflow Methods



Low Temperature Infrared/Convection 245°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)	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

Low Temperature Manual Soldering

185°C Maximum for 10 Seconds Maximum, 2 times Maximum.

High Temperature Manual Soldering

260°C Maximum for 5 Seconds Maximum, 2 times Maximum.