

E2SDA20-8.192M



ITEM DESCRIPTION

Quartz Crystal Resonator HC49/UP 2 Pad Surface Mount (SMD) 4.5mm Height Metal Resistance Weld Seal 8.192MHz ± 30 ppm at 25°C, ± 50 ppm over 0°C to +70°C 20pF Parallel Resonant

ELECTRICAL SPECIFICATIONS

Nominal Frequency	8.192MHz
Frequency Tolerance/Stability	± 30 ppm at 25°C, ± 50 ppm over 0°C to +70°C
Aging at 25°C	± 5 ppm/year Maximum
Load Capacitance	20pF Parallel Resonant
Shunt Capacitance	7pF Maximum
Equivalent Series Resistance	90 Ohms Maximum
Mode of Operation	AT-Cut Fundamental
Drive Level	1mWatt Maximum
Storage Temperature Range	-40°C to +125°C
Insulation Resistance	500 Megaohms Minimum (Measured at 100Vdc)

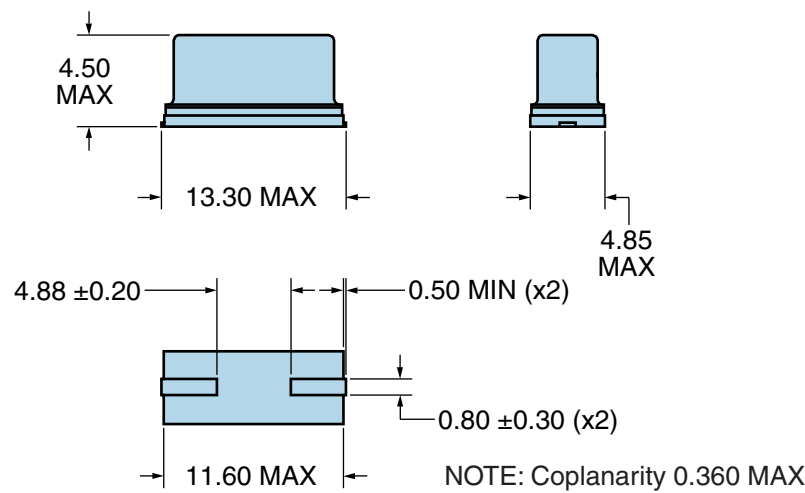
ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

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-202, Method 213, Condition C
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL1
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

E2SDA20-8.192M

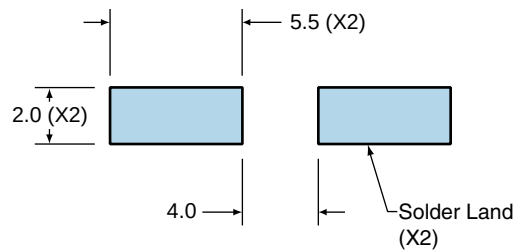
MECHANICAL DIMENSIONS (all dimensions in millimeters)

LINE	MARKING
1	E8.1920M E=Ecliptek Designator



Suggested Solder Pad Layout

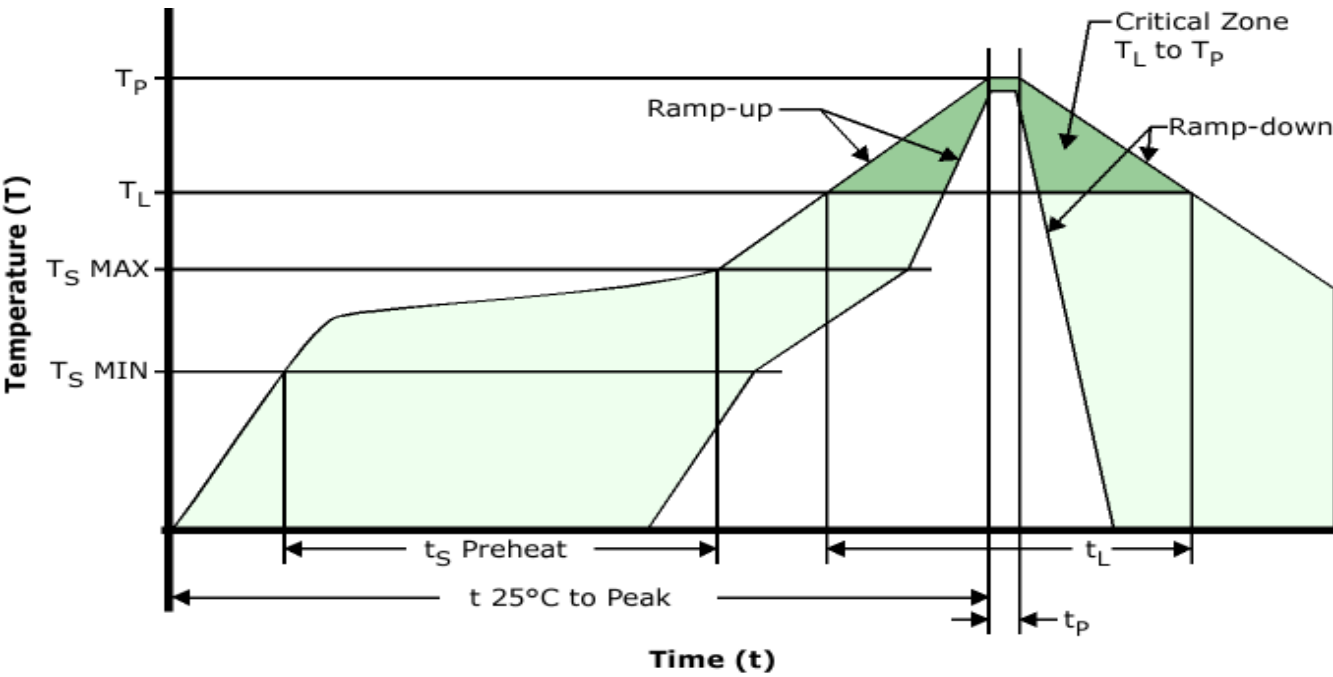
All Dimensions in Millimeters



All Tolerances are ±0.1

E2SDA20-8.192M

Recommended Solder Reflow Methods

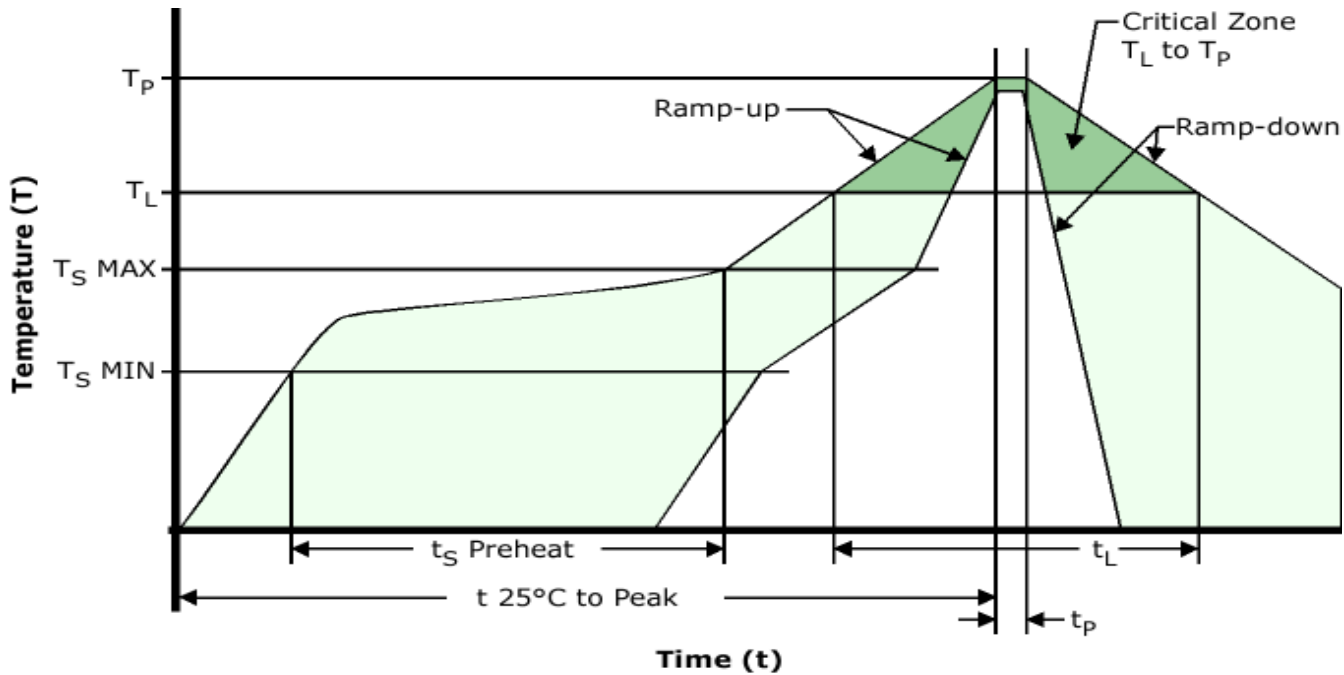


High Temperature Infrared/Convection

Ts MAX to TL (Ramp-up Rate)	3°C/Second Maximum
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
Time Maintained Above:	
- Temperature (TL)	217°C
- Time (tL)	60 - 150 Seconds
Peak Temperature (TP)	260°C Maximum for 10 Seconds Maximum
Target Peak Temperature (TP Target)	250°C +0/-5°C
Time within 5°C of actual peak (tp)	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

E2SDA20-8.192M

Recommended Solder Reflow Methods



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
----------------------------	---------

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.