

EC2SMD-4.800M TR

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

REGULATORY COMPLIANCE (Data Sheet downloaded on Sep 22, 2016)



ITEM DESCRIPTION

Quartz Crystal Resonator HC49/UP 2 Pad Surface Mount (SMD) 4.5mm Height Metal Resistance Weld Seal 4.800MHz ± 30 ppm at 25°C, ± 50 ppm over -20°C to +70°C 18pF Parallel Resonant

ELECTRICAL SPECIFICATIONS

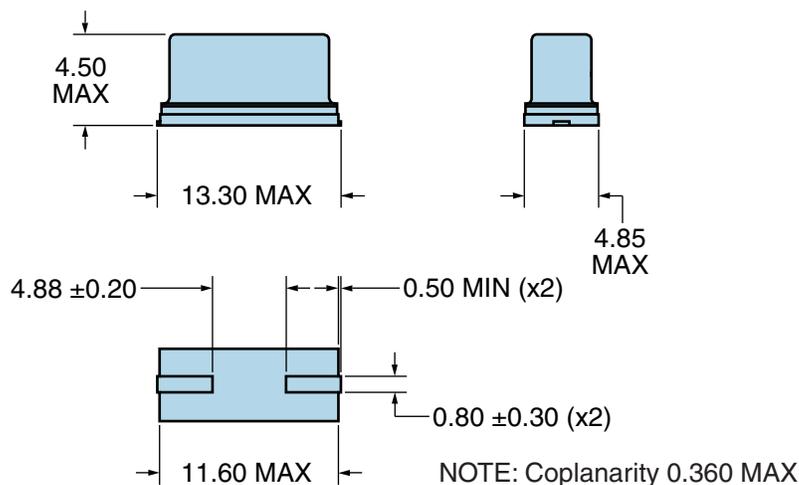
Nominal Frequency	4.800MHz
Frequency Tolerance/Stability	± 30 ppm at 25°C, ± 50 ppm over -20°C to +70°C
Aging at 25°C	± 5 ppm/year Maximum
Load Capacitance	18pF Parallel Resonant
Shunt Capacitance (C0)	7pF Maximum
Equivalent Series Resistance	200 Ohms Maximum
Mode of Operation	AT-Cut Fundamental
Drive 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

EC2SMD-4.800M TR [Click part number to visit Part Number Details page](#)

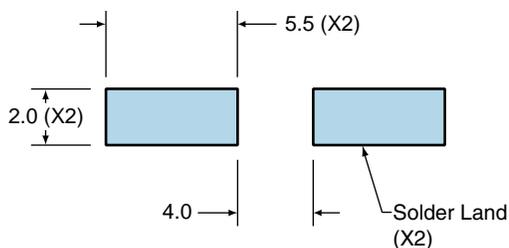
MECHANICAL DIMENSIONS (all dimensions in millimeters)



LINE	MARKING
1	E4.8000M E=Ecliptek Designator M=Frequency Unit of Measure

Suggested Solder Pad Layout

All Dimensions in Millimeters

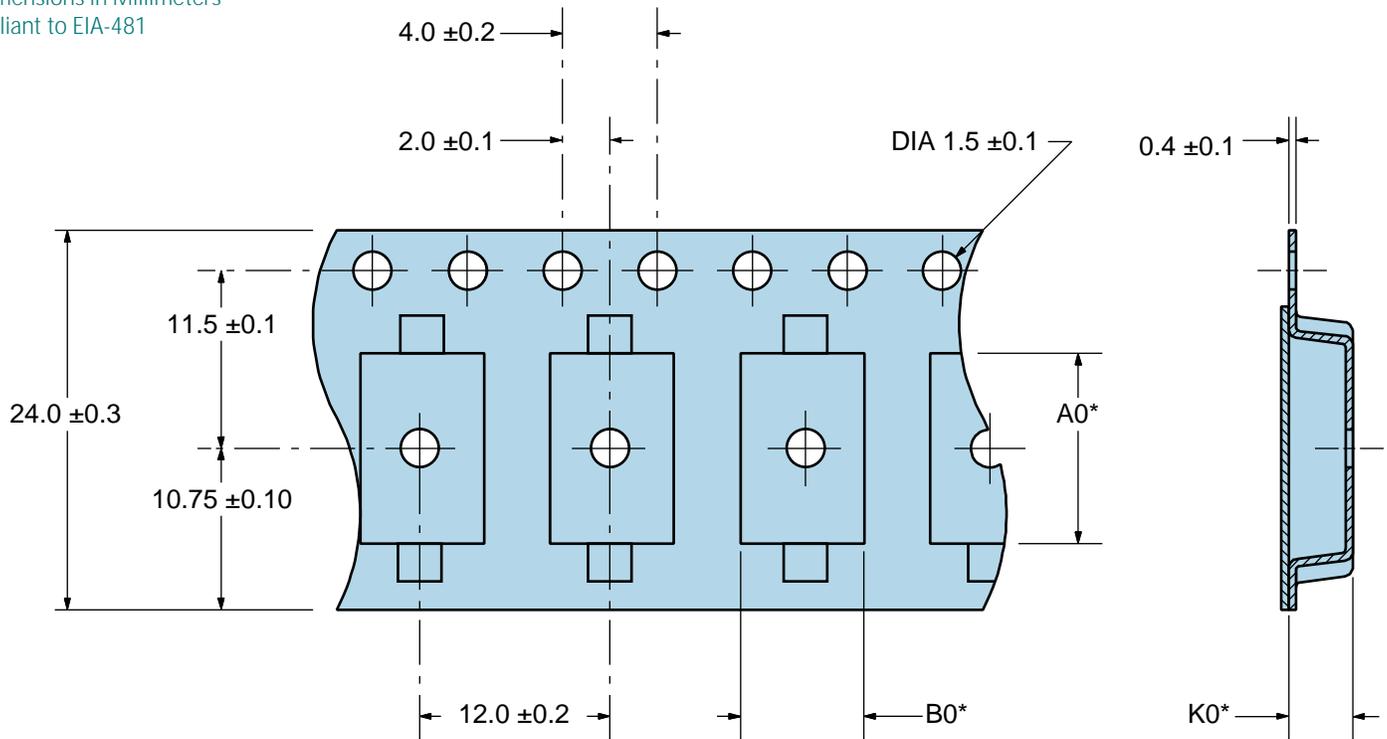


All Tolerances are ± 0.1

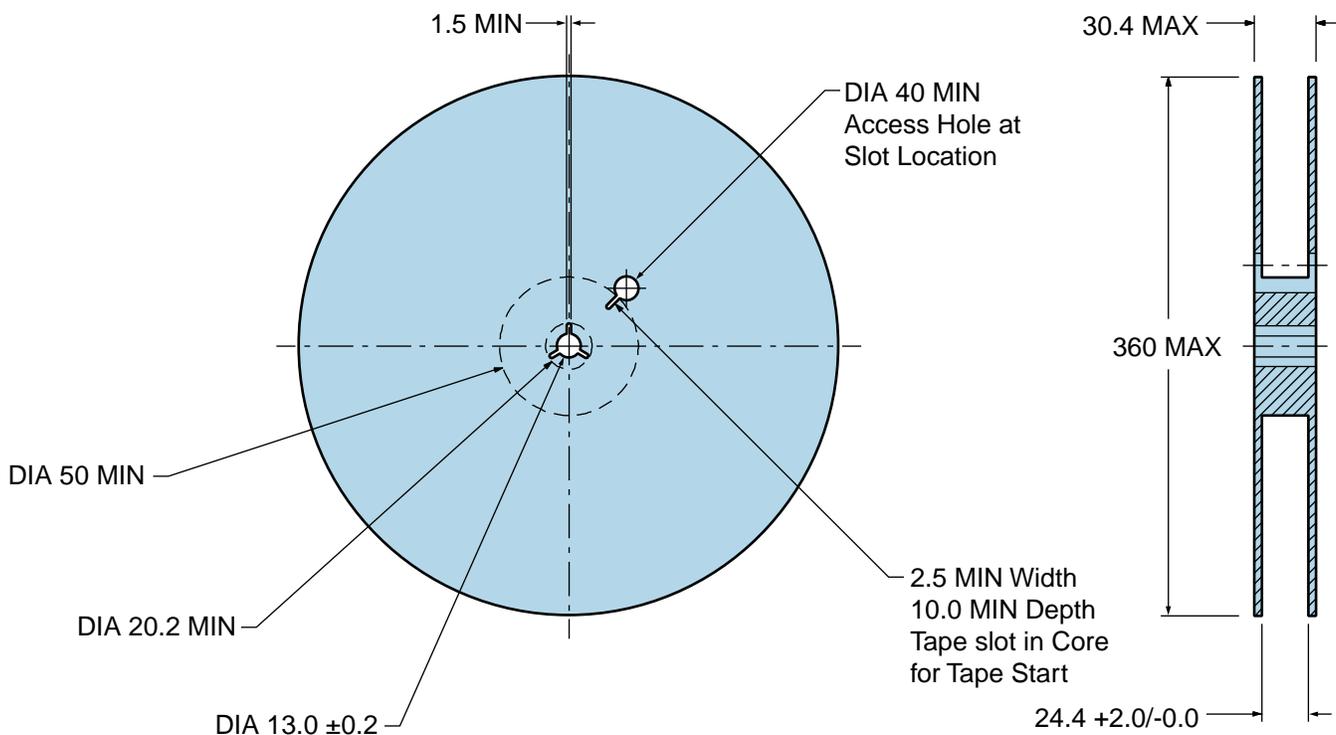
EC2SMD-4.800M TR

Tape & Reel Dimensions

Quantity Per Reel: 1,000 units
 All Dimensions in Millimeters
 Compliant to EIA-481



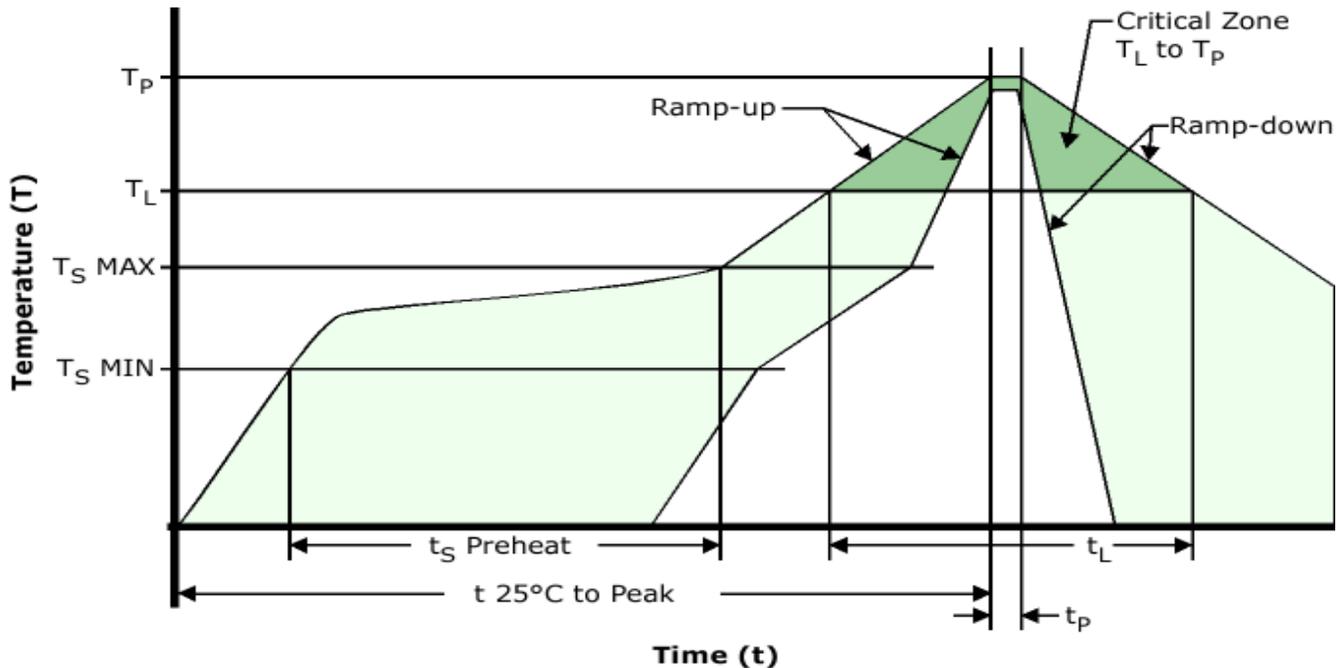
*Compliant to EIA 481A



EC2SMD-4.800M TR

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

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

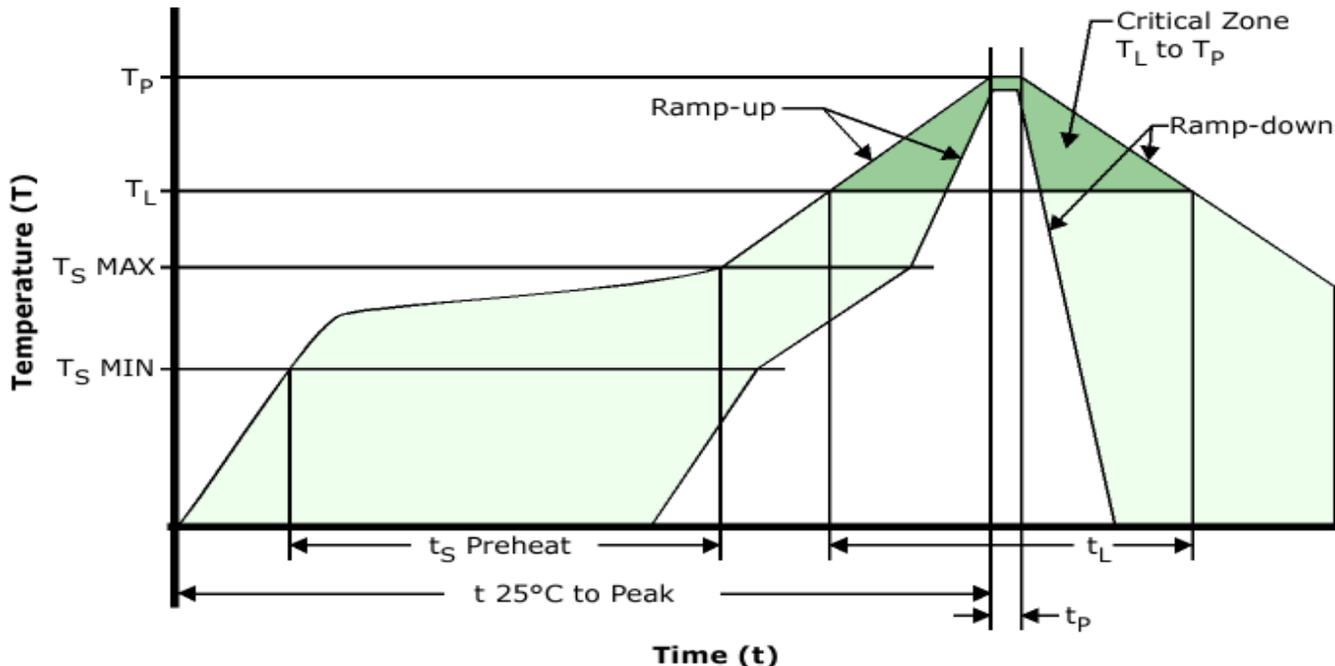
Ramp-down Rate	6°C/Second Maximum
-----------------------	--------------------

Time 25°C to Peak Temperature (t)	8 Minutes Maximum
--	-------------------

Moisture Sensitivity Level	Level 1
-----------------------------------	---------

EC2SMD-4.800M TR [Click part number to visit Part Number Details page](#)

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.