

EC1SMF-16-25.000M TR

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

REGULATORY COMPLIANCE (Data Sheet downloaded on Nov 30, 2017)



ITEM DESCRIPTION

Quartz Crystal Resonator HC49/UP Short 2 Pad Surface Mount (SMD) 3.2mm Height Metal Resistance Weld Seal 25.000MHz $\pm 15\text{ppm}$ at 25°C, $\pm 30\text{ppm}$ over 0°C to +70°C 16pF Parallel Resonant

ELECTRICAL SPECIFICATIONS

Nominal Frequency	25.000MHz
Frequency Tolerance/Stability	$\pm 15\text{ppm}$ at 25°C, $\pm 30\text{ppm}$ over 0°C to +70°C
Aging at 25°C	$\pm 5\text{ppm/year}$ Maximum
Load Capacitance	16pF Parallel Resonant
Shunt Capacitance (C0)	7pF Maximum
Equivalent Series Resistance	40 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

 Click part number to visit
Part Number Details page

3.20 MAX

13.30 MAX

4.85 MAX

8 $\pm$ 0.20

0.50 MIN (x2)

0.80 $\pm$ 0.30 (x2)

11.60 MAX

NOTE: Coplanarity

NOTE: Coplanarity 0.360 MAX

Figure 1: Dimensions of the test specimen. The diagram shows two rectangular specimens. The left specimen has a height of 2.0 (X2) and a width of 4.0. The right specimen has a width of 5.5 (X2). A label 'Solder Land (X2)' points to the bottom edge of the right specimen.

1-800-ECLIPTEK or 714.433.1200

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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

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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.