

E1SLAS-4.19403M TR



ITEM DESCRIPTION

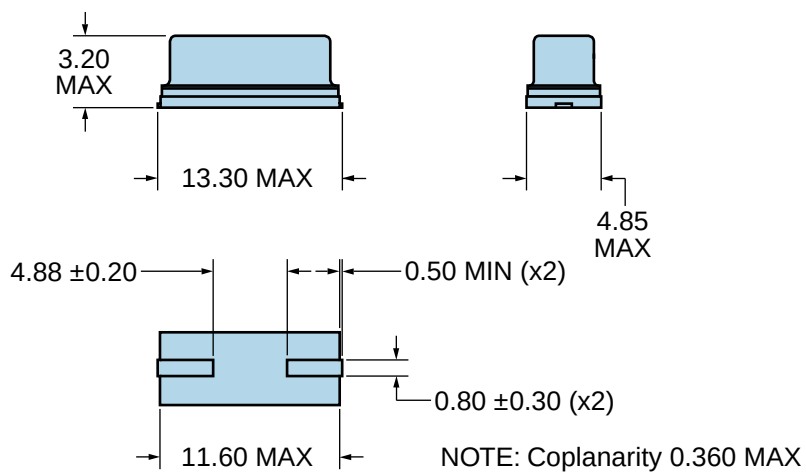
Quartz Crystal Resonator HC49/UP Short 2 Pad Surface Mount (SMD) 3.2mm Height Metal Resistance Weld Seal
4.19403MHz $\pm 15\text{ppm}$ at 25°C, $\pm 20\text{ppm}$ over -20°C to +70°C Series Resonant

ELECTRICAL SPECIFICATIONS

Nominal Frequency	4.19403MHz
Frequency Tolerance/Stability	$\pm 15\text{ppm}$ at 25°C, $\pm 20\text{ppm}$ over -20°C to +70°C
Aging at 25°C	$\pm 5\text{ppm/year}$ Maximum
Load Capacitance	Series Resonant
Shunt Capacitance	7pF Maximum
Equivalent Series Resistance	200 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

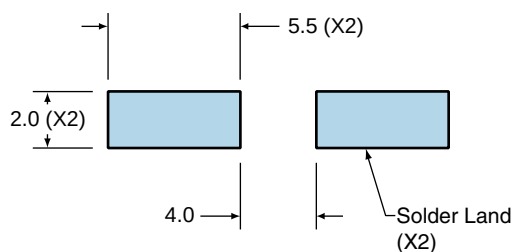
ESD Susceptibility	MIL-STD-883, Method 3015, Class 1, HBM: 1500V
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Flammability	UL94-V0
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Moisture Resistance	MIL-STD-883, Method 1004
Moisture 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

E1SLAS-4.19403M TR **MECHANICAL DIMENSIONS (all dimensions in millimeters)**

LINE	MARKING
1	E4.1940M E=Ecliptek Designator

Suggested Solder Pad Layout

All Dimensions in Millimeters



All Tolerances are ±0.1

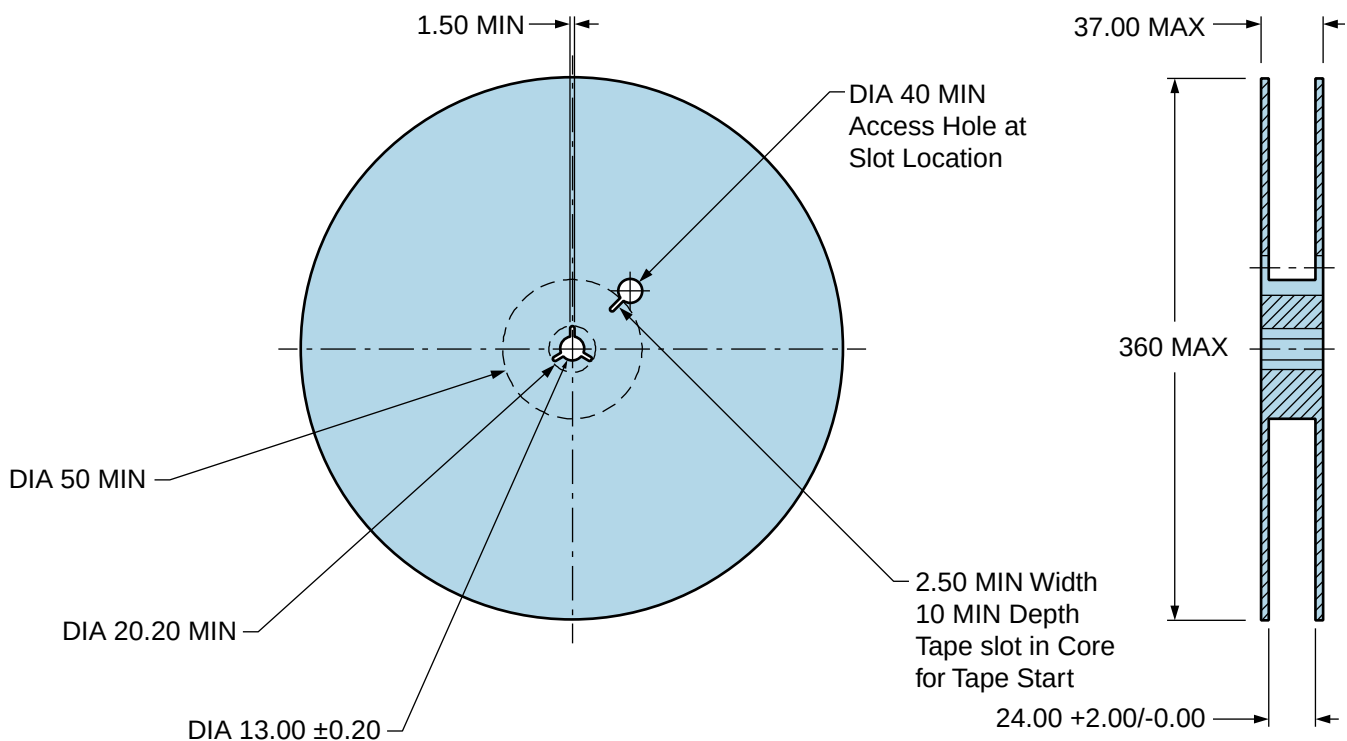
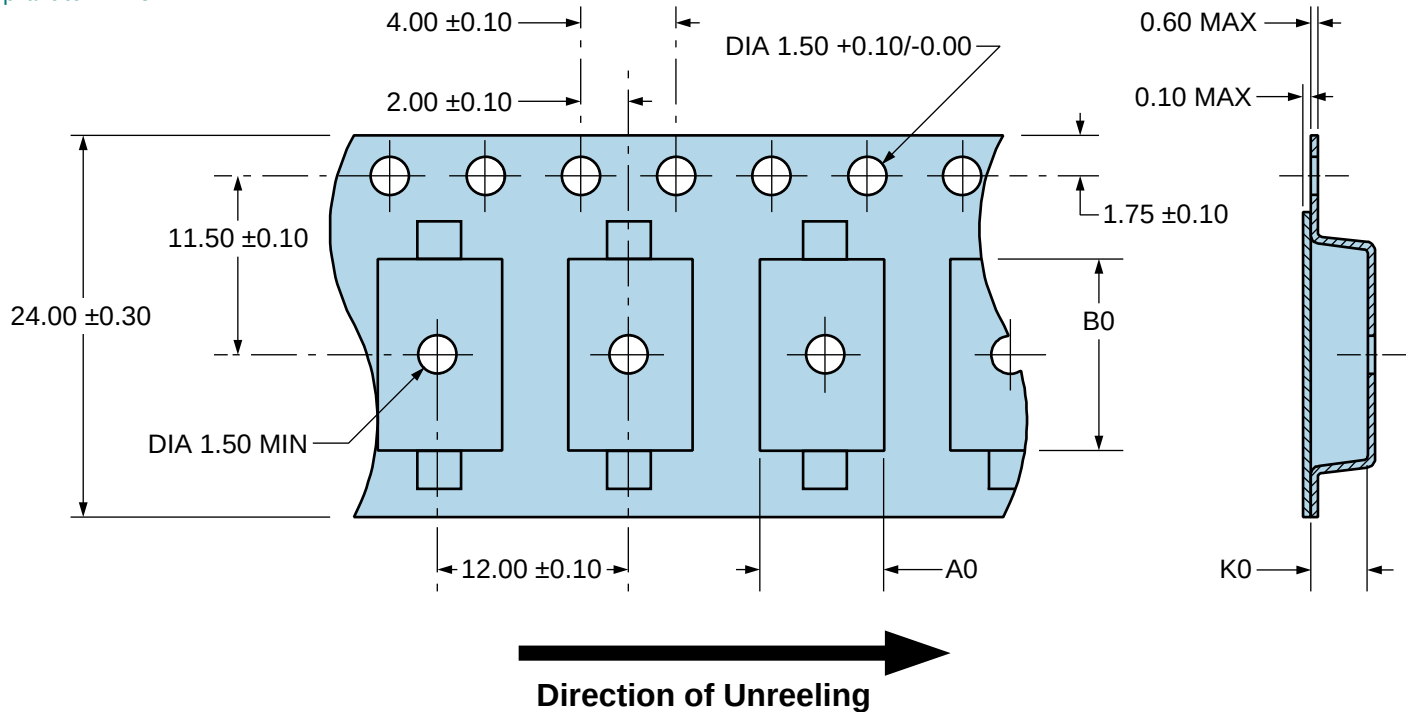
E1SLAS-4.19403M TR

Tape & Reel Dimensions

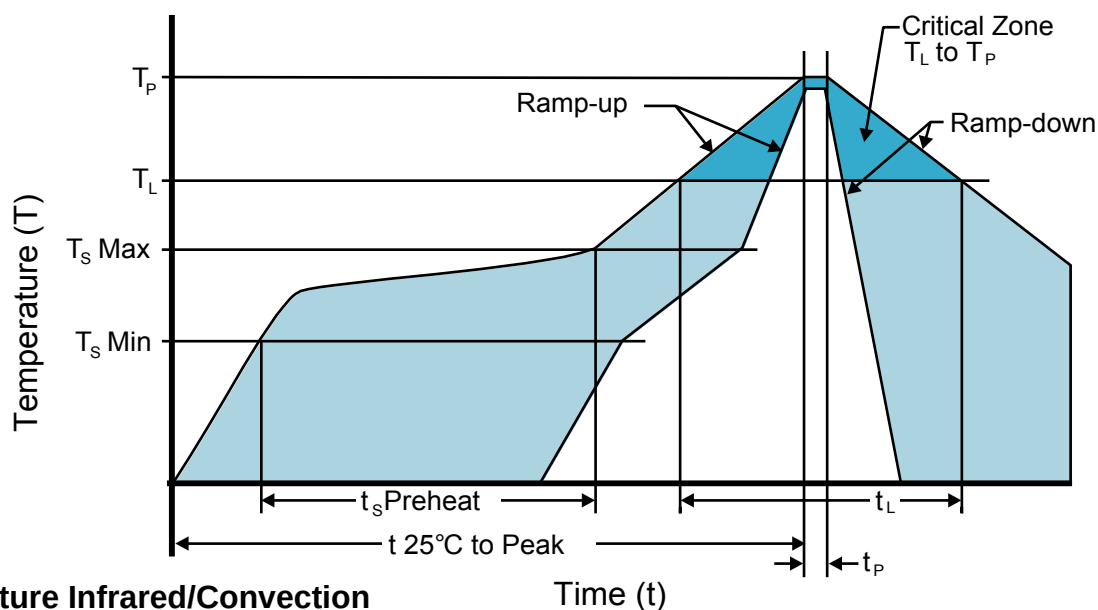
Quantity Per Reel: 1,000 units

All Dimensions in Millimeters

Compliant to EIA-481



Recommended Solder Reflow Methods

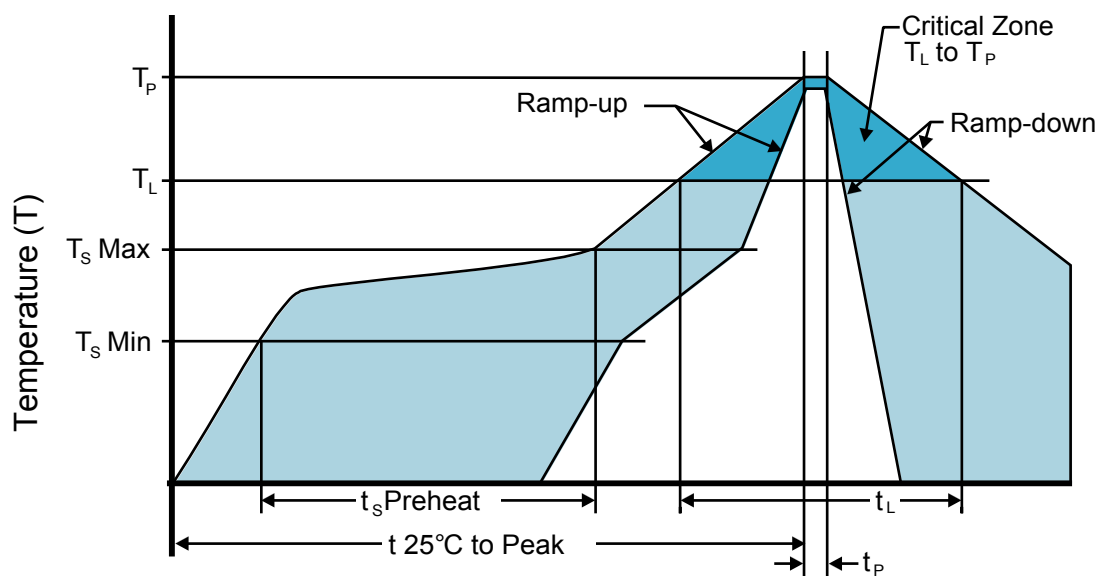


High Temperature Infrared/Convection

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 Time (t)

$T_S \text{ MAX to } T_L$ (Ramp-up Rate) 5°C/Second Maximum

Preheat

- Temperature Minimum ($T_S \text{ MIN}$) N/A
- Temperature Typical ($T_S \text{ TYP}$) 150°C
- Temperature Maximum ($T_S \text{ MAX}$) N/A
- Time ($t_s \text{ MIN}$) 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 ($T_P \text{ Target}$) 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.