

EA3250FA18-25.000M TR

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REGULATORY COMPLIANCE (Data Sheet downloaded on Aug 17, 2020)


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ITEM DESCRIPTION

Quartz Crystal Resonator 3.2mm x 5.0mm x 1.0mm 4 Pad Ceramic Surface Mount (SMD) 25.000MHz \pm 30ppm at 25°C, \pm 50ppm over -40°C to +85°C 18pF Parallel Resonant

ELECTRICAL SPECIFICATIONS

Nominal Frequency	25.000MHz
Frequency Tolerance/Stability	\pm 30ppm at 25°C, \pm 50ppm over -40°C to +85°C
Aging at 25°C	\pm 3ppm/Year Maximum
Load Capacitance	18pF Parallel Resonant
Shunt Capacitance	5pF Maximum
Equivalent Series Resistance	40 Ohms Maximum
Mode of Operation	AT-Cut Fundamental
Drive Level	100 μ Watts Maximum
Spurious Response	-3dB Minimum (Measured from Fo to Fo+5000ppm)
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-883, Method 2002, Condition B
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
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

EA3250FA18-25.000M TR [Click part number to visit Part Number Details page](#)

MECHANICAL DIMENSIONS (all dimensions in millimeters)



PIN	CONNECTION
1	Crystal
2	Cover/Ground
3	Crystal
4	Cover/Ground

LINE	MARKING
1	E25.00 E=Ecliptek Designator
2	XXXXX XXXXX=Ecliptek Manufacturing Identifier

Seam Sealed
 Terminal Plating Thickness: Gold (0.3 to 1.0 μ m) over Nickel (1.27 to 8.89 μ m)

Suggested Solder Pad Layout

All Dimensions in Millimeters



All Tolerances are ± 0.1

EA3250FA18-25.000M TR [Click part number to visit Part Number Details page](#)

Recommended Solder Reflow Methods



High Temperature Infrared/Convection

$T_S \text{ MAX}$ to T_L (Ramp-up Rate)	3°C/Second Maximum
Preheat	
- Temperature Minimum ($T_S \text{ MIN}$)	150°C
- Temperature Typical ($T_S \text{ TYP}$)	175°C
- Temperature Maximum ($T_S \text{ MAX}$)	200°C
- Time ($t_s \text{ MIN}$)	60 - 180 Seconds
Ramp-up Rate (T_L to T_P)	3°C/Second Maximum
Time Maintained Above:	
- Temperature (T_L)	217°C
- Time (t_L)	60 - 150 Seconds
Peak Temperature (T_P)	260°C Maximum for 10 Seconds Maximum
Target Peak Temperature ($T_P \text{ Target}$)	250°C +0/-5°C
Time within 5°C of actual peak (t_p)	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
Additional Notes	Temperature shown are applied to body of device.

EA3250FA18-25.000M 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
Additional Notes	Temperature shown are applied to body of device.

Low Temperature Manual Soldering

185°C Maximum for 10 Seconds Maximum, 2 times Maximum. (Temperature shown are applied to body of device.)

High Temperature Manual Soldering

260°C Maximum for 5 Seconds Maximum, 2 times Maximum. (Temperature shown are applied to body of device.)

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