

EB2532YA12-18.432M TR [Click part number to visit Part Number Details page](#)
REGULATORY COMPLIANCE (Data Sheet downloaded on Jun 22, 2020)

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ITEM DESCRIPTION

Automotive Grade Quartz Crystal Resonator 2.5mm x 3.2mm x 0.8mm 4 Pad Ceramic Surface Mount (SMD)
18.432MHz ± 30 ppm at 25°C, ± 50 ppm over -40°C to +125°C 12pF Parallel Resonant


ELECTRICAL SPECIFICATIONS

| | |
|-------------------------------|---|
| Nominal Frequency | 18.432MHz |
| Frequency Tolerance/Stability | ± 30 ppm at 25°C, ± 50 ppm over -40°C to +125°C |
| Aging at 25°C | ± 3 ppm/Year Maximum |
| Load Capacitance | 12pF Parallel Resonant |
| Shunt Capacitance (C0) | 3pF Maximum |
| Equivalent Series Resistance | 70 Ohms Maximum |
| Mode of Operation | AT-Cut Fundamental |
| Drive Level | 200 μ Watts Maximum |
| Crystal Cut | AT-Cut |
| Spurious Response | -3dB Minimum (Measured from Fo to Fo +5000ppm) |
| Storage Temperature Range | -50°C to +150°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 |

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MECHANICAL DIMENSIONS (all dimensions in millimeters)



| PIN | CONNECTION |
|-----|--------------|
| 1 | Crystal |
| 2 | Cover/Ground |
| 3 | Crystal |
| 4 | No Connect |

| LINE | MARKING |
|------|---|
| 1 | |
| 2 | XXX XXX=Ecliptek Manufacturing Identifier |

Note: Chamfer not shown.

Seam Sealed

Terminal Plating Thickness: Gold (0.3 to 1.0µm) over Nickel (1.27 to 8.89µm).

Suggested Solder Pad Layout

All Dimensions in Millimeters



All Tolerances are ±0.1

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Tape & Reel Dimensions

Quantity Per Reel: 3,000 units

All Dimensions in Millimeters

Compliant to EIA-481



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Recommended Solder Reflow Methods



High Temperature Infrared/Convection

| | |
|---|--|
| $T_s \text{ MAX}$ to T_L (Ramp-up Rate) | $3^\circ\text{C/Second Maximum}$ |
| 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) | $3^\circ\text{C/Second Maximum}$ |
| Time Maintained Above: | |
| - Temperature (T_L) | 217°C |
| - Time (t_L) | 60 - 150 Seconds |
| Peak Temperature (T_P) | $260^\circ\text{C Maximum for 10 Seconds Maximum}$ |
| Target Peak Temperature ($T_P \text{ Target}$) | $250^\circ\text{C} +0/-5^\circ\text{C}$ |
| Time within 5°C of actual peak (t_p) | 20 - 40 Seconds |
| Ramp-down Rate | $6^\circ\text{C/Second Maximum}$ |
| Time 25°C to Peak Temperature (t) | 8 Minutes Maximum |
| Moisture Sensitivity Level | Level 1 |
| Additional Notes | Temperatures shown are applied to body of device. |

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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 |
| Additional Notes | Temperatures shown are applied to body of device. |

Low Temperature Manual Soldering

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

High Temperature Manual Soldering

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

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