# EB2532YA12-13.560M TR

Click part number to visit Part Number Details page

Ecliptek

## REGULATORY COMPLIANCE (Data Sheet downloaded on Jun 22, 2020)

Lead Free COMPLIANT | EU RoHS 2011/65 + 2015/863 COMPLIANT | China RoHS COMPLIANT | REACH 191 SVHC COMPLIANT

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Regulatory Compliance standards are subject to updates by governing bodies. Click the badges to download the latest compliance docs for this part number directly from Ecliptek.

DRC CONFLICT FREE

## ITEM DESCRIPTION

Automotive Grade Quartz Crystal Resonator 2.5mm x 3.2mm x 0.8mm 4 Pad Ceramic Surface Mount (SMD)
13.560MHz ±30ppm at 25°C, ±50ppm over -40°C to +125°C 12pF Parallel Resonant

AEC-Q200

## ELECTRICAL SPECIFICATIONS

| | |
|---|---|
| **Nominal Frequency** | 13.560MHz |
| **Frequency Tolerance/Stability** | ±30ppm at 25°C, ±50ppm over -40°C to +125°C |
| **Aging at 25°C** | ±3ppm/Year Maximum |
| **Load Capacitance** | 12pF Parallel Resonant |
| **Shunt Capacitance (C0)** | 3pF Maximum |
| **Equivalent Series Resistance** | 80 Ohms Maximum |
| **Mode of Operation** | AT-Cut Fundamental |
| **Drive Level** | 200µWatts 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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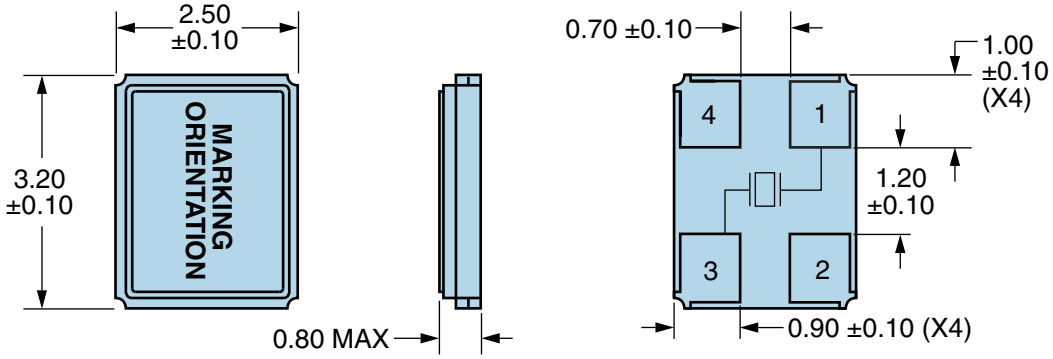
## MECHANICAL DIMENSIONS (all dimensions in millimeters)




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

| LINE | MARKING |
|---|---|
| 1 | |
| 2 | **XXX**<br>*XXX=Ecliptek*<br>*Manufacturing Identifier* |

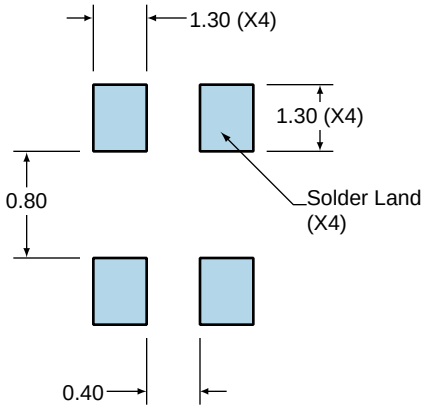
**Note:** Chamfer not shown.

**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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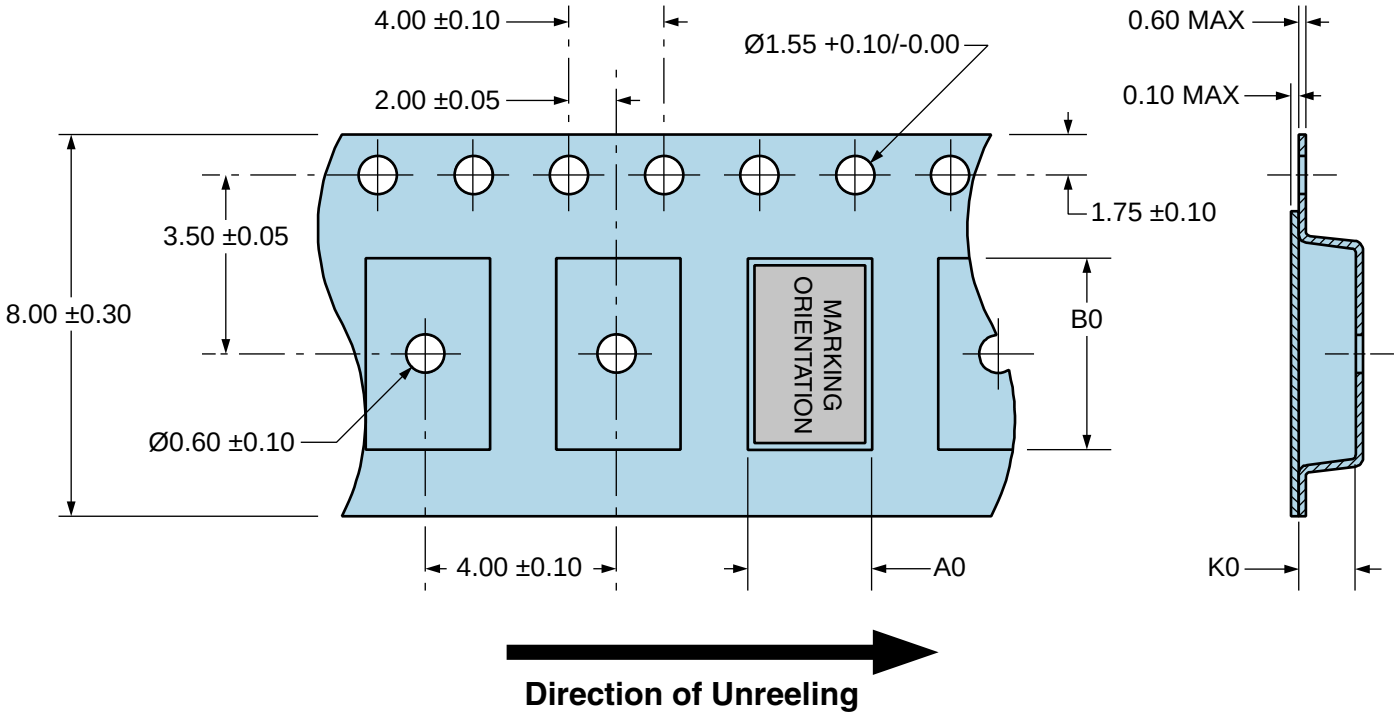
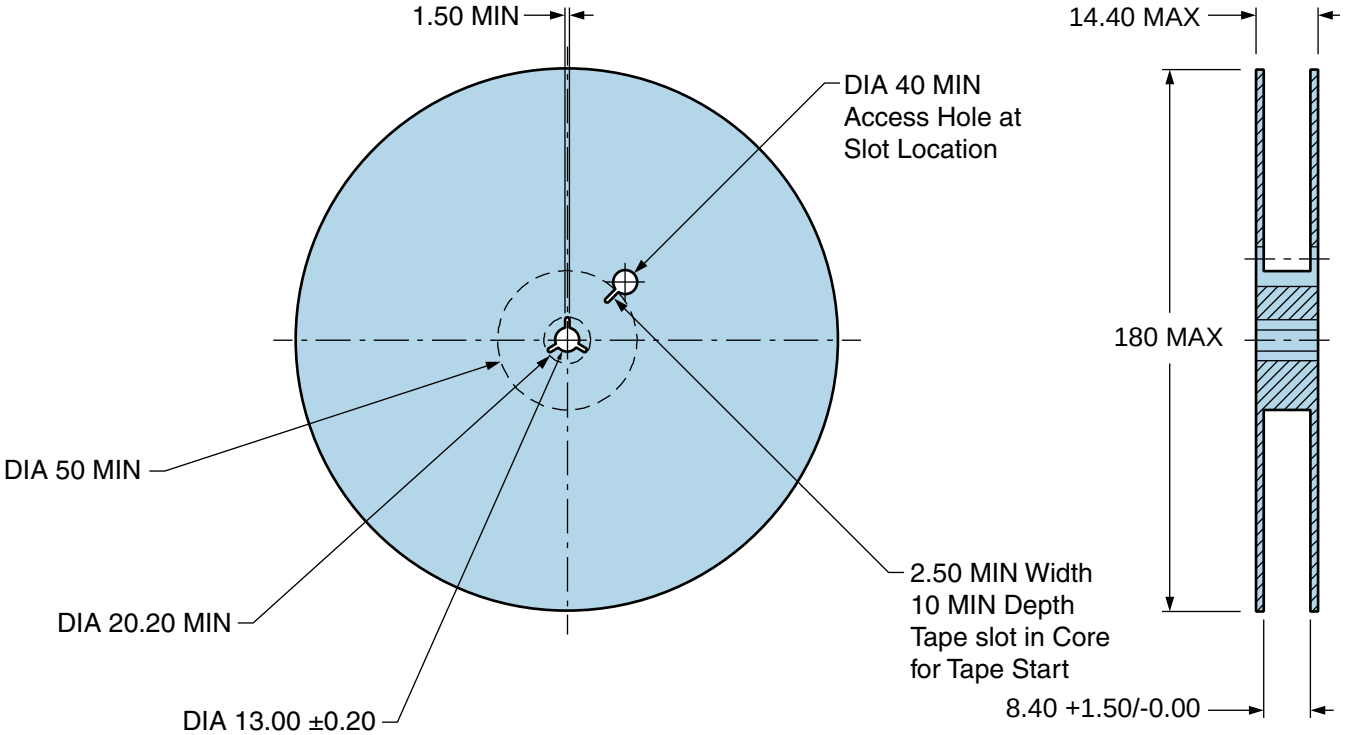
## Tape & Reel Dimensions

Quantity Per Reel: 3,000 units

All Dimensions in Millimeters

Compliant to EIA-481



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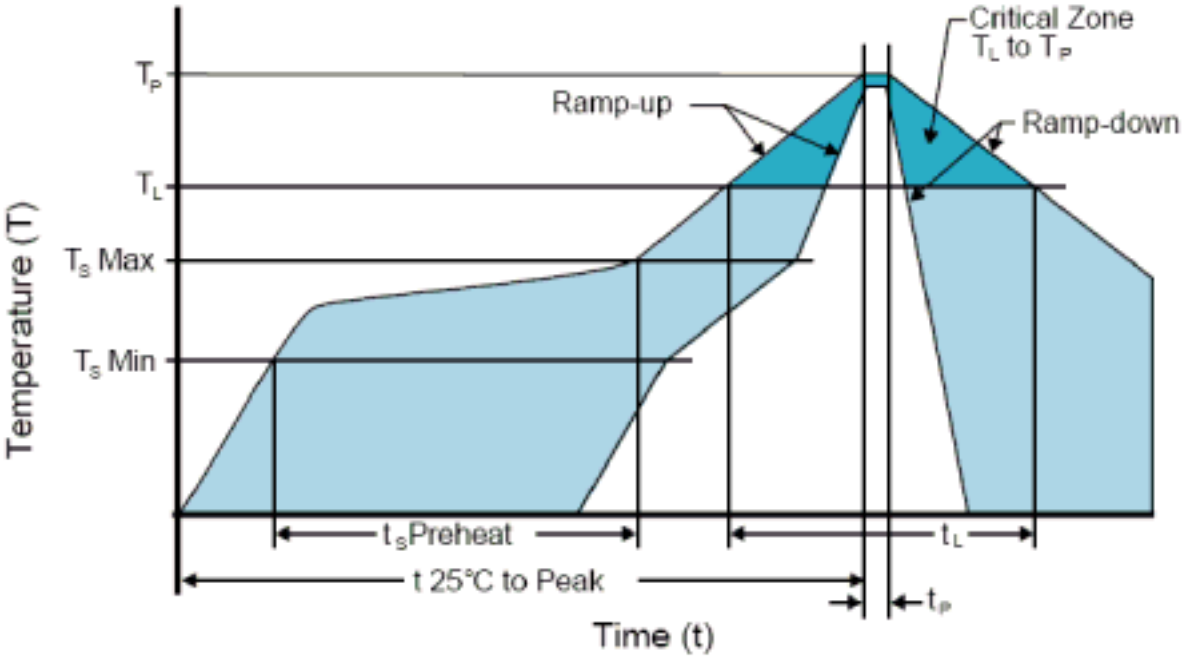
## Recommended Solder Reflow Methods




## High Temperature Infrared/Convection

| | |
|---|---|
| **$T_S$ MAX to $T_L$ (Ramp-up Rate)** | 3°C/Second Maximum |
| **Preheat** | |
| **- Temperature Minimum ($T_S$ MIN)** | 150°C |
| **- Temperature Typical ($T_S$ TYP)** | 175°C |
| **- Temperature Maximum ($T_S$ MAX)** | 200°C |
| **- Time ($t_S$ 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 ($T_P$ 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** | Temperatures shown are applied to body of device. |



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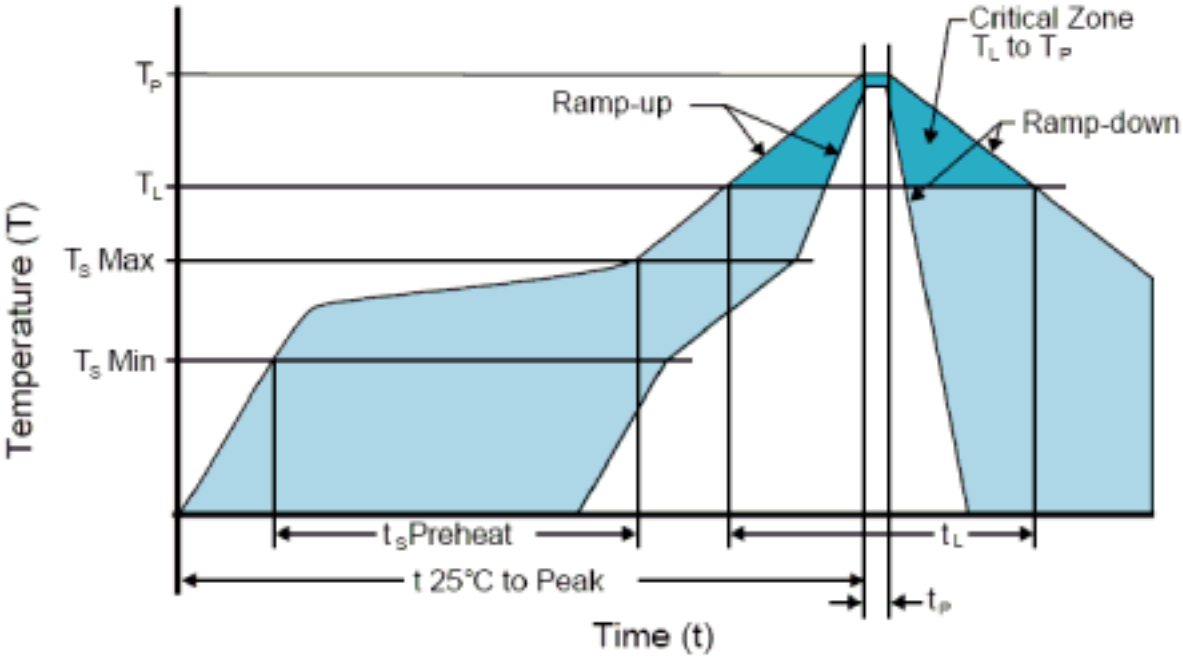


## Low Temperature Infrared/Convection 245°C

| | |
|---|---|
| **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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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
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- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
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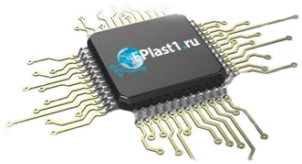
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.




**Как с нами связаться**

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