

ABS07-120-32.768kHz-T; TUNING FORK CRYSTAL

32.768kHz SMD; ESR OPTIMIZED CRYSTAL



RoHS/RoHS II



3.2 x 1.5 x 0.9 mm

Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive - MSL = N/A: Not Applicable

FEATURES:

- Guaranteed ESR of 60kΩ Maximum for Low Power Designs
- 0.9mm height ideal for high density circuit boards
- Seam sealed ceramic package offers excellent environmental & heat resistance
- Extended Operating temperature of -40°C to +85°C for industrial applications

APPLICATIONS:

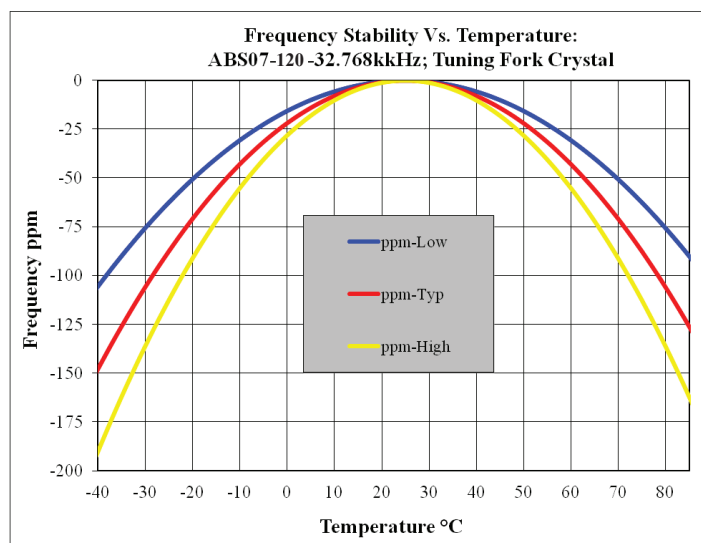
- Power sensitive designs requiring Low ESR Crystal, such as ST-Micro MCU STM32L based solutions
- Communication & measurement equipment
- Commercial, Consumer & Industrial applications
- Wireless communications
- PDA and Smartphone

STANDARD SPECIFICATIONS

| Parameters | Minimum | Typical | Maximum | Units | Notes |
|-----------------------------------|----------------------|---------|---------|--------------------|-----------------|
| Frequency | | 32.768 | | kHz | |
| Operation Mode | Tuning Fork – AT Cut | | | | |
| Operating Temperature | -40 | | +85 | °C | |
| Storage Temperature | -55 | | +125 | °C | |
| Frequency Tolerance @+25°C | -20 | | +20 | ppm | Tested at 0.1uW |
| Temperature Coefficient: | -0.045 | -0.035 | -0.025 | ppm/T ² | |
| Turn-over temperature: | +20 | +25 | +30 | °C | |
| Equivalent series resistance (R1) | | 55 | 60 | kΩ | |
| Shunt capacitance (C0) | | 1.20 | | pF | |
| Motional capacitance (Cm) | 3.0 | 3.7 | 4.4 | fF | |
| Load capacitance (CL) | | 6.0 | | pF | |
| Drive Level | | 0.1 | 0.5 | μW | |
| Q value | 13000 | | | | |
| Aging@25°C±3°C | -3 | | 3 | ppm | First year |
| Insulation Resistance | 500 | | | MΩ | @ 100Vdc ± 15V |

PART IDENTIFICATION: ABS07-120-32.768 kHz-T

FREQUENCY VARIATION OVER OPERATING TEMPERATURE; RELATIVE TO MEASURED FREQUENCY AT 25°C



| Temp °C | (ppm) Low | (ppm) Typ | (ppm) High |
|---------|-----------|-----------|------------|
| -40 | -105.63 | -147.88 | -190.13 |
| -35 | -90.00 | -126.00 | -162.00 |
| -30 | -75.63 | -105.88 | -136.13 |
| -25 | -62.50 | -87.50 | -112.50 |
| -20 | -50.63 | -70.88 | -91.13 |
| -15 | -40.00 | -56.00 | -72.00 |
| -10 | -30.63 | -42.88 | -55.13 |
| -5 | -22.50 | -31.50 | -40.50 |
| 0 | -15.63 | -21.88 | -28.13 |
| 5 | -10.00 | -14.00 | -18.00 |
| 10 | -5.63 | -7.88 | -10.13 |
| 15 | -2.50 | -3.50 | -4.50 |
| 20 | -0.63 | -0.88 | -1.13 |
| 25 | 0.00 | 0.00 | 0.00 |
| 30 | -0.63 | -0.88 | -1.13 |
| 35 | -2.50 | -3.50 | -4.50 |
| 40 | -5.63 | -7.88 | -10.13 |
| 45 | -10.00 | -14.00 | -18.00 |
| 50 | -15.63 | -21.88 | -28.13 |
| 55 | -22.50 | -31.50 | -40.50 |
| 60 | -30.63 | -42.88 | -55.13 |
| 65 | -40.00 | -56.00 | -72.00 |
| 70 | -50.63 | -70.88 | -91.13 |
| 75 | -62.50 | -87.50 | -112.50 |
| 80 | -75.63 | -105.88 | -136.13 |
| 85 | -90.00 | -126.00 | -162.00 |



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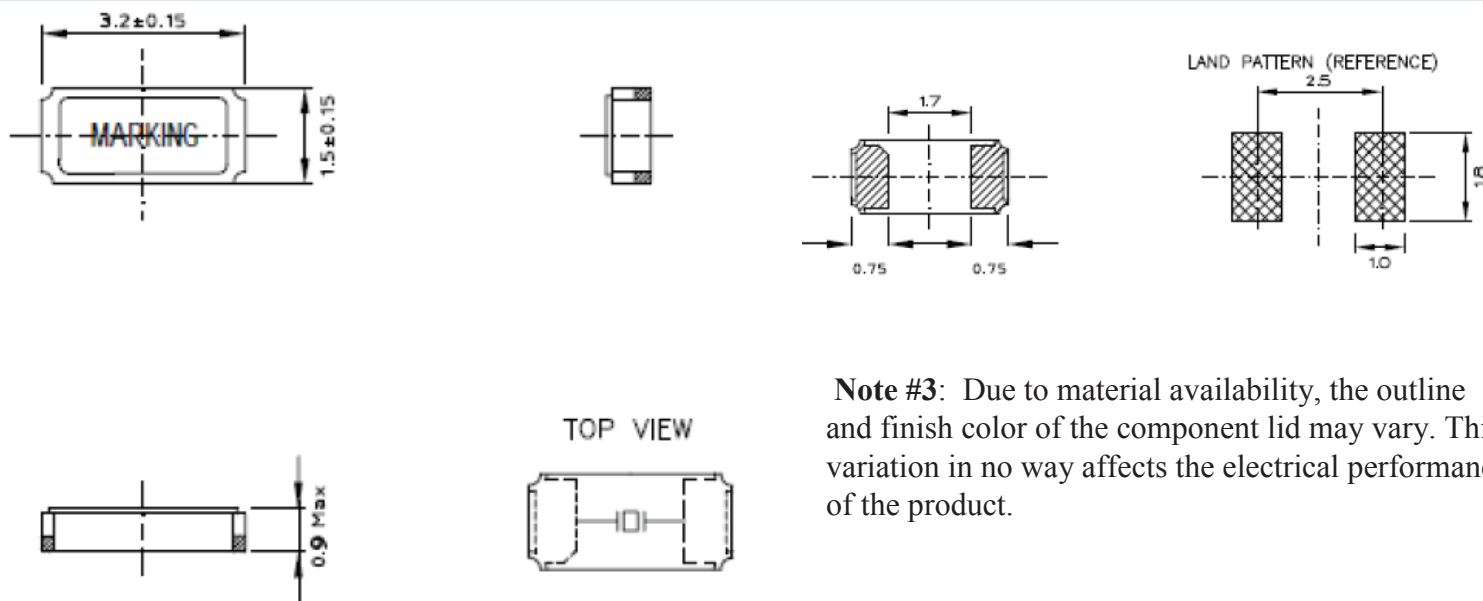


RoHS/RoHS II



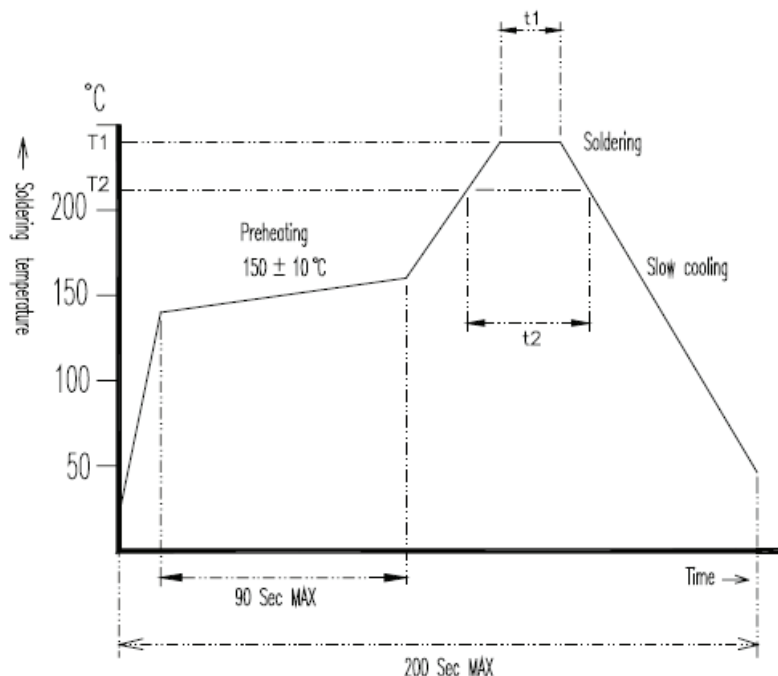
3.2 x 1.5 x 0.9 mm

OUTLINE DRAWING:



All dimensions are in mm

REFLOW PROFILE:



| Application \ Temperature Time | T1 / t1 | T2 / t2 |
|--------------------------------|-----------------------------|---------------------------|
| Lead Free | 260 ± 5°C / 10-seconds Max. | 225 Min / 60 Seconds Max. |

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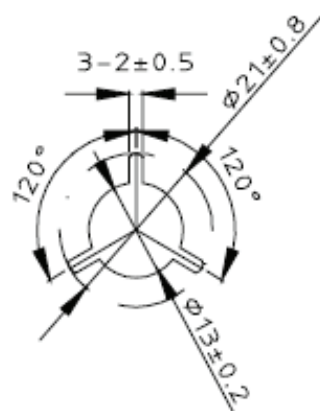
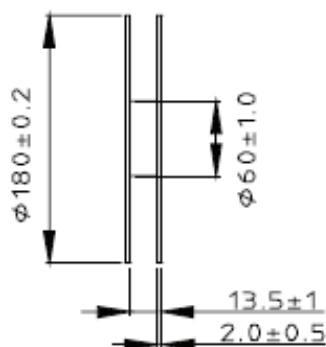
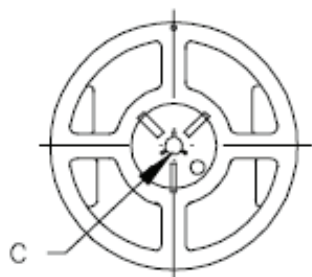


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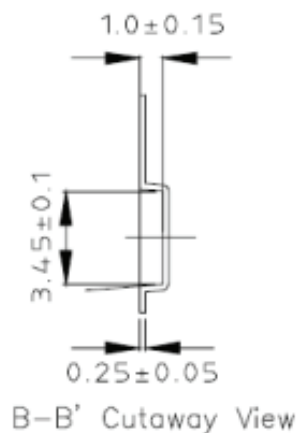
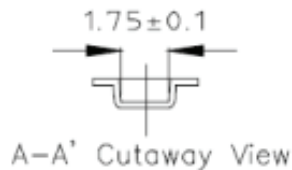
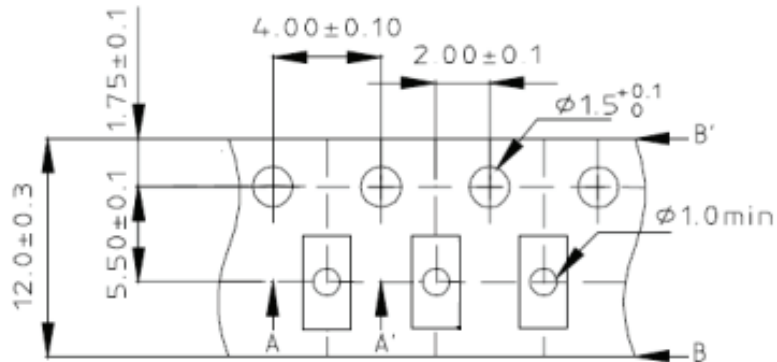
TAPE & REEL:

T=Tape and reel (3,000pcs/reel)

REEL : 3000PCS



C.ENLARGE



B-B' Cutaway View

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