

AT-CUT CRYSTAL UNITS (SMD • Cylinder Type)

RoHS Compliant Optional **CMR310T • CMR309T**

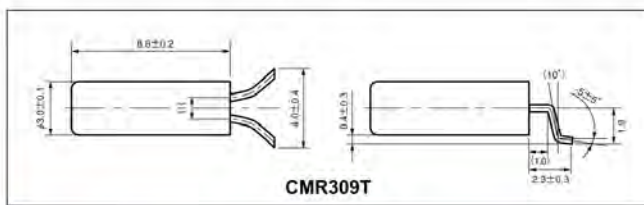
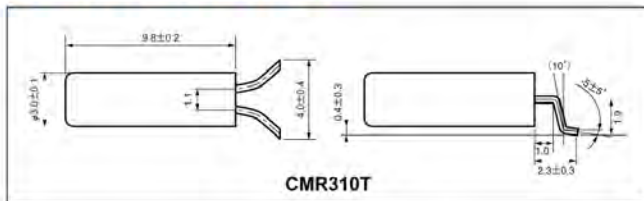
1000pcs/reel



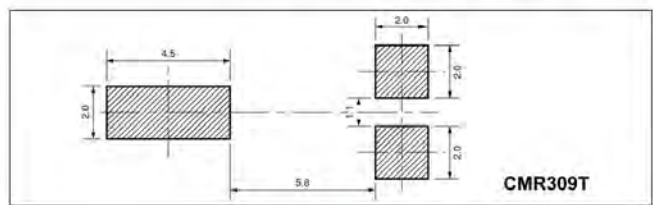
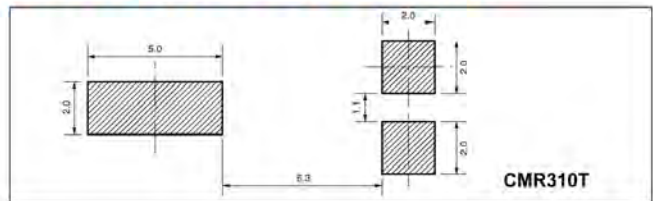
FEATURES

- High performance miniature crystal units with Citizen's ultra-precise processing technology.
- High-stability assured with tight vacuum sealing.
- Lead forming SMD type with embossed tape. Automatic mounting and reflowable Type.

DIMENSION [mm]



SOLDER PAD LAYOUT [mm]



STANDARD SPECIFICATIONS

| Item | Model | CMR310T | CMR309T | Conditions |
|------------------------------------------------------|-------------------|------------------------------|------------------------------------------------------------------------|------------------------------------------------|
| Nominal Frequency | f ₀ | 3.5MHz ~ 4.0MHz | 4.001MHz ~ 30.0MHz (Fundamental) 30.001MHz ~ 70.0MHz (3rd Overtone) | Need to contact us for the available frequency |
| Frequency Tolerance | Δf/f ₀ | ±30ppm | | at 25°C |
| Frequency Tolerance over Operating Temperature Range | Δf/f ₀ | ±50ppm | | -10°C ~ +60°C |
| Operating Temperature Range | T _{OPR} | -40°C ~ +85°C | | |
| Storage Temperature Range | T _{STR} | -55°C ~ +125°C | | |
| Motional (series) resistance | R ₁ | Refer to the following table | | at 25°C |
| Load capacitance | C _L | 18.0pF | | Need to specify your requirement |
| Shunt capacitance | C ₀ | 5.0pF Max. | | |
| Level of drive | DL | 100 μW Max. | | |
| Insulation Resistance | I _R | 500MΩ Min. | | DC100V±15V |
| Aging (first year) | Δf/f ₀ | ±5ppm Max. | | 25°C±3°C |

MOTIONAL (SERIES) RESISTANCE (R₁)

| Frequency Range | 3.5MHz ≤ f ₀ < 4.0MHz | 4.0MHz ≤ f ₀ < 6.0MHz | 6.0MHz ≤ f ₀ < 10MHz | 10MHz ≤ f ₀ < 27MHz | 27MHz ≤ f ₀ < 36MHz | 36MHz ≤ f ₀ ≤ 70MHz |
|-----------------|----------------------------------|----------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Mode | Fundamental | Fundamental | Fundamental | Fundamental | Fundamental 3rd Overtone | 3rd Overtone |
| R ₁ | 200Ω Max. | 150Ω Max. | 100Ω Max. | 50Ω Max. | 50Ω Max. 100Ω Max. | 80Ω Max. |