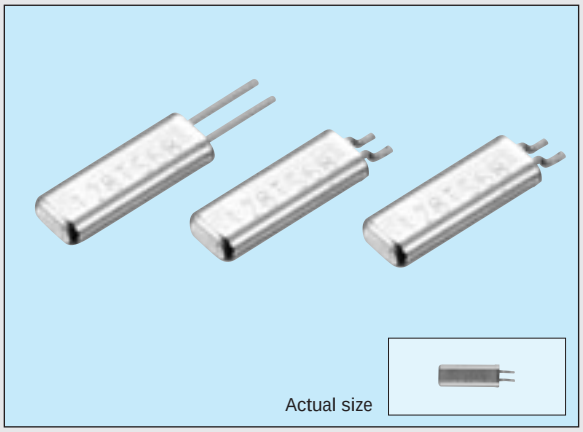
THIN CYLINDER HIGH-STABILITY CRYSTAL UNIT

SA-315H / 315HZ

- Thin cylinder of 1.55mm thickness featuring high stability.
- Small and thin with small mounting area and light weight.
- High heat resistance allows reflow soldering.
- Excellent shock resistance and environmental capability.
- Embossed tape usable for SMD.(SA-315HZ)
- Most suitable for small communications devices.



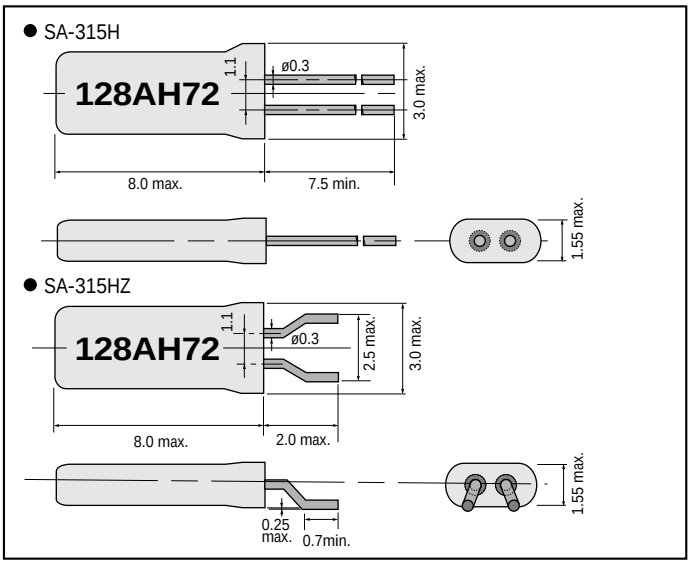
Specifications (characteristics)

Item		Symbol	Specifications	Remarks
Nominal frequency range		f	10.000 MHz to 27.000 MHz	Fundamental mode
Temperature range	Storage temperature	T_{STG}	-55˚C to +125˚C	
	Operating temperature	T_{OPR}	-40˚C to +85˚C	Specified equivalent series resistance must be satisfied.
	Operable temperature	T_{USE}	As per below table	Specified equivalent series resistance and frequency-temperature characteristics must be satisfied.
Drive level	Maximum drive level	GL	2mW max.	Only crystal oscillation is guaranteed
	Recommended drive level	DL	10µW to 100µW	
Soldering condition		T_{SOL}	240˚C max. within 10sec. and under 200˚C within 40 sec.	
Frequency tolerance (standard)		Δf/f	±10ppm	D_L=100µW at Ta=25˚C ±3˚C and specified load capacity.
Frequency temperature characteristics			As per below table	
Load capacitance		C_L	10pF to ∞	Please specify
Series resistance		R_1	As per below table	Operable temperature range, DL=100µW
Shunt capacitance		C_0	3.0pF max.	
Insulation resistance		IR	500 MΩ min.	
Aging		fa	±1ppm/Year max.	Ta =25˚C ±1˚C, 100µW
Shock resistance		S.R.	±1ppm max.	Three drops on a hard wooden board from 75 cm or excitation test with 3000G x 0.3ms x 1/2 sine wave x 3 directions

Measured values for frequency tolerance and temperature characteristics need to be brought into mutual correlation prior to the start of production.
Please check the soldering condition of plug case department before use.

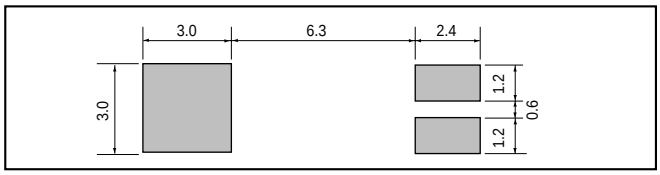
External dimensions

(Unit: mm)



Recommended soldering pattern(SA-315HZ)

(Unit: mm)



Frequency temperature characteristics

Operating temperature range	Frequency temperature characteristics
0˚C to +50˚C	± 3ppm min.
-10˚C to +60˚C	± 5ppm min.
-20˚C to +70˚C	± 7ppm min.
-30˚C to +80˚C	±10ppm min.
-40˚C to +85˚C	±15ppm min.

Series resistance

Frequency (MHz)	Series resistance (R_1)
10.0 ≤ f < 12.0	40 Ω max.
12.0 ≤ f ≤ 27.0	30 Ω max.