

Product Description

Description:	32.7680kHz GWX-2012 SM Crystal
Product family:	GWX-2012
Category:	SM Quartz Crystal
Order code:	MP07782

Features

- ▶ Ultra low profile - 0.6mm high
- ▶ Light weight miniature package
- ▶ Vacuum sealed for high stability

Additional Information

For further information regarding packaging, construction, material composition, soldering profile and environment, please refer to **GWX-2012 Product Information sheet**

For dimensions, refer to package drawing: **D0362-A**

Electrical Specifications

Parameter	Value	Notes
Nominal frequency:	32.7680kHz	
Calibration tolerance:	±20ppm max	
Operating temperature range:	-40 to +85°C	
Storage temperature range:	-55 to +125°C	
Circuit condition:	12.5pF	
Static capacitance (C ₀):	1.3pF typ	
Equivalent series resistance:	70kΩ max	@25°C
Aging:	±3ppm max	First year
Test drive level:	1.0μW max	
Turnover temperature (T ₀):	+25°C ±5°C	
Frequency / temp coefficient:	-0.033ppm/°C ² typ	

Mechanical Characteristics

Test name	Test process/method	Criteria letter & note no.
Shock:	Drop 3 times from the height of 75 cm onto hard wooden board with the thickness of 3cm.	A & 2
Vibration:	Total peak amplitude: 1.5mm Vibration frequency: 10 to 60Hz Sweep period: 2 ~ 3 minutes Vibration directions: 3 mutually perpendicular Duration: 2 hours/direction	A & 2
Solderability:	Solder temperature: 245 ±5°C Duration: 5 ±0.5 seconds	C



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Environmental Characteristics

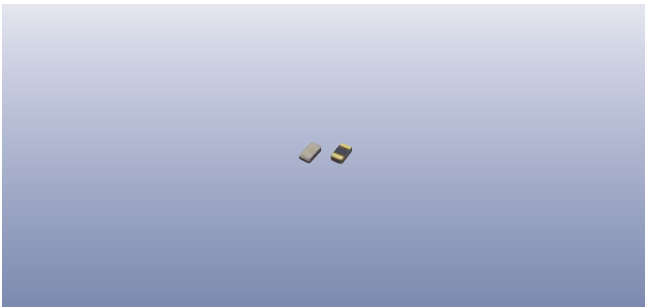
Test name	Test process/method	Criteria letter & note no.
Thermal shock:	Heat cycle conditons: -25°C ~ +80°C (30 mins) Cycle time: 5 ~ 20 times	A & 1
Humidity test:	Temperature: +85°C Relative humidity: 85% Duration: 500 hours	A & 1
Storage in low temperature:	Temperature: -40°C Duration: 500 hours	A & 1
Storage in high temperature:	Temperature: +85°C Duration: 500 hours	A & 1

Criteria

Criteria letter	Criteria
A:	Any variation between the pre and post test frequencies shall remain within ±10ppm. The equivalent series resistance shall remain within 15kΩ.
B:	Any variation between the pre and post test frequencies shall remain within ±10ppm. The equivalent series resistance shall remain within 20kΩ.
C:	At least 90% of each dipped area shall be covered by fresh solder.

Notes

Note no.	Note
1:	Measurements should be taken place at 25 ±2°C after each test, the samples shall be left at 25°C for 24 hours.
2:	Measurements should be taken place at 25 ±2°C after each test, the samples shall be left at 25°C for 2 hours.



Construction

- Ceramic body with gold-plated pads**
- Metal lid, vacuum sealed**

Composition



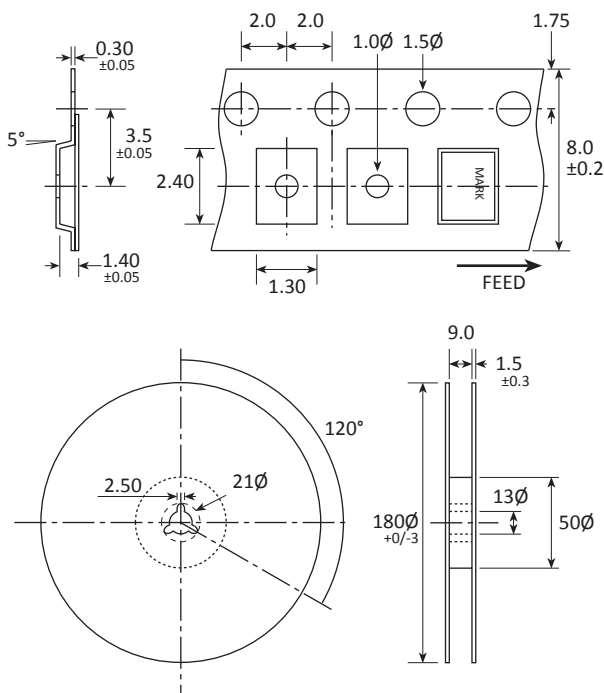
This product is lead-free, and is fully compliant with current RoHS directives



Packaging & Handling

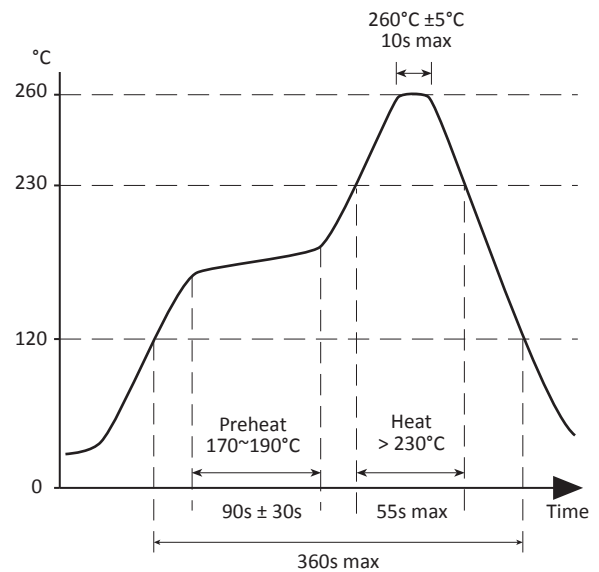
Production quantities supplied on T&R, 3k pcs per reel.
Small quantities may be supplied on tape (no reel), or in bulk.

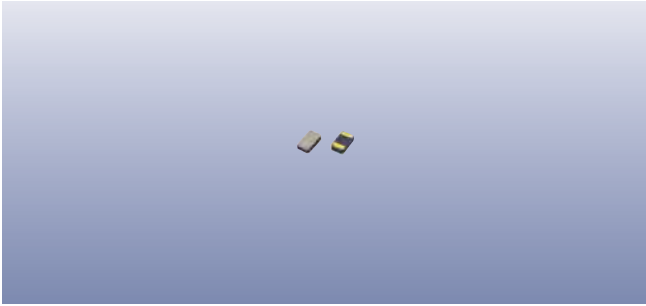
Tape & Reel Specification



Not to scale. Dimensions in mm. Tolerances ±0.1mm unless otherwise stated.

Soldering Profile





Product Family

GWX-2012

Construction

- ▮ Ceramic body with gold-plated pads
- ▮ Metal lid, vacuum sealed

Dimensions (mm)

