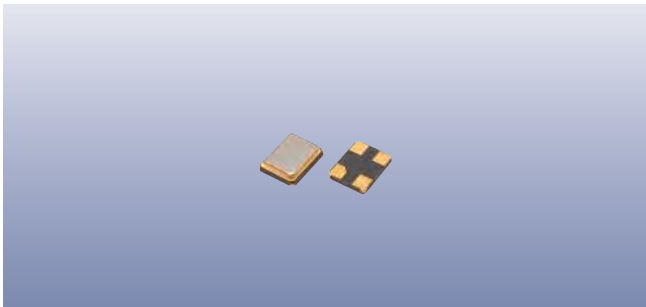




Product Description

Description:	16.0MHz GSX-333/112NF SM Crystal
Product family:	GSX-333
Category:	SM Quartz Crystal
Order code:	MA06152

Features

- ▶ Qualified for use with CSR Bluetooth chipsets
- ▶ Metal lid can be grounded to minimise EMI
- ▶ Seam sealed for excellent long-term stability
- ▶ Ultra-miniature for maximum space saving

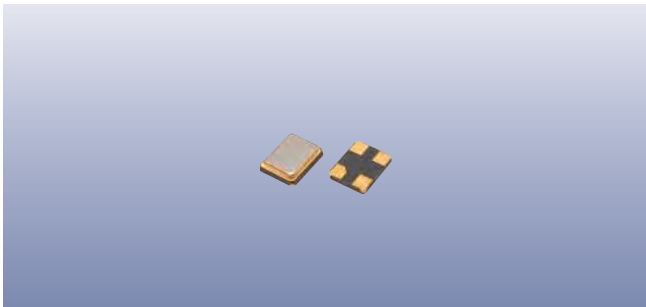
Additional Information

For further information regarding packaging, construction, material composition, soldering profile and environment, please refer to **GSX-333 Product Information sheet**

For dimensions, refer to package drawing: **D0262-A**

Electrical Specifications

Parameter	Value	Notes
Nominal frequency:	16.0MHz	
Calibration tolerance:	±10ppm max	At 25°C ±3°C
Temperature stability:	±10ppm max over -20 to +75°C ±30ppm max over -40 to +85°C	Referred to frequency at 25°C
Operating temperature range:	-40 to +85°C	
Storage temperature range:	-40 to +85°C	
Circuit condition:	9pF	
Static capacitance (C ₀):	2.0pF max	
Pulling sensitivity:	9ppm / pF min	Load @ 9pF
Oscillation mode:	Fundamental	
Equivalent series resistance:	80Ω max	
Test drive level:	10μW	



Packaging & Handling

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

Marking

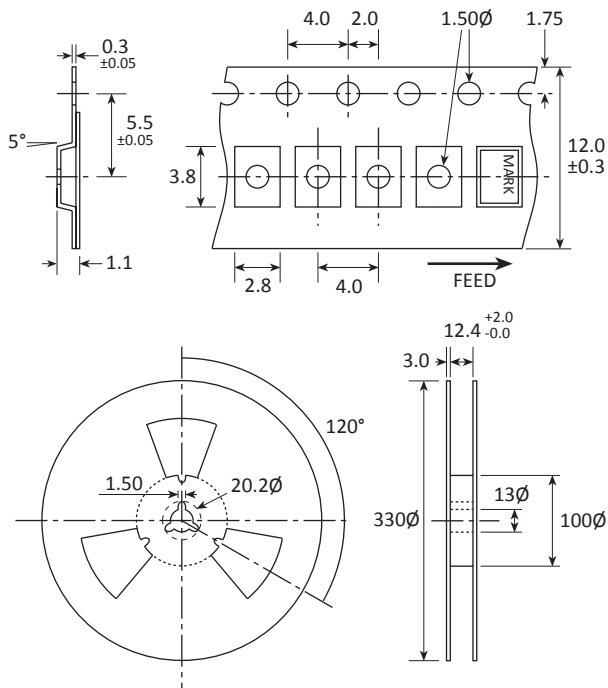
FREQUENCY
T zDC

Marking type: Laser
DC = Date code in YW, as shown below
Example: "zd" = 2012 week 30

Year	2009	2010	2011	2012
	2013	2014	2015	2016
Code	Z	z	z	z

Week codes:
A ~ Z: weeks 1 to 26
a ~ z: weeks 27 to 52

Tape & Reel Specification



Not to scale. Dimensional tolerances $\pm 0.1\text{mm}$ unless otherwise stated.

Construction

- ➡ Ceramic body with gold-plated pads
- ➡ Metal lid, seam sealed

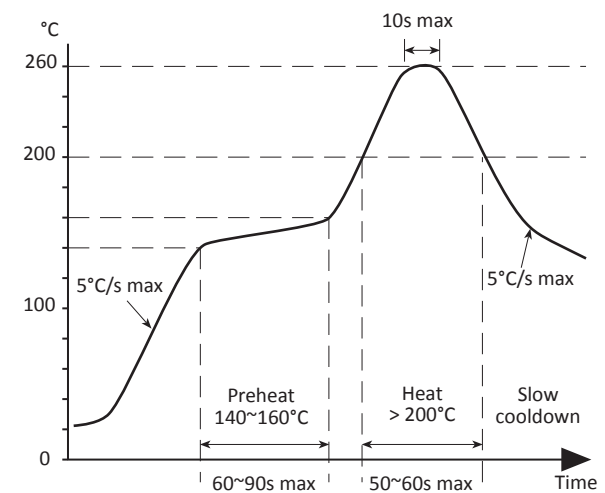
Composition



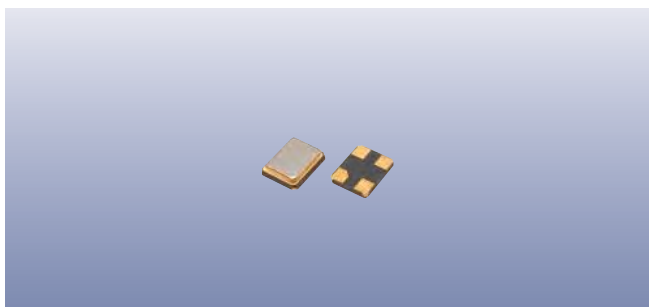
This product is lead-free, and is fully compliant with the RoHS directive 2002/95/EC



Soldering Profile



Maximum solder resistance: 260°C x 10 secs x 2.



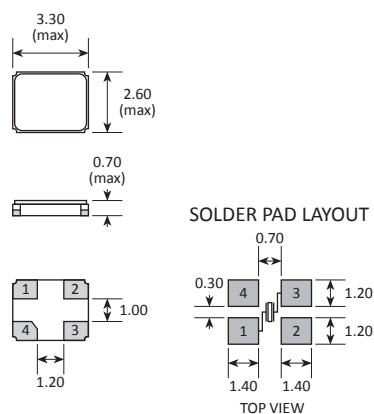
Product Family

GSX-333

Construction

-  Ceramic body with gold-plated pads
-  Metal lid, seam sealed

Dimensions (mm)



PAD	CONNECTION
1	Crystal
2	Ground & lid
3	Crystal
4	Ground & lid

NOTE: Chamfer normally on pad 4, but may alternatively be supplied on pad 1.