

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

## Features

- ▶ **Tight specification / wide temperature option**
- ▶ **Ultra-miniature for maximum space saving**
- ▶ **Ideal for Bluetooth / Wireless applications**
- ▶ **Metal lid can be grounded to minimise EMI**
- ▶ **Seam sealed for excellent long-term stability**

## Specifications

Parameters	Product	Option Codes
	GSX-321	
<b>Frequency range:</b> 12.0 ~ 66.0MHz	■	
<b>Calibration tolerance:</b> ±10ppm ±15ppm ±20ppm Other values (±7.5 ~ ±100ppm)	■ □ □ □	1 P 2 specify
<b>Temperature stability:</b> ±10ppm ±15ppm ±20ppm ±30ppm Other values (±7.5 ~ ±100ppm)	■ □ □ □ □	1 P 2 3 specify
<b>Operating temperature range:</b> -20 to +70°C -30 to +80°C Other values	■ □ □	2 3 specify
<b>Storage temperature range:</b> -40 to +85°C	■	
<b>Circuit condition:</b> 8pF 9pF 12pF 16pF Series resonant Other values	□ ■ □ □ □ □	M N B D S specify
<b>Oscillation mode:</b> Fundamental	■	F
<b>Equivalent series resistance (max):</b> 200Ω (12.0 ~ 12.9MHz) 150Ω (13.0 ~ 15.9MHz) 80Ω (16.0 ~ 19.9MHz) 60Ω (20.0 ~ 29.9MHz) 50Ω (30.0 ~ 34.9MHz) 40Ω (35.0 ~ 66.0MHz)	■ ■ ■ ■ ■ ■	
<b>Ageing:</b> ±1ppm max first year	■	
<b>Test drive level:</b> 10μW typ, 100μW max	■	
<b>Soldering condition:</b> 260°C, 10 sec x2 max	■	

■ Standard. □ Optional - Please specify required code(s) when ordering

## Ordering Information

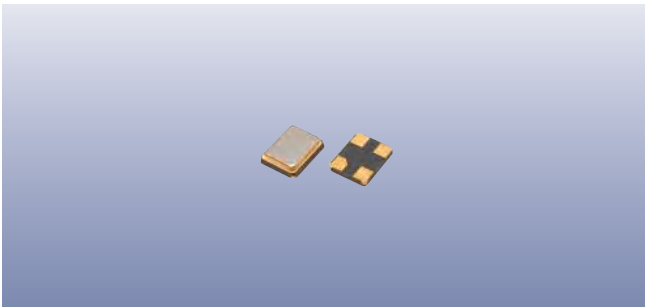
Part No, or product name + option codes + frequency

eg: **GSX-321/111NF 16.0MHz** 10/10/10/9-F

**GSX-321/1P3AF 26.0MHz** 10/15/30/10-F

Option code X (eg GSX-321/X) denotes a custom specification.

- ◆ ±10ppm temperature stability may not be available over -30+80°C. Check with our sales office before ordering.



## 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 2011/65/EU



## Packaging & Handling

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

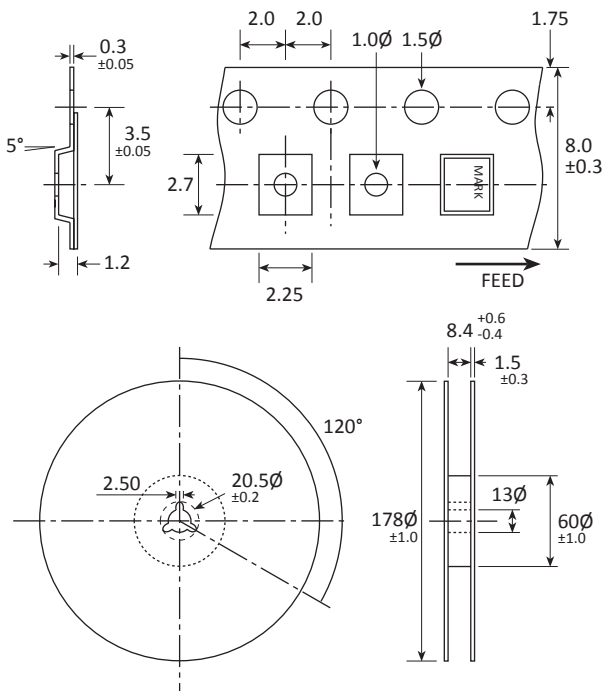
## Marking

FREQUENCY  
S DC

Marking type: Laser  
DC = Date code in YM, as shown below  
Example: "DE" = May 2014

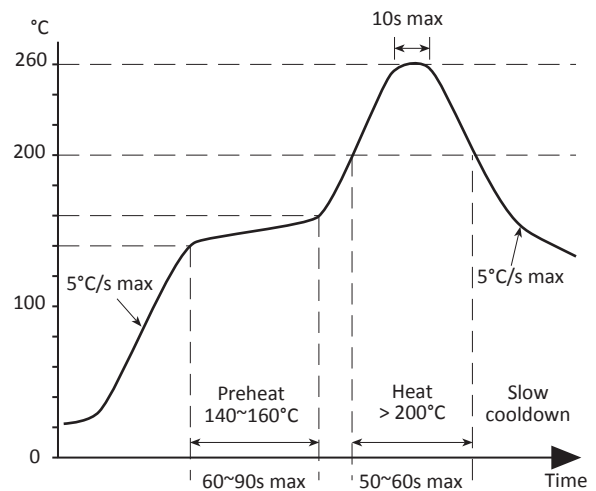
	A	B	C	D	E	F	G	H	J	K	L	M
Y	1	2	3	4	5	6	7	8	9	0		
M	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

## Tape & Reel Specification



Not to scale. Dimensional tolerances ±0.1mm unless otherwise stated.

## Soldering Profile



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