

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

Scale 3:1

## Specifications

Parameters	Product	Option Codes
	GSX-433	
Frequency range: 12.0 ~ 44.0MHz	<input checked="" type="checkbox"/>	
Calibration tolerance: ±10ppm	<input checked="" type="checkbox"/>	1
±15ppm	<input type="checkbox"/>	P
±20ppm	<input type="checkbox"/>	2
Other values (±7.5 ~ ±100ppm)	<input type="checkbox"/>	specify
Temperature stability: ±10ppm	<input checked="" type="checkbox"/>	1
±15ppm	<input type="checkbox"/>	P
±20ppm	<input type="checkbox"/>	2
±30ppm	<input type="checkbox"/>	3
Other values (±7.5 ~ ±100ppm)	<input type="checkbox"/>	specify
Operating temperature range: -10 to +60°C	<input checked="" type="checkbox"/>	1
-20 to +70°C	<input type="checkbox"/>	2
-30 to +80°C	<input type="checkbox"/>	3
Other values	<input type="checkbox"/>	specify
Storage temperature range: -40 to +85°C	<input checked="" type="checkbox"/>	
Circuit condition: 9pF	<input type="checkbox"/>	N
12pF	<input type="checkbox"/>	B
16pF	<input checked="" type="checkbox"/>	D
Series resonant	<input type="checkbox"/>	S
Other values	<input type="checkbox"/>	specify
Oscillation mode: Fundamental	<input checked="" type="checkbox"/>	F
Equivalent series resistance: 60Ω max	<input checked="" type="checkbox"/>	
Frequency perturbation: ±1ppm max	<input checked="" type="checkbox"/>	
Ageing: ±1ppm max first year	<input checked="" type="checkbox"/>	
Test drive level: 10μW	<input checked="" type="checkbox"/>	
Soldering condition: 260°C, 10 sec x2 max	<input checked="" type="checkbox"/>	

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

## Features

- Good frequency perturbation
- Metal lid can be grounded to minimise EMI
- Seam sealed for excellent long-term stability
- Ultra-miniature for maximum space saving
- Ideal for Bluetooth / Wireless applications

## Bluetooth Applications

Frequency	Specification	IC	Part No
12.0MHz	9pF, ±11.3ppm/pF typ pullability	CSR, Zeevo	MA04647*
12.0MHz	16pF, ±3.7ppm/pF typ pullability		MA04650
13.0MHz	16pF, C <sub>1</sub> = 2.5fF typ	TI	MA04648
13.0MHz	7pF, C <sub>1</sub> = 2.5fF typ	Philips	MA04649
13.0MHz	9pF, C <sub>1</sub> = 2.4fF typ		MA04654
15.360MHz	10pF, C <sub>1</sub> = 3.0±0.6fF	Broadcom	MA04651
15.360MHz	12pF, C <sub>1</sub> = 3.0±0.6fF	Broadcom	MA04652
16.0MHz	9pF, ±18ppm/pF typ pullability	CSR	MA03057*
26.0MHz	9pF, ±27ppm/pF typ pullability		MA04653

\* Qualified for use with CSR chipset solutions. Golledge is a global supply partner for CSR

## Ordering Information

Product name + option codes + frequency

eg: **GSX-433/111NF 16.0MHz** 10/10/10/9-F

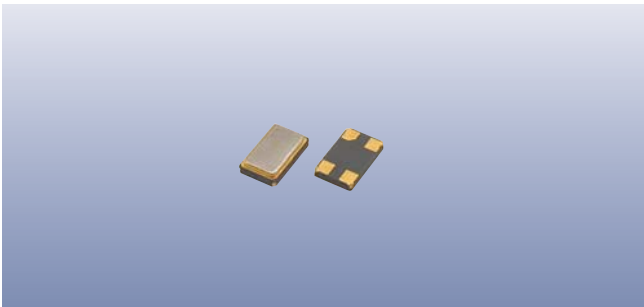
**GSX-433/1P3AF 26.0MHz** 10/15/30/10-F

Option code X (eg GSX-433/X) denotes a custom specification.

- ◆ ±10ppm temperature stability may not be available over -30+80°C. Check with our sales office before ordering.
- ◆ Available on T&R - 1k or 3k pcs per reel.
- ◆ Refer to our website for T&R and soldering details.

## GPS / Mobile Applications

Frequency	Specification	IC / Appln	Part No
12.0MHz	18pF, C <sub>1</sub> = 2.0fF typ	DSC mobile	MA06114
16.367667MHz	20pF, C <sub>1</sub> = 3.7fF typ		MA06113
24.0MHz	12pF, C <sub>1</sub> = 4.5fF typ	DSC mobile	MA06115
24.0MHz	20pF, C <sub>1</sub> = 4.5fF typ	DSC mobile	MA06116
24.5535MHz	32pF, C <sub>1</sub> = 5.1fF typ	SiRF GPS	MA06112
26.0MHz	12pF, C <sub>1</sub> = 5.5fF typ		MA06117



## 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



## Packaging & Handling

Production quantities supplied on T & R, 1k or 3k pcs per reel. Small quantities may be supplied on tape (no reel), or in bulk.

## Marking

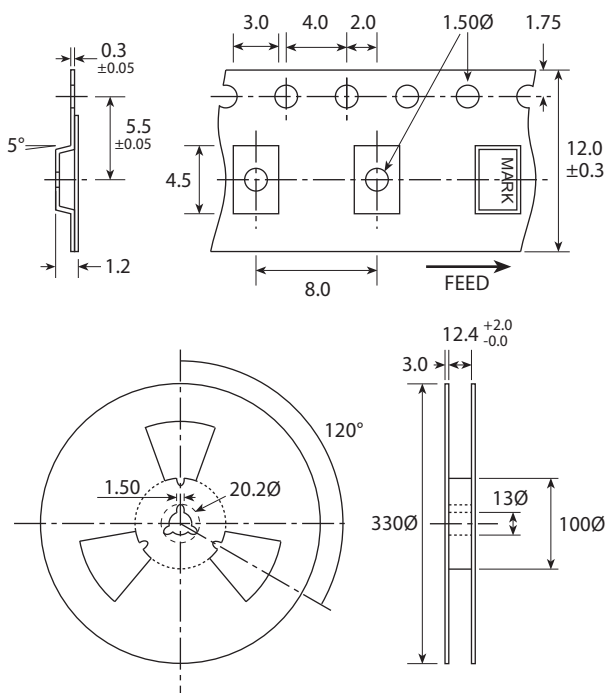
NNN  
T zDC

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

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

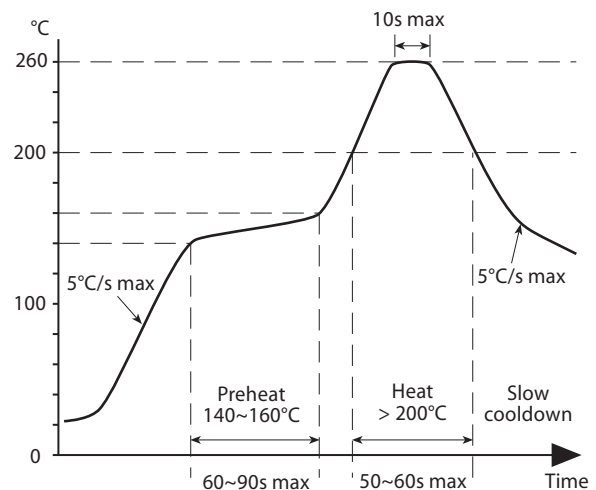
Week codes:  
 A ~ Z: weeks 1 to 26  
 a ~ z: weeks 27 to 52

## Tape & Reel Specification



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

## Soldering Profile



Solder resistance: 260°C x 10 secs x 2.