

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.

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	8pF, 10.5ppm/pF typ pullability	CSR	MA07080*
16.0MHz	9pF, 9ppm/pF typ pullability	CSR	MA06152*
26.0MHz	9pF, 16.5ppm/pF typ pullability	CSR	MA05768*

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

GPS / Mobile Applications

Frequency	Specification	IC / Appln	Part No
20.0MHz	16pF		MA06153

Specifications

Parameters	Product	Option Codes
	GSX-333	
Frequency range: 12.0 ~ 54.0MHz 54.0 ~ 125MHz (3rd overtone)	<input checked="" type="checkbox"/> <input type="checkbox"/>	
Calibration tolerance: ±10ppm ±15ppm ±20ppm Other values (±7.5 ~ ±100ppm)	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 P 2 specify
Temperature stability: ±10ppm ±15ppm ±20ppm ±30ppm Other values (±7.5 ~ ±100ppm)	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 P 2 3 specify
Operating temperature range: -10 to +60°C -20 to +70°C -25 to +75°C -30 to +80°C -40 to +85°C Other values	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 2 B 3 4 specify
Storage temperature range: -40 to +85°C	<input checked="" type="checkbox"/>	
Circuit condition: 8pF 9pF 12pF 16pF 18pF Series resonant Other values	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	M N B D E S specify
Oscillation mode: Fundamental 3rd overtone	<input checked="" type="checkbox"/> <input type="checkbox"/>	F 3
Equivalent series resistance (max): 100Ω max (12.0 ~ 15.99MHz) 60Ω max (16.0 ~ 19.99MHz) 50Ω max (20.0 ~ 54.0MHz, fund) 100Ω max (54.0 ~ 99.99MHz, 3rd OT) 80Ω max (100 ~ 125MHz, 3rd OT)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <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

Ordering Information

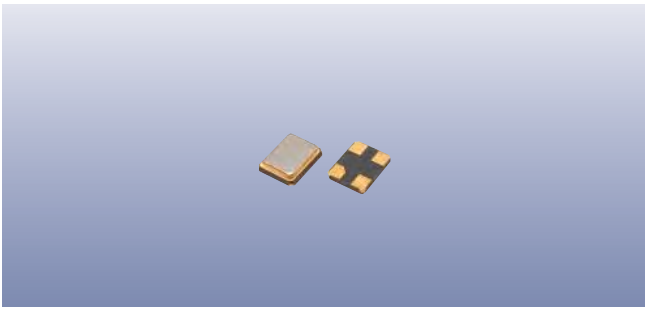
Product name + option codes + frequency

eg: **GSX-333/111NF 16.0MHz** 10/10/10/9-F

GSX-333/1P3AF 26.0MHz 10/15/30/10-F

Option code X (eg GSX-333/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 2002/95/EC



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

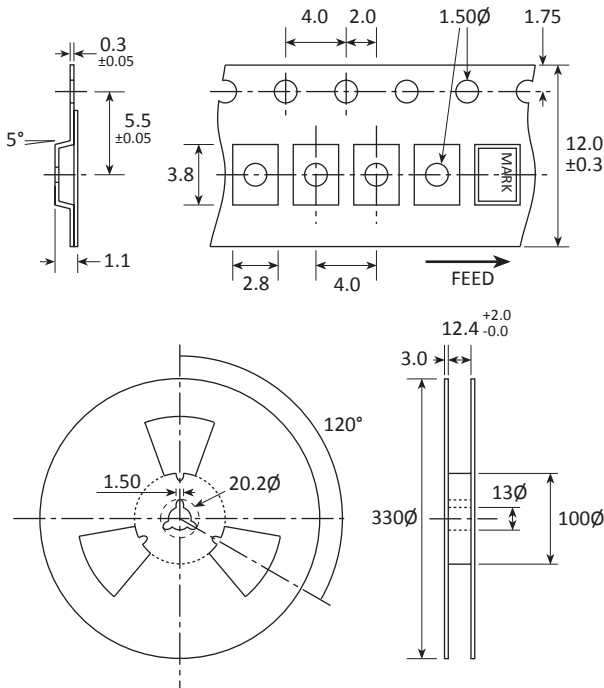
FREQUENCY
T zDC

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	z̄	z̄

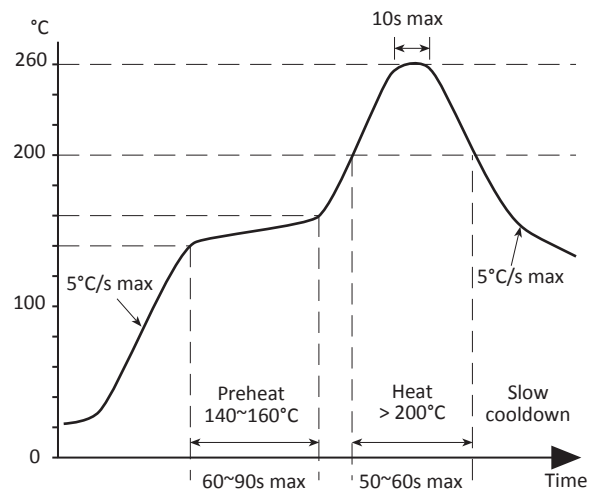
Week codes:
A ~ Z: weeks 1 to 26
a ~ z: weeks 27 to 52

Tape & Reel Specification



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

Soldering Profile



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