

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

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, C ₁ = 4fF ±20%	Philips	MA06096
12.0MHz	18pF, C ₁ = 4fF ±20%	Philips	MA06097
15.360MHz	18pF, 6.5ppm/pF typ pullability		MA06098
16.0MHz	9pF, 20ppm/pF min pullability	CSR	MA05625*
32.0MHz	12pF, 20ppm/pF typ pullability	S. Wave	MA06099

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

Specifications

Parameters	Product	Option Codes
	GSX-533	
Frequency range: 8.0 ~ 54.0MHz (54.0 ~ 160MHz, 3rd OT under dev)	<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 -30 to +80°C Other values	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 2 3 specify
Storage temperature range: -40 to +85°C	<input checked="" type="checkbox"/>	
Circuit condition: 9pF 12pF 16pF 18pF 20pF Other values	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	N B D E F specify
Oscillation mode: Fundamental 3rd overtone (>54.0MHz)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	F 3
Equivalent series resistance (max): 100Ω (8.0 ~ 11.99MHz) 60Ω (12.0 ~ 13.99MHz) 50Ω (14.0 ~ 15.99MHz) 40Ω (16.0 ~ 54.0MHz)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
Perturbations: ±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-533/111NF 16.0MHz** 10/10/10/9-F

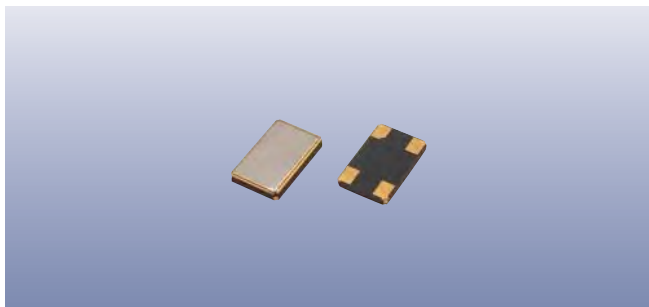
GSX-533/1P3AF 26.0MHz 10/15/30/10-F

Option code X (eg GSX-533/X) denotes a custom specification.

- ◆ ±10ppm temperature stability may not be available over -30+80°C.
- ◆ Available on T&R - 1k pcs per reel.

GPS / Mobile Applications

Frequency	Specification	IC / Appln	Part No
13.0MHz	8pF, 22.5ppm/pF ±15%	Silicon Labs	MA06106
13.0MHz	8pF, 29.5ppm/pF ±10%	Silicon Labs	MA06118
13.0MHz	8.5pF, 25.5ppm/pF ±10%	Silicon Labs	MA06119
13.0MHz	11.5pF, C ₁ = 4.9fF ±20%	Infineon	MA06107
16.367667MHz	20pF, C ₁ = 6.0fF ±15%		MA06105
24.5535MHz	32pF, C ₁ = 8.5fF ±15%	SiRF GPS	MA05925
26.0MHz	10pF, 18~25ppm/pF	Infineon	MA06108
26.0MHz	9.5pF, 20ppm/pF min	Hitachi	MA06122



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



LeadFree

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

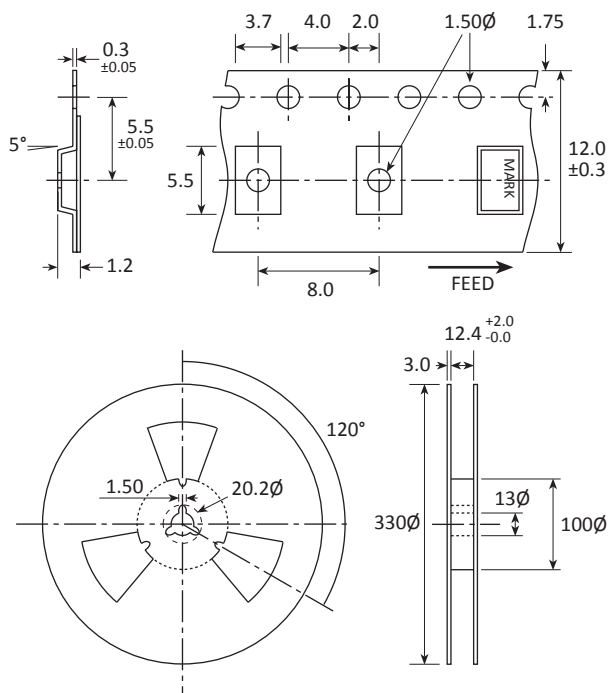
NNN
T DC

Marking type: Laser
 NNN = Part ID code
 DC = Date code in YW, as shown below
 Example: "zD" = 2010 week 4

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

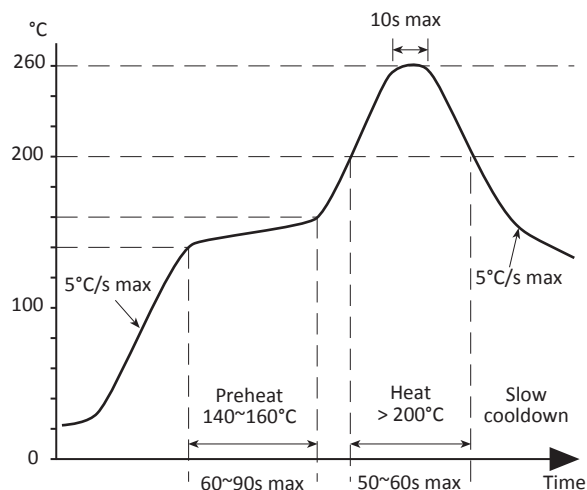
Week codes:
 A ~ Z: weeks 1 to 26
 a ~ z: weeks 27 to 52

Tape & Reel Specification



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

Soldering Profile



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