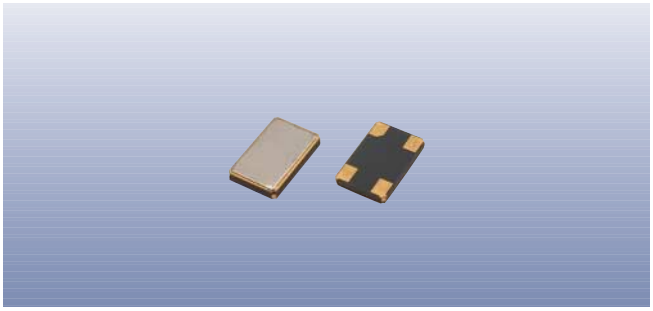
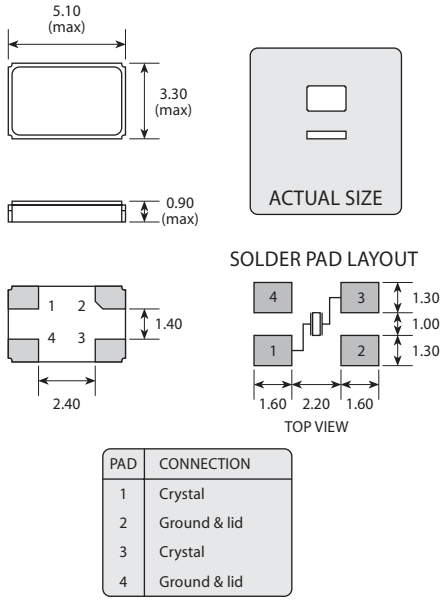
SM Crystal for Bluetooth / Wireless

GSX-533





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

Scale 3:1

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	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 GSX-533	Option Codes
Frequency range:	12.0 ~ 44.0MHz	■	
Calibration tolerance:	±10ppm	■	1
	±15ppm	□	P
	±20ppm	□	2
	Other values (±7.5 ~ ±100ppm)	□	specify
Temperature stability:	±10ppm	■	1
	±15ppm	□	P
	±20ppm	□	2
	±30ppm	□	3
	Other values (±7.5 ~ ±100ppm)	□	specify
Operating temperature range:			
	-10 to +60°C	■	1
	-20 to +70°C	□	2
	-30 to +80°C	□	3
	Other values	□	specify
Storage temperature range:			
	-40 to +85°C	■	
Circuit condition:	9pF	□	N
	12pF	□	B
	16pF	■	D
	18pF	■	E
	20pF	■	F
	Other values	□	specify
Oscillation mode:	Fundamental	■	F
Equivalent series resistance:			
	40Ω max	■	
Frequency perturbation:			
	±1ppm max	■	
Ageing:	±1ppm max first year	■	
Test drive level:	10µW	■	
Soldering condition:			
	260°C, 10 sec x2 max	■	

■ 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. Check with our sales office before ordering.
- Available on T&R - 1k pcs per reel.
- Refer to our website for T&R and soldering details.

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

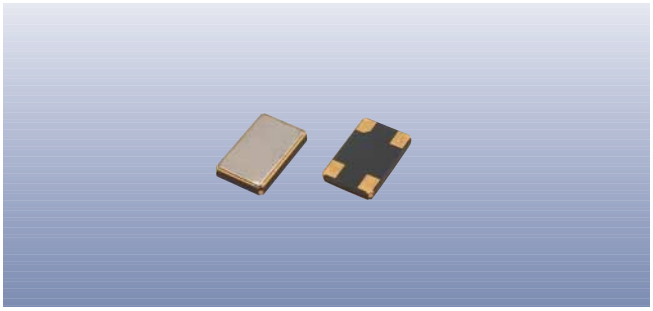
Tel: **+44 1460 256 100** Fax: **+44 1460 256 101** E-mail: **sales@golledge.com** Web: **www.golledge.com**

Golledge

08 Oct 2004

Product Information

GSX-533



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

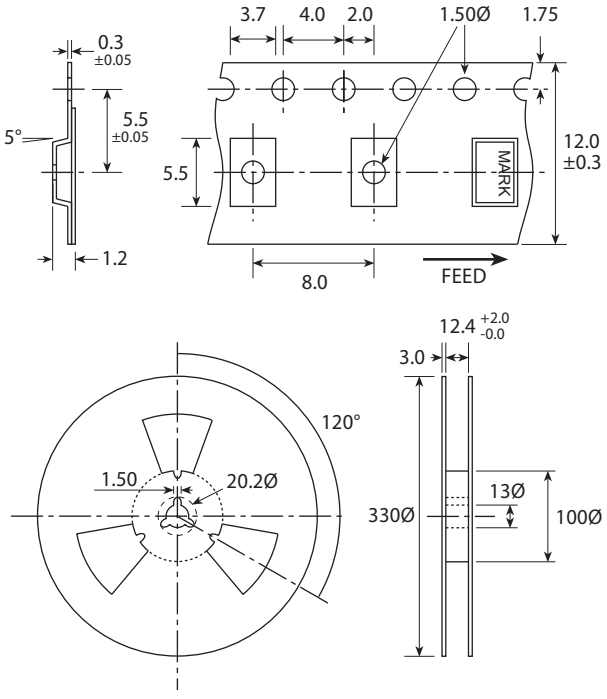
Marking type: Laser
NNN = Part ID code
DC = Date code in YW, as shown below
Example: "zd" = 2004 week 30

Year	2001 2005	2002 2006	2003 2007	2004 2008
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

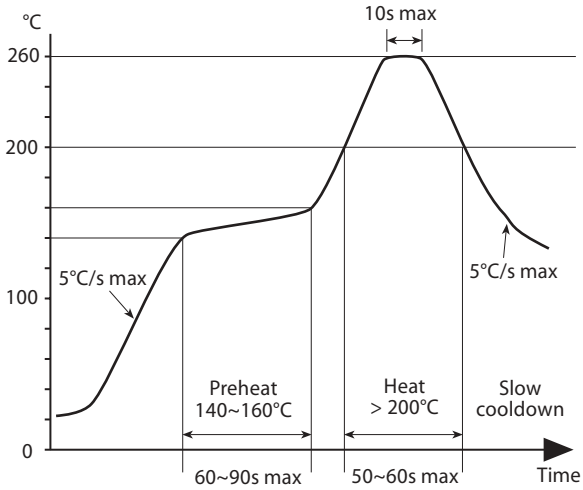
Construction

- **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



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