

# GSX-213

## Ultra-miniature SM Crystal for NFC, Smartcard etc

- Ultra-miniature for maximum space saving
- Ideal for near field communications (NFC), smartcard, wireless & mobile
- Metal lid can be grounded to minimise EMI
- Seam sealed for excellent long-term stability
- Excellent ageing characteristics



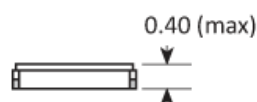
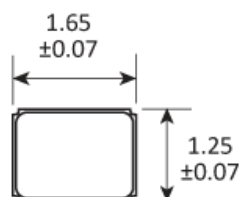
### CONFIGURABLE OPTIONS

Parameter	Option Code
Frequency	
Calibration tolerance	
Any	
±10ppm	1
±15ppm	P
±30ppm	3
Temperature stability	
Any	
±10ppm	1
±15ppm	P
±20ppm	2
±30ppm	3
Operating temperature range	
Any	
-10 to +60°C	1
-20 to +70°C	2
-30 to +80°C	3
-40 to +85°C	4
Circuit condition	
Any	
5pF	R
8pF	M
9pF	N
10pF	A
Series resonant	S
Oscillation mode	
Fundamental	F

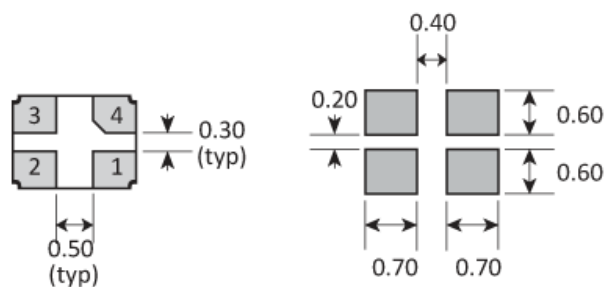
## SPECIFICATIONS

Frequency range	24.0 ~ 60.0MHz
Dimensions	1.65 x 1.25 x 0.40mm
Storage temperature range	-40 to +85°C
Equivalent series resistance	200Ω max @ 26.0MHz 150Ω max @ 37.4MHz 100Ω max @ 38.4MHz 100Ω max @ 40.0MHz
Ageing	±1ppm max first year
Test drive level	100μW max
Soldering condition	260°C, 10 sec x2 max

## PACKAGE DRAWING



## SOLDER PAD LAYOUT



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

Dimensions in mm

## ORDERING INFORMATION

To request a quotation for the GSX-213 please use the configurable options form to choose the options you require and then submit your configured product to our team. Our expert advisers are always happy to help with your requirements and can be contacted on +44 1460 256 100 or at [sales@golledge.com](mailto:sales@golledge.com).

Following product selection you will be issued with a seven character Golledge part number. Your Golledge part number is the internationally accepted Golledge manufacturing part number (MPN) that should be used for all project documentation, including bills of materials (BoMs) and purchase orders.

If you have any queries regarding any of our documentation our dedicated sales team will be happy to help.

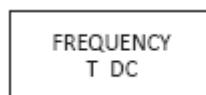
## APPLICATIONS

Our crystals and oscillators are regularly supplied for use with industry-leading ICs, from world-leading manufacturers including:

Analogue Devices  
Atmel (Microchip Technology Inc.)  
Broadcom  
Dialog Semiconductor PLC  
Intel  
Nordic Semiconductor  
NXP Semiconductors  
Qualcomm (and CSR)  
Silicon Labs  
STMicroelectronics  
Texas Instruments (TI)  
Xilinx  
and more...

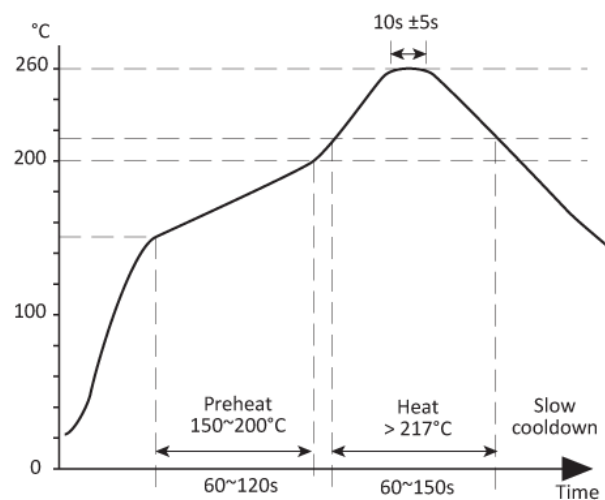
If you'd like more information about chipset compatibility please [get in touch with our team here](#).

## MARKING



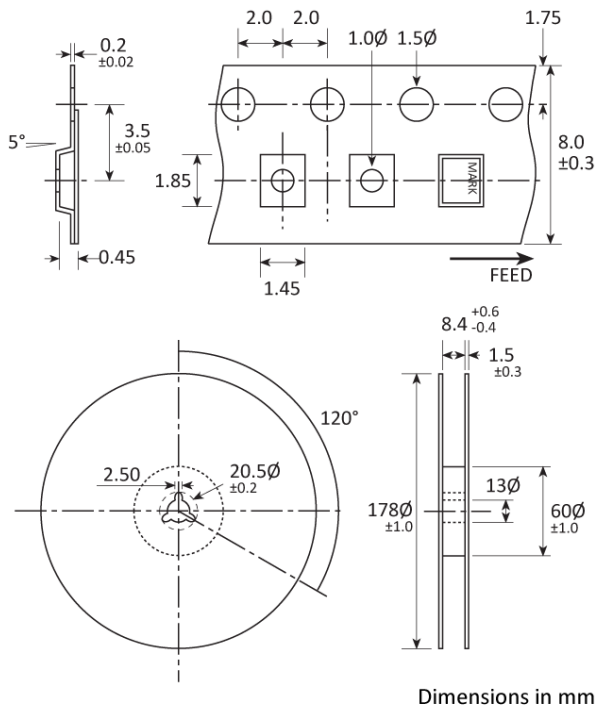
Marking type: Laser  
DC = Date code

## SOLDERING PROFILE



Lead free solderability limits: 260°C ±5°C x 10s ±5s x 2.

## TAPE & REEL SPECIFICATION



## CONSTRUCTION

Ceramic body with gold-plated pads  
Metal lid, seam sealed

## HANDLING & STORAGE



Human Body Model (HBM) 1A (250V to <500V)



Moisture Sensitivity Level (MSL): 1 (or not applicable)

## COMPLIANCE

Please refer to our **DOCUMENTS** section for more information.



Lead-free (< 0.1% by weight)



RoHS compliant with no exemptions.



REACH compliant.



Free of conflict minerals.



Free from halogens.



Free from ozone-depleting substances.