

# GRX-210

## Ultra-miniature Automotive Crystal (AEC-Q200)

- AEC-Q200 qualified for automotive applications
- Vacuum seal for excellent long-term stability
- High reliability at low cost
- Metal lid can be grounded to minimise EMI
- Miniature size for maximum space/weight saving



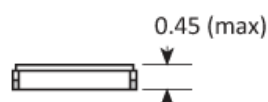
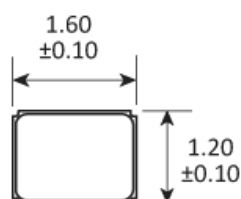
### CONFIGURABLE OPTIONS

Parameter	Option Code
Frequency	
Calibration tolerance	
Any	
±10ppm	1
±15ppm	P
±20ppm	2
Temperature stability	
Any	
±15ppm	P
±20ppm	2
±50ppm	5
Operating temperature range	
Any	
-40 to +85°C	4
-40 to +125°C	A
Circuit condition	
Any	
8pF	M
10pF	A
12pF	B
16pF	D
Oscillation mode	
Fundamental	F

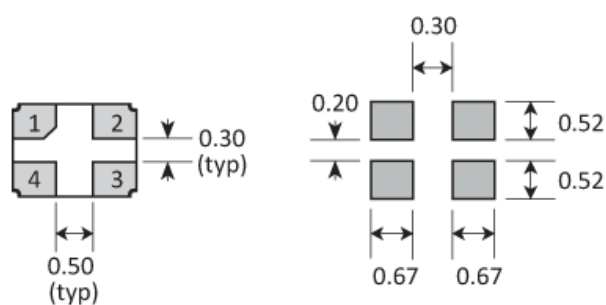
## SPECIFICATIONS

Frequency range	26.0 ~ 40.0MHz
Dimensions	1.6 x 1.2 x 0.45mm
Storage temperature range	-40 to +125°C
Static capacitance (C <sub>0</sub> )	5pF max
Equivalent series resistance	100Ω max (26.0 ~ 29.99MHz) 80Ω max (30.0 ~ 40.0MHz)
Ageing	±3ppm max first year
Test drive level	10μW typ, 100μW max
Soldering condition	260°C, 10 sec x2 max
Qualification	AEC-Q200 (Automotive)

## 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 GRX-210 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).

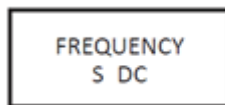
Following product selection you will be issued with a seven character Golledge part number. Your Golledge part number is the internationally accepted Golledge manufacturing part number (MPN) that should be used for all project documentation, including bills of materials (BoMs) and purchase orders.

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

## APPLICATIONS

Vehicle telematics  
Connected car  
Remote keyless entry (RKE)  
Audio (DAB/Bluetooth)  
Camera

## MARKING

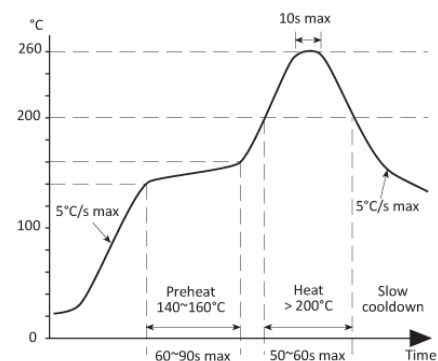


Marking type: Laser

DC = Date Code in YM, eg. "GF" = Jun 2017

	A	B	C	D	E	F	G	H	J	K	L	M
Y	1	2	3	4	5	6	7	8	9	0		
M	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

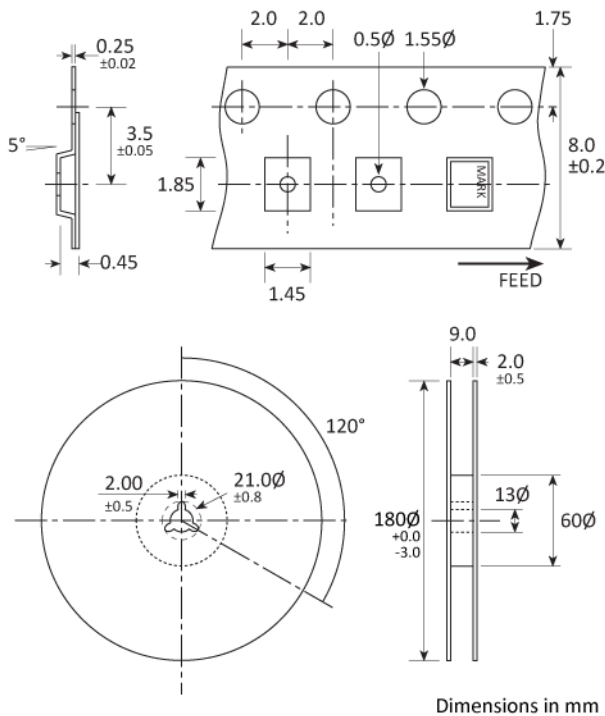
## SOLDERING PROFILE



Solderability limits:

260°C max x 10sec max x 2 max

## 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)

## MATERIAL COMPOSITION



Lead-free (< 0.1% by weight)



RoHS compliant with no exemptions. [See our declaration](#)



REACH compliant. [See our statement](#)



Free of conflict minerals. [See our declaration](#)



Free of Halogens. [See our declaration](#)



Free of Ozone-depleting substances. [See our declaration](#)

## OTHER INFORMATION

### About Golledge

We are the UK's leading supplier of frequency control products and are proud to serve the global electronics industry. Our philosophy is a focus firmly on your requirements by striving to meet and exceed your needs. We do this by ensuring the utmost quality and consistency in our products and services. If you have any queries about the Golledge service or any of our products please get in touch, we'd love to hear from you.

### Come and visit

Eaglewood Park, ILMINSTER,  
Somerset, TA19 9DQ, England

### Give us a call

Tel: +44 1460 256 100  
Fax: +44 1460 256 101

### Email us

[sales@golledge.com](mailto:sales@golledge.com)

### Our Worldwide Distributors

#### Belgium & Luxembourg

Alcom Electronics NV/SA



Email [info@alcom.be](mailto:info@alcom.be)  
Web [www.alcom.be](http://www.alcom.be)  
Tel +32 (0)3 458.30.33

#### China, Hong Kong - 中国 / 香港

Meiya China



Email [sales@meiyatech.com](mailto:sales@meiyatech.com)  
Web [www.meiyatech.com](http://www.meiyatech.com)  
Tel +86 755 2823 1923

#### France

Equipments Scientifique



Email [comp@es-france.com](mailto:comp@es-france.com)  
Web [www.es-france.com](http://www.es-france.com)  
Tel +33 1 47 95 99 89

#### Germany

MEV Elektronik Service GmbH



Email [info@mev-elektronik.com](mailto:info@mev-elektronik.com)  
Web [www.mev-elektronik.com](http://www.mev-elektronik.com)  
Tel +49 54 24 23 40-0

#### India

V5 Semiconductors



Email [sales@v5semiconductors.com](mailto:sales@v5semiconductors.com)  
Web [v5semiconductors.com](http://v5semiconductors.com)  
Tel +91-80-2661 0621

#### Israel

Phoenix Technologies Ltd



Email [sales@phnx.co.il](mailto:sales@phnx.co.il)  
Web [www.phnx.co.il](http://www.phnx.co.il)  
Tel +972 9 764 4800

#### Netherlands

Alcom Electronics BV



Email [info@alcom.nl](mailto:info@alcom.nl)  
Web [alcom.nl](http://alcom.nl)  
Tel +31 (0)10 288.25.00

#### Norway & Sweden

Link Nordic



Email [thomas.olaussen@linknordic.com](mailto:thomas.olaussen@linknordic.com)  
Web [linknordic.com](http://linknordic.com)  
Tel +47 92 23 37 54

#### Russia - Россия

EFO Ltd



Email [elena@efo.ru](mailto:elena@efo.ru)  
Web [www.golledge.ru](http://www.golledge.ru)  
Tel +7(812)327-8654

#### Spain & Portugal

R.C. Microelectronica, S.A.



Email [ventas@rcmicro.es](mailto:ventas@rcmicro.es)  
Web [www.rcmicro.es](http://www.rcmicro.es)  
Tel +34 93 260 21 66

Our customer feedback is testament to our quality; "Never had such good service as this from anyone in 35 years of being in the industry, this is impressive and has really helped us out of a corner to keep the design flowing" Andy (Senior Design Engineer), "As always your support is state of the art" Nicoleta (Material Management), "Legendary work - as usual it has to be said" John (Operations).  
To take advantage of our highly praised service get in touch with us today.