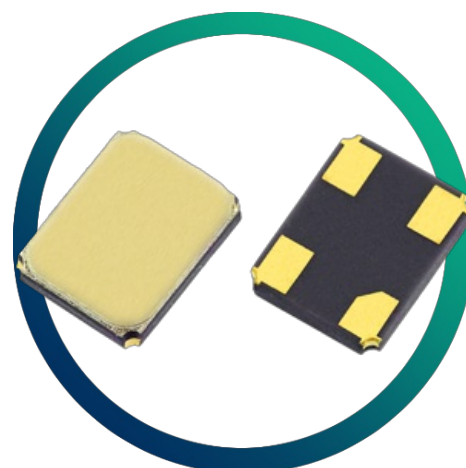


# GRX-330

## 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



### CONFIGURABLE OPTIONS

| Parameter                   | Option Code |
|-----------------------------|-------------|
| Frequency                   |             |
| Calibration tolerance       |             |
| Any                         |             |
| ±10ppm                      | 1           |
| ±15ppm                      | P           |
| ±20ppm                      | 2           |
| Temperature stability       |             |
| Any                         |             |
| ±15ppm                      | P           |
| ±20ppm                      | 2           |
| ±50ppm                      | 5           |
| ±100ppm                     | C           |
| Operating temperature range |             |
| Any                         |             |
| -40 to +85 °C               | 4           |
| -40 to +125 °C              | A           |
| Circuit condition           |             |
| Any                         |             |
| 10pF                        | A           |
| 12pF                        | B           |
| 16pF                        | D           |
| 20pF                        | F           |
| Oscillation mode            |             |
| Fundamental                 | F           |

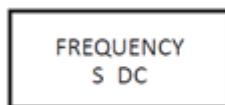
## SPECIFICATIONS

|                                      |                                                                                                  |
|--------------------------------------|--------------------------------------------------------------------------------------------------|
| Frequency range                      | 12.0 ~ 40.0MHz                                                                                   |
| Storage temperature range            | -40 to +125°C                                                                                    |
| Static capacitance (C <sub>0</sub> ) | 5pF max                                                                                          |
| Equivalent series resistance (max)   | 100Ω (12.0 ~ 15.99MHz)<br>80Ω (16.0 ~ 18.99MHz)<br>60Ω (19.0 ~ 29.99MHz)<br>40Ω (30.0 ~ 40.0MHz) |
| Ageing                               | ±3ppm max first year                                                                             |
| Test drive level                     | 10μW typ, 100μW max                                                                              |
| Soldering condition                  | 260°C, 10 sec x2 max                                                                             |

## ORDERING INFORMATION

Product name + option codes + frequency eg: GRX-330/PP4DF 13.560MHz 15/15/-40+85/16-F GRX-330/25ABF 27.0MHz 20/50/-40+125/12-F Option code X (eg GRX-330/X) denotes a custom specification.

## 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 |

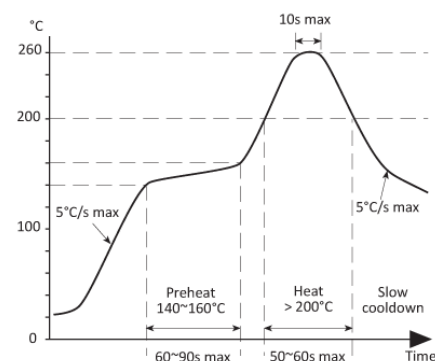
## PACKAGE DRAWING



## APPLICATIONS

Vehicle telematics Connected car Remote Keyless Entry (RKE)  
Audio - DAB / Bluetooth Camera

## SOLDERING PROFILE



Solderability limits:

260°C max x 10sec max x 2 max

## TAPE & REEL SPECIFICATION



## HANDLING & STORAGE



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



Moisture Sensitivity Level (MSL): 1

## CONSTRUCTION

Ceramic body with gold-plated padsMetal lid, seam sealed

## MATERIAL COMPOSITION



Product is RoHS 2 compliant



[REACH Compliance Statement](#)



text and link to Conflict Minerals pdf statement



Text and link to Halogen Free pdf statement



Text and link to Ozone depletion statement pdf



Nominal Net Mass: 45.6mg

## OTHER INFORMATION

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### 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.

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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).  
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