

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

Features

- ▶ AEC-Q200 qualified for automotive apps
- ▶ Seam sealed for excellent long-term stability
- ▶ High reliability at low cost
- ▶ Metal lid can be grounded to minimise EMI
- ▶ Miniature for maximum space/weight saving

Example Applications

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

Specifications

| Parameters | Product | Option Codes |
|---------------------------------------|---|-----------------------|
| | GRX-220 | |
| Frequency range: | 16.0 ~ 26.0MHz | ■ |
| Calibration tolerance: | ±10ppm ±15ppm ±20ppm Other values | ■ □ □ □ |
| Temperature stability: | ±15ppm ±20ppm ±50ppm ±100ppm Other values | □ □ □ □ □ |
| Operating temperature range: | -40 to +85°C -40 to +125°C Other values | □ □ □ |
| Storage temperature range: | -40 to +125°C | ■ |
| Circuit condition: | 8pF 10pF 12pF 16pF Other values | □ □ □ □ □ |
| Oscillation mode: | Fundamental | ■ |
| Static capacitance (C ₀): | 5pF max | ■ |
| Equivalent series resistance (max): | 150Ω (16.0 ~ 19.99MHz) 100Ω (20.0 ~ 26.0MHz) | ■ ■ |
| Ageing: | ±3ppm max first year | ■ |
| Test drive level: | 10μW typ, 100μW max | ■ |
| Soldering condition: | 260°C, 10 sec x2 max | ■ |

■ Standard. □ Optional - Please specify required code(s) when ordering

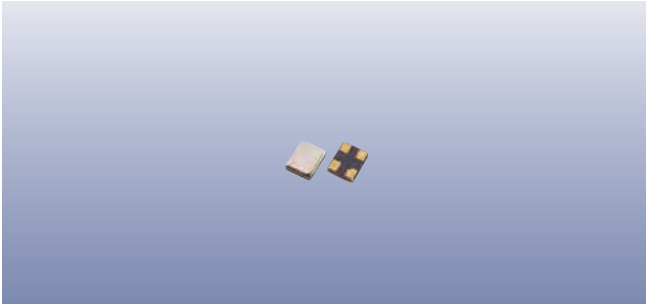
Ordering Information

Product name + option codes + frequency

eg: **GRX-220/1P4DF 16.0MHz** 10/15/-40+85/16-F

GRX-220/25ABF 24.0MHz 20/50/-40+125/12-F

Option code X (eg GRX-320/X) denotes a custom specification.



Packaging & Handling

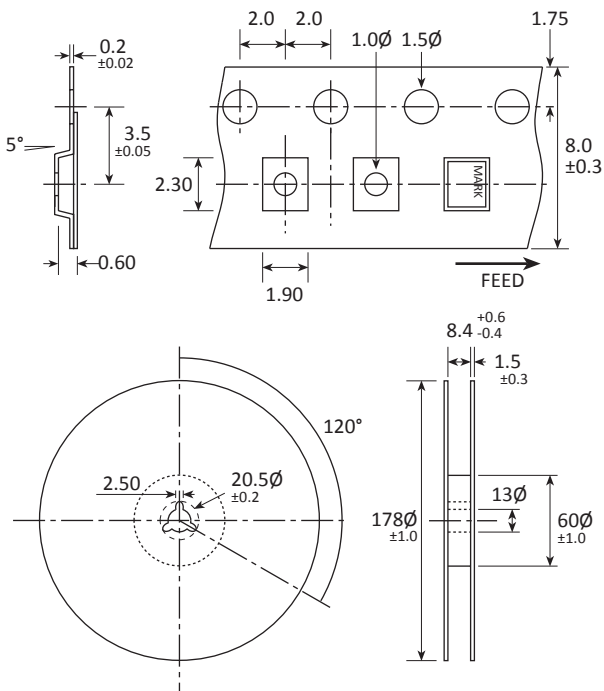
Production quantities supplied on T&R, 3k pcs per reel.
Small quantities may be supplied on tape (no reel), or in bulk.

Marking

| | | | | | | | | | | | | |
|-------------------|---|--|--|--|--|--|--|--|--|--|--|--|
| FREQUENCY S DC | Marking type: Laser DC = Date code in YM, eg "EJ" = Sep 2015 | | | | | | | | | | | |
|-------------------|---|--|--|--|--|--|--|--|--|--|--|--|



| | 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 |

Tape & Reel Specification



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

Construction

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

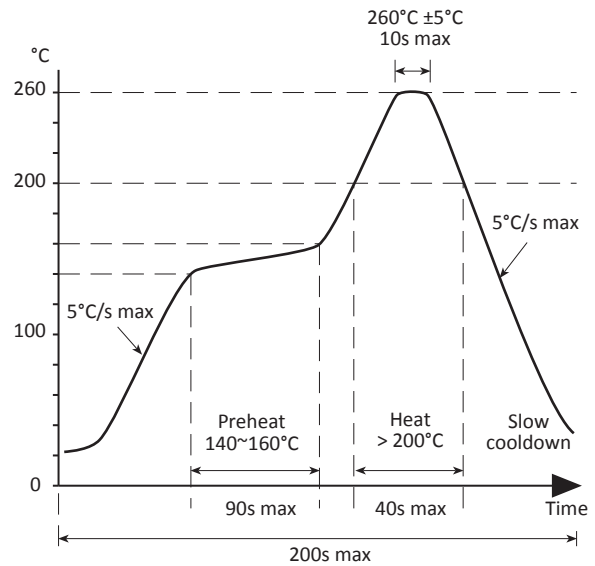
Composition



This product is lead-free, and is fully compliant with the RoHS directive 2011/65/EU



Soldering Profile



Maximum solder resistance: 260°C x 10 secs x 2.