

| 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-330 | |
| Frequency range: | 12.0 ~ 40.0MHz | ■ |
| 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: | 10pF 12pF 16pF 20pF Other values | □ □ □ □ □ |
| Oscillation mode: | Fundamental | ■ |
| Static capacitance (C ₀): | 5pF max | ■ |
| Equivalent series resistance (max): | 100Ω (12.0 ~ 15.99MHz) 80Ω (16.0 ~ 18.99MHz) 60Ω (19.0 ~ 29.99MHz) 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 | ■ |

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

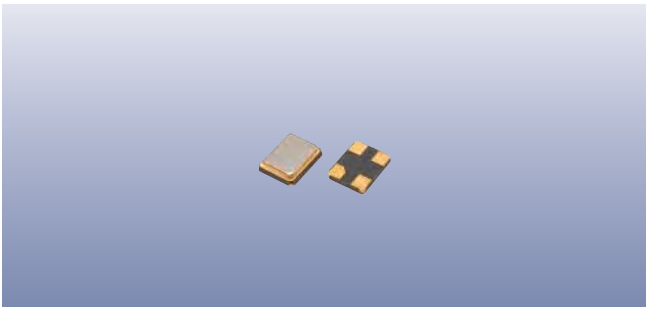
Ordering Information

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.



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



Packaging & Handling

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

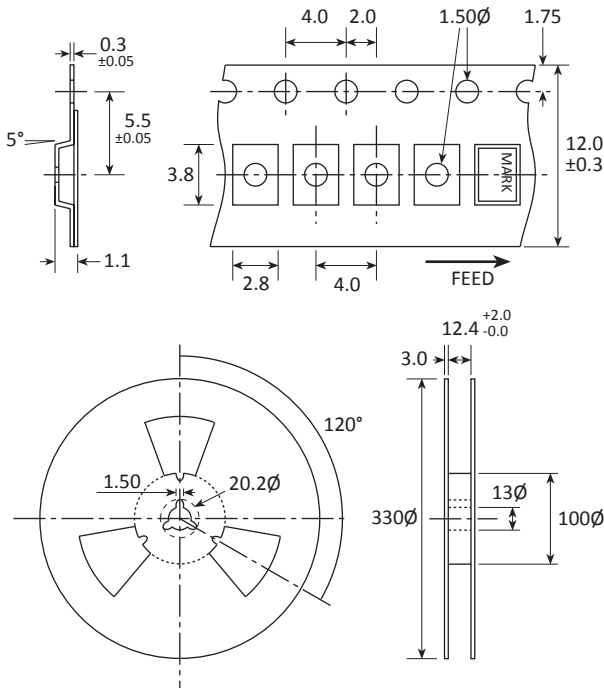
Marking

FREQUENCY
S DC

Marking type: Laser
DC = Date code in YM, eg "DE" = May 2014

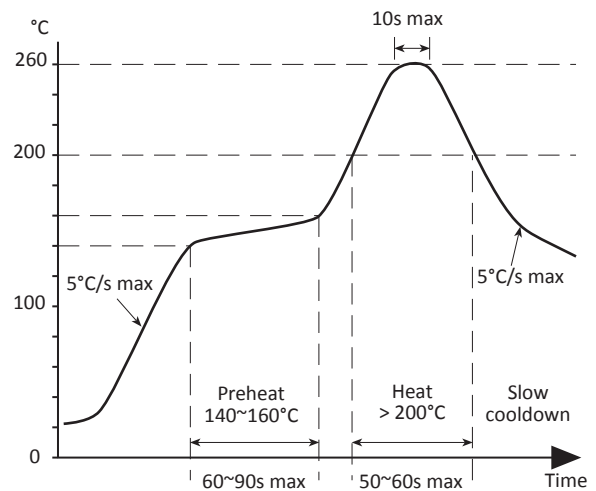
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|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | A | B | C | D | E | F | G | H | J | K | L | M |
| Y | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | | |
| M | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov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

Tape & Reel Specification



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

Soldering Profile



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