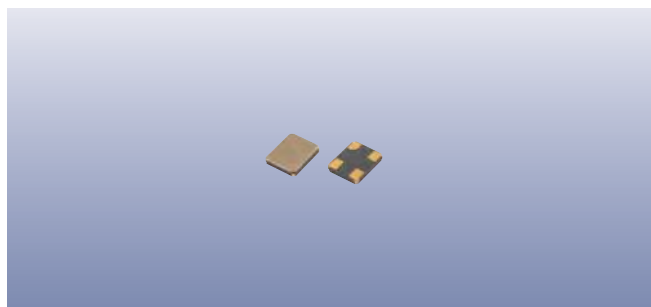
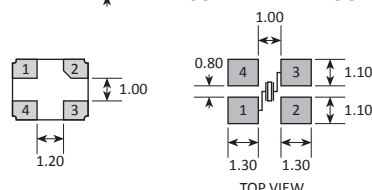


SOLDER PAD LAYOUT



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 ☐	1 P 2 specify
Temperature stability:	±15ppm ☐ ±20ppm ☐ ±50ppm ☐ ±100ppm ☐ Other values ☐	P 2 5 C specify
Operating temperature range:	-40 to +85°C ☐ -40 to +125°C ☐ Other values ☐	4 A specify
Storage temperature range:	-40 to +125°C	■
Circuit condition:	10pF ☐ 12pF ☐ 16pF ☐ 20pF ☐ Other values ☐	A B D F specify
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

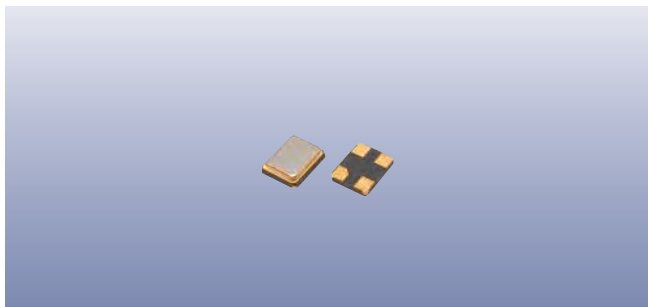
Ordering Information

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.



Packaging & Handling

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

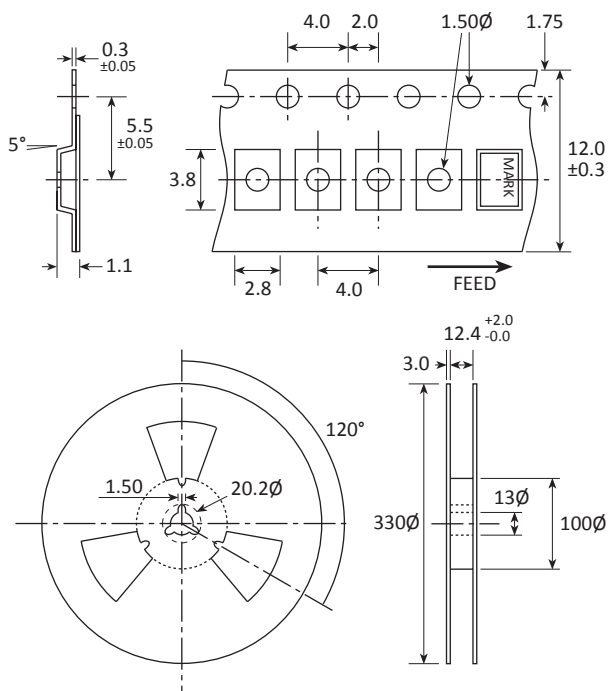
Marking

FREQUENCY
S DC

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

	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 $\pm 0.1\text{mm}$ unless otherwise stated.

Construction

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

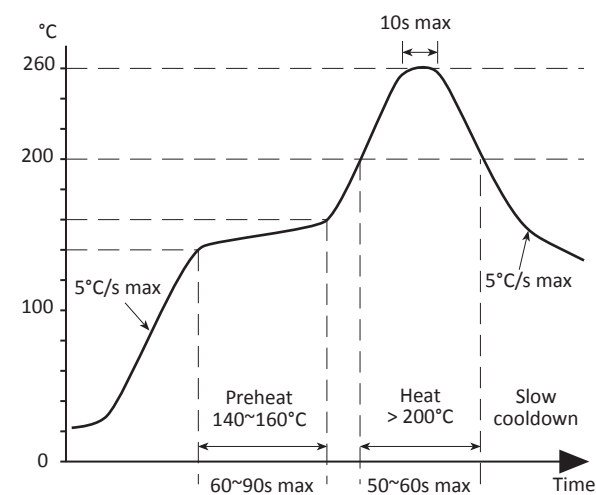
Composition



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.