RGX-3

rakon

SMD Communication Crystals

Acceleration tolerant SMD AT-cut quartz crystal in ceramic package with 6.0 mm x 3.5 mm footprint

Product description

Very small SMD AT-cut quartz crystal specifically designed to operate in vibration prone environments. Parts are able to survive acceleration 20,000G and higher with minimal parameter change. Vibration G-sensitivity significantly reduced. True SMD style, ceramic package with metal lid, seamed sealed. The product is supplied on tape and reel.

Applications

- GPS
- Agriculture
- Avionics
- Guidance
- Navigation
- Military
- Other

Features

- G-sensitivity down to 0.2ppb/G
- Low aging
- Up to 50,000G acceleration event survival
- Very good short term stability

Specifications

1.0 SPECIFICATION REFERENCES

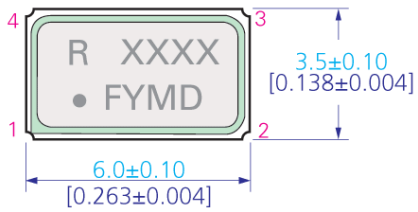
Line	Parameter	Description
1.1	Model description	RGX-3
1.2	RoHS compliant	Yes
1.3	Reference number	
1.4	Rakon part number	

2.0 FREQUENCY CHARACTERISTICS

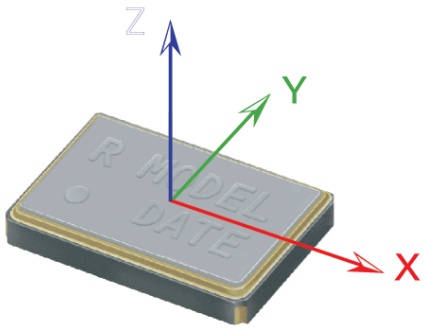
Line	Parameter	Test Condition	Value	Unit
2.1	Frequency		10 to 30	MHz
2.2	Calibration tolerance	Frequency at 25°C ±2°C and specified load capacitance	±10 to 20	ppm
2.3	Reflow shift	Two consecutive reflows as per attached profile after 4 hours recovery at 25°	±1 max	ppm
2.4	Frequency stability over temperature	Referenced to frequency reading at 25°C and the specified load capacitance	±4 to 40	ppm
2.5	Temperature range	Operating temperature	-55 to 95	°C
2.6	Frequency perturbations	Peak-to-peak deviation from the frequency vs. temperature 5th order curve fit. Minimum of 1 frequency reading every 3°C, over the operating temperature range	0.2 to 1	ppm
2.7	Short term stability	Root Allan Variance for 1 second Tau	1 max	ppb
2.8	Long term stability	Frequency drift over 1 year	±1 max	ppm
2.9	Long term stability	Frequency drift over 10 years	±5 max	ppm
2.10	G-Sensitivity	Gamma vector of all three axes from 30Hz to 1500Hz. Values as low as 0.2ppb/G available depending on design (Note 1)	0.2 to 0.8	ppb/g
2.11	Frequency offset after acceleration event	20,000G/2ms acceleration event in the z axis. Theoretical recovery time of 100ms (Note 1)	-3 to 0	ppm

Drawing Name: RGX-3 Model Drawing

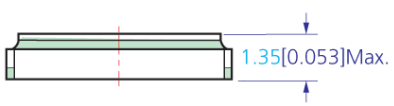
MODEL OUTLINE



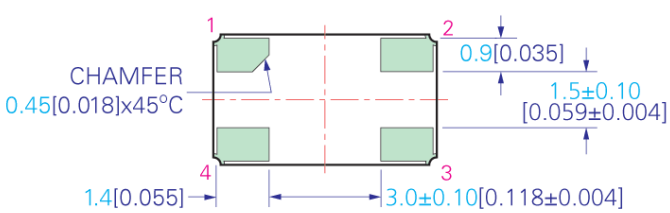
TOP VIEW



MODEL COORDINATE ORIENTATION



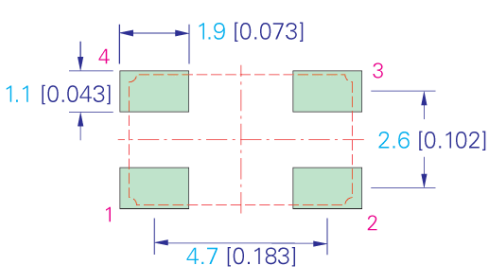
SIDE VIEW



BOTTOM VIEW

PIN CONNECTIONS	
1	CRYSTAL
2	GND
3	CRYSTAL
4	GND

RECOMMENDED PAD LAYOUT - TOP VIEW



TITLE: RGX-3 MODEL	FILENAME: CAT351	Tolerance:
RELATED DRAWINGS:	REVISION: C	XX =±0.5
	DATE: 15-Oct-09	X.X =±0.2
	SCALE: 5 : 1	X.XX =±0.10
	Millimetres [inch]	X.XXX =±0.05
		X° =±1.0°
		Hole =±0.10

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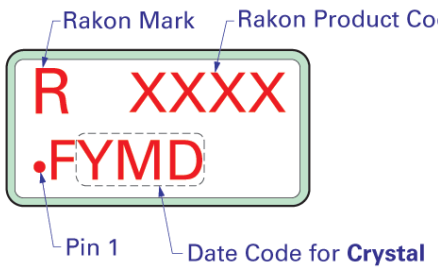
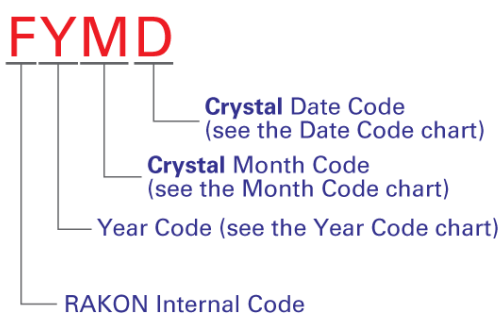
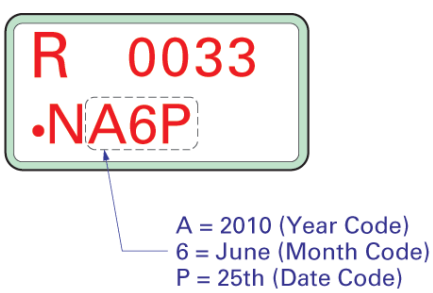
Drawing Name: RSX-6, RS(G)X-5, RS(G)X-3 Series Lid Marking

Marking:





Example:



Y - Year Code

Code	Year	Code	Year	Code	Year
0	2000	A	2010	N	2023
1	2001	B	2011	O	2024
2	2002	C	2012	P	2025
3	2003	D	2013	Q	2026
4	2004	E	2014	R	2027
5	2005	F	2015	S	2028
6	2006	G	2016	T	2029
7	2007	H	2017	U	2030
8	2008	I	2018	V	2031
9	2009	J	2019	W	2032
		K	2020	X	2033
		L	2021	Y	2034
		M	2022	Z	2035

M - Month Code

Code	Month
1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
A	October
B	November
C	December

D - Date Code

Code	Date	Code	Date	Code	Date
1	1st	E	14th	R	27th
2	2nd	F	15th	S	28th
3	3rd	G	16th	T	29th
4	4th	H	17th	U	30th
5	5th	I	18th	V	31th
6	6th	J	19th		
7	7th	K	20th		
8	8th	L	21st		
9	9th	M	22nd		
A	10th	N	23rd		
B	11th	O	24th		
C	12th	P	25th		
D	13th	Q	26th		

Note: 1 MUST BE DIFFERENT TO I.

TITLE: RSX-6, RS(G)X-5, RS(G)X-3 SERIES LID MARKING

FILENAME: CAT190

RELATED DRAWINGS:

REVISION: D

DATE: 02-Jul-10

SCALE: NTS

Millimeters [inch]

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