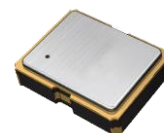


RXO2520C

1.0 Specification References

Parameter	Description
a. Rakon part number	X6360
b. Description	8.704 MHz RXO2520C XO
c. Package	L x W x H: 2.5 x 2.0 x 0.8 mm



2.0 Absolute Maximum Rating ¹

Parameter	Min.	Max.	Unit
a. Power supply	-0.3	+4.0	V
b. Storage temperature	-55	125	°C

3.0 Frequency Characteristics

Parameter	Min.	Typ.	Max.	Unit	Test Condition / Description
a. Nominal frequency		8.704		MHz	
b. Temperature range	-40		105	°C	The operating temperature range over which the frequency stability is measured
c. Frequency stability			±50	ppm	Including calibration, temperature range, supply variation, load variation.
d. Long term stability			±7	ppm	Frequency drift over 10 years, at 25°C

4.0 Power Supply

Parameter	Min.	Typ.	Max.	Unit	Test Condition / Description
a. Supply voltage (V_{DD})		3.3		V	With a tolerance of ±5%
b. Supply current (I_{CC})			10	mA	
c. Standby current (I_{CC})			10	μA	

5.0 Output Characteristics – CMOS

Parameter	Min.	Typ.	Max.	Unit	Test Condition / Description
a. Output voltage (V_{OL})			10% V_{DD}	V	15pF load
b. Output voltage (V_{OH})	90% V_{DD}			V	15pF load
c. Duty cycle	45	50	55	%	At 50% V_{DD}
d. Rise and fall time			5	ns	At 10% to 90% V_{DD} , 15pF load
e. Start-up time			10	ms	At 90% V_{DD}

¹ Operating beyond this limit may result in change or permanent damage to the device.

6.0 Marking

Parameter	Test Condition / Description
a. Type	Laser engraved
b. Line 1	Frequency in MHz
c. Line 2	[X] = Plant Code, [XX] = Date code (Year and Month)*
d. Year code*	Last digit of the year
e. Month code*	Jan-A, Feb-B, Mar-C, Apr-D, May-E, Jun-F, Jul-G, Aug-H, Sep-J, Oct-K, Nov-L, Dec-M
f. Marking example	April, 2019 = 9D

7.0 Manufacturing Information

Parameter	Test Condition / Description
a. Reflow	Solder reflow process as per attached profile
b. Packaging description	Tape and reel. Standard packing quantity is 3000 units per reel

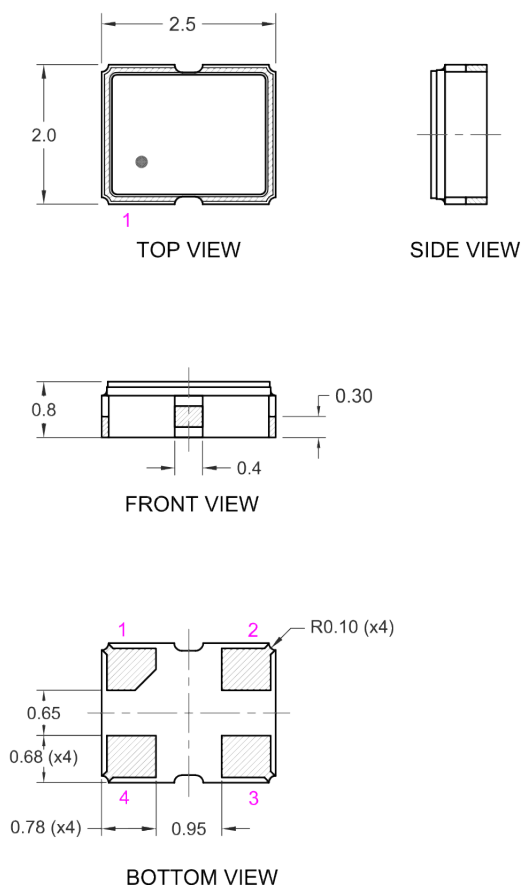
8.0 Environmental Specification

Parameter	Test Condition / Description										
a. RoHS compliant	Yes										
b. Free fall	Free dropping from 150 cm height 3 times on a hard wooden board										
c. Moisture resistance	1000 ±12 hours at 85°C ±3°C, 90 – 95% relative humidity ²										
d. Thermal cycling	The unit shall be subjected to 100 successive change of temperature cycles, then 25 ±2°C over 2 hours before testing, each cycle as below: <table> <tr> <td>Temperature</td><td>Duration:</td></tr> <tr> <td>1. -40 +0/-6°C</td><td>30 ±3 minutes</td></tr> <tr> <td>2. 25°C ±2°C</td><td>2 – 3 minutes</td></tr> <tr> <td>3. 85 +4/-0°C</td><td>30 ±3 minutes</td></tr> <tr> <td>4. 25°C ±2°C</td><td>2 – 3 minutes</td></tr> </table>	Temperature	Duration:	1. -40 +0/-6°C	30 ±3 minutes	2. 25°C ±2°C	2 – 3 minutes	3. 85 +4/-0°C	30 ±3 minutes	4. 25°C ±2°C	2 – 3 minutes
Temperature	Duration:										
1. -40 +0/-6°C	30 ±3 minutes										
2. 25°C ±2°C	2 – 3 minutes										
3. 85 +4/-0°C	30 ±3 minutes										
4. 25°C ±2°C	2 – 3 minutes										
e. Vibration	Frequency: 10 – 200 Hz Amplitude (total excursion): 1.5 mm (10 – 36 Hz), 4G (36 – 200 Hz) Sweep time: 1 Min./1oct 3 direction time: 2 hours for each X, Y, Z axis										

² Frequency shift ≤3ppm after environmental conditions.

9.0 Model Outline

MODEL OUTLINE

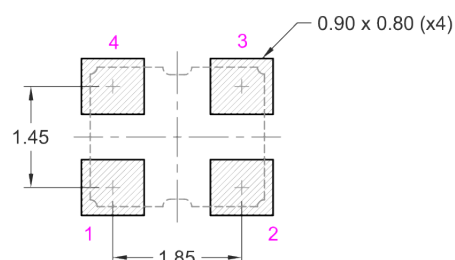


Pin Connections

1	E/D*
2	GND
3	Output
4	VDD

* **Output Enabled:** $\geq 70\%$ of V_{DD} on E/D, or E/D pin left open (Connected to internal pull-up resistor)
Output Disabled: $\leq 20\%$ of V_{DD} on E/D, or E/D pin to GND

RECOMMENDED PAD LAYOUT - TOP VIEW



TITLE: XO/VCXO2520 MODEL 4P – CMOS (Package AG)

RELATED DRAWINGS:

FILENAME: CAT1094

REVISION: B

DATE: 21-Aug-2018

SCALE: 10 : 1

Millimetres

TOLERANCES:

XX =

X.X = ± 0.15

X.XX = ± 0.10

X.XXX =

X° =

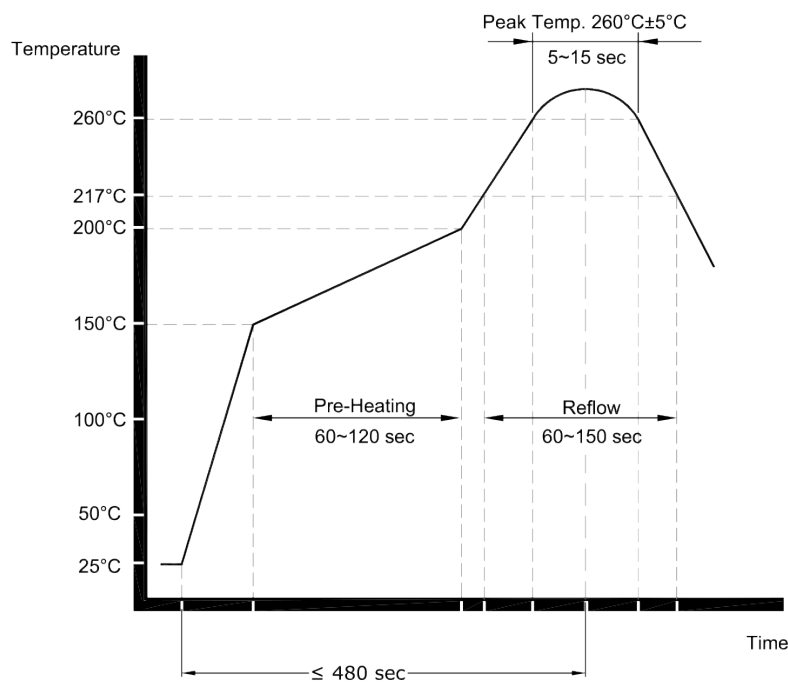
Hole =

rakon

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12.0 Reflow



TITLE: Pb-FREE Reflow (Package A/AG)

RELATED DRAWINGS:

FILENAME: CAT1036

REVISION: B

DATE: 03-Mar-2017

SCALE: NTS

Millimetres

TOLERANCES:

XX =

X.X =

X.XX =

X.XXX =

X° =

Hole =

rakon

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13.0 Specification History

Revision	User	Notes	Approver(s)	Date
A	PK	Specification created	WR/ TL	2021-06-08
B	PK	Updated operating temperature range to 125°C and split ageing into a separate parameter.	WR/ TL	2021-06-15
C	PK	Reverted back to 105°C	WR/ TL	2021-07-09