

# RXO7050M

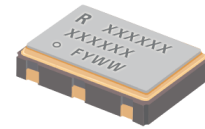


## SMD Clock Oscillator

Ultra Low Noise XO in 7 x 5 mm Surface Mount package

### Product description

The RXO7050M is a very high performance XO delivering ultra low RMS phase jitter for high speed serial data applications in telecom, networking and communication equipment.



### Applications

- Base stations
- Ethernet
- DSL/ADSL
- WiMAX/W-LAN
- Communications
- Wi-Fi
- Consumer

### Features

- Ultra Low Jitter 0.05 to 0.3 ps integrated 12 kHz to 20 MHz
- Excellent temperature stability
- CMOS, LVPECL, LVDS, or HCSL output options
- Wide frequency range

### Specifications

#### 1.0 SPECIFICATION REFERENCES

Line	Parameter	Description
1.1	Model Description	RXO7050M XO
1.2	Reference Number	
1.3	Rakon Part Number	

#### 2.0 FREQUENCY CHARACTERISTICS

Line	Parameter	Test Condition	Value	Unit
2.1	Frequency		1 to 640	MHz
2.2	Operating temperature Range		-40 to 85	°C
2.3	Frequency Stability	Including Temperature range, Supply variation, Load variation and 10 years aging at 25°C	±30 to 50	ppm
2.4	Temperature Stability	Temperature range only	±10 to 20	ppm

#### 3.0 POWER SUPPLY

Line	Parameter	Test Condition	Value	Unit
3.1	Supply Voltage (VDD)	With a tolerance of ±10%	3.3	V
3.2	Supply Voltage (VDD)	With a tolerance of ±5%	2.5	V
3.3	Supply Current	For LVCMOS	1 to 40	mA
3.4	Supply Current	For LVPECL	40 to 120	mA
3.5	Supply Current	For LVDS	30 to 80	mA

#### 4.0 OUTPUT CHARACTERISTICS - CMOS (UP TO 200 MHz)

Line	Parameter	Test Condition	Value	Unit
4.1	Output Voltage (Vol)	15pF load	10 max	%VDD
4.2	Output Voltage (Voh)	15pF load	90 min	%VDD
4.3	Duty Cycle	@ 50% VDD	45 to 55	%
4.4	Rise and Fall Time	90%/10%	3 max	ns
4.5	RMS Phase Jitter	Typical integrated 12kHz to 20MHz	0.05 to 0.3	ps

#### 5.0 OUTPUT CHARACTERISTICS - LVPECL ONLY

Line	Parameter	Test Condition	Value	Unit
5.1	Output Voltage (Vol)	50Ω nominal load. (VDD - 1.6V) max.		
5.2	Output Voltage (Voh)	50Ω nominal load. (VDD - 1.03V) min.		
5.3	Duty Cycle	@ VDD-1.3V	45 to 55	%
5.4	Rise Time/Fall Time	80%/20%	0.6 max	ns
5.5	RMS Phase Jitter	Integrated 12kHz to 20MHz	0.05 to 0.3	ps

#### 6.0 OUTPUT CHARACTERISTICS - LVDS ONLY

Line	Parameter	Test Condition	Value	Unit
6.1	Differential Output: Voltage Swing (Vod)		350	mV
6.2	Duty Cycle	Measured at 1.25V	45 to 55	%
6.3	Rise and Fall Time	RL = 100Ω / CL = 10pF	0.6 max	ns
6.4	RMS Phase Jitter	Typical integrated 12kHz to 20MHz	0.05 to 0.3	ps

#### 7.0 PIN CONNECTIONS

Line	Parameter	Description
7.1	Pin 1	E/D* or NC
7.2	Pin 2	E/D* or NC
7.3	Pin 3	GND
7.4	Pin 4	OUTPUT
7.5	Pin 5	COMPLIMENTARY OUTPUT (LVPECL/LVDS only) or N/C
7.6	Pin 6	VDD
7.7	* Output Enabled	>70% of VDD on E/D, or E/D pin left open (connected to internal pull-up resistor)
7.8	* Output Disabled	<30% of VDD on E/D, or E/D pin to GND

#### 8.0 PACKAGE DETAIL

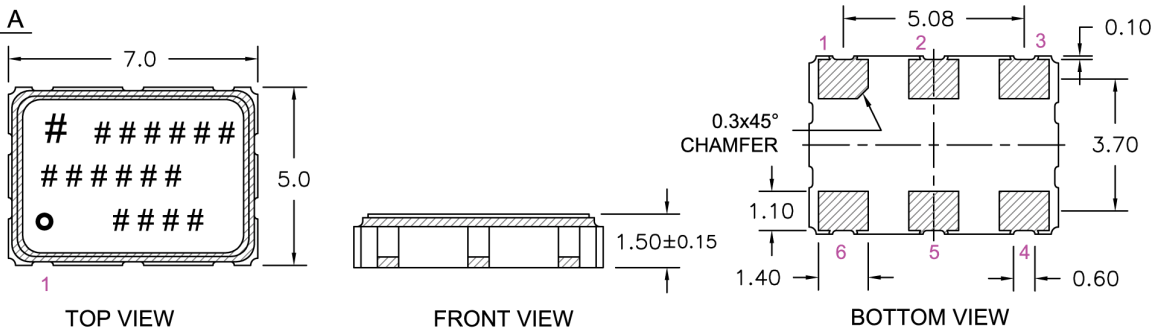
Line	Parameter	Description
8.1	Package	A, B, C, G4, G6, or J6
8.2	Top line	[R #####] Part identifier
8.3	Middle line	[#####] Part information
8.4	Bottom line	[o FYWW] Pin 1, Manufacturing code, Year code* and Week code**
8.5	* Year code	A = 2010, B = 2011, C = 2012, D = 2013, ... Z = 2035
8.6	** Week Code	WW = 01 = Week of first Monday of the year

#### 9.0 ENVIRONMENTAL SPECIFICATION

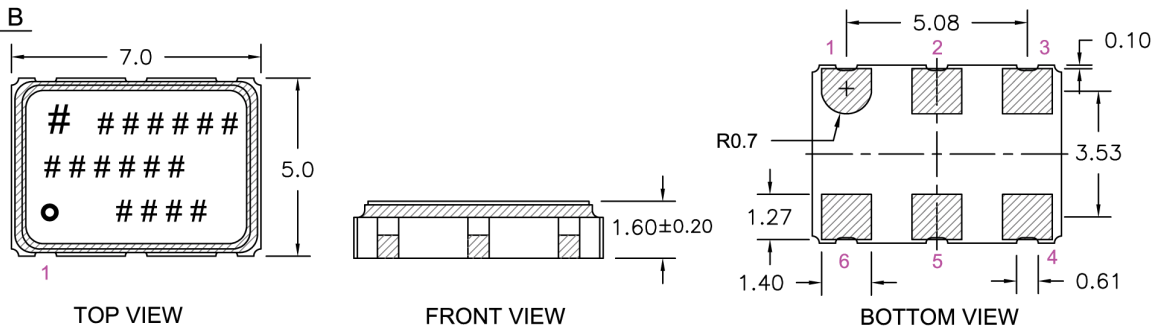
Line	Parameter	Description
9.1	Mechanical Shock	MIL-STD-883, Method 2002
9.2	Storage Temperature Range	-55 to 125°C
9.3	Humidity	After 48 hours at 85°C±2°C 85% relative humidity non-condensing
9.4	Thermal Shock	MIL-STD-883, Method 1011
9.5	Vibration	MIL-STD-883, Method 2007
9.6	Gross and Fine Leak	MIL-STD-883, Method 1014
9.7	RoHS Compliant	Yes

# Drawing Name: XO/VCXO 7050 Model Drawing

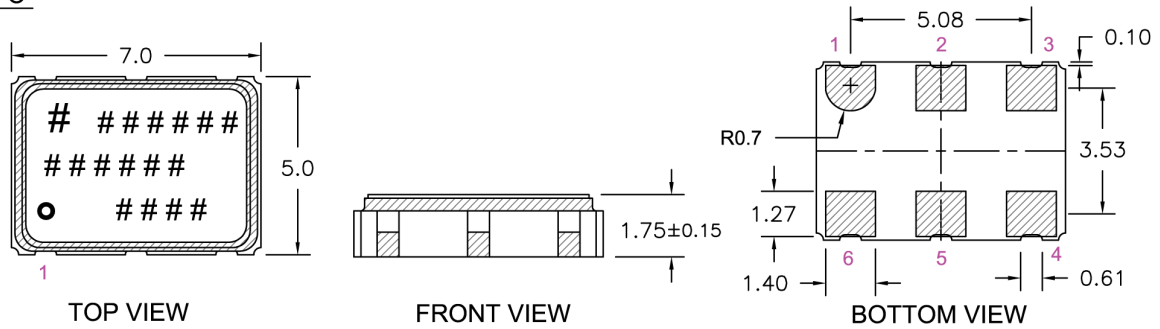
## PACKAGE A



## PACKAGE B

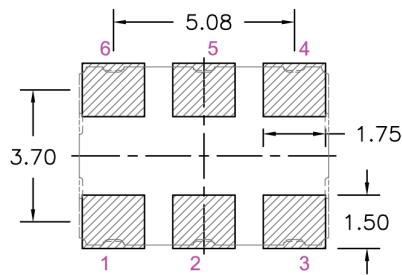


## PACKAGE C



## RECOMMENDED PAD LAYOUT

- TOP VIEW



### NOTE :

1. PIN CONNECTIONS ARE DETAILED IN THE SPECIFICATION.
2. MARKING INFORMATION IS DETAILED IN THE SPECIFICATION.

TITLE: XO/VCXO 7050 SERIES MODEL

FILENAME: CAT207

TOLERANCES:

RELATED DRAWINGS:

REVISION: J

XX =

DATE: 03-Apr-12

X.X = ±0.15

SCALE: 5 : 1

X.XX = ±0.10

Millimetres

X.XXX =

X° =

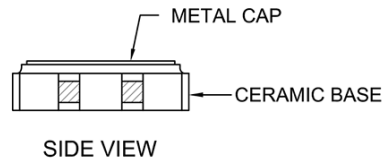
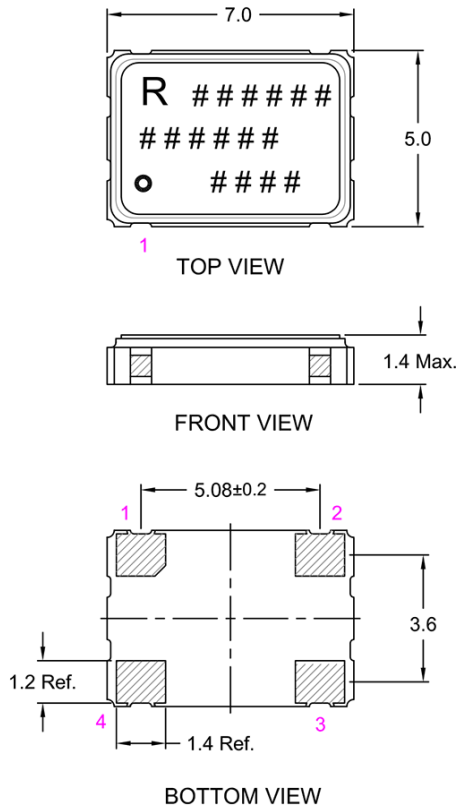
Hole =

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**Drawing Name: RXO7050M RSO7050X (Package G) Model Drawing**

PACKAGE G4

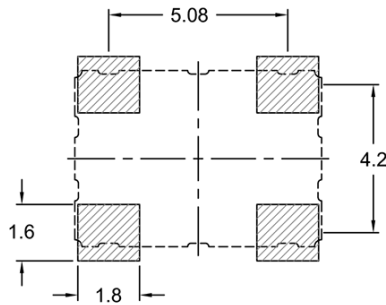


NOTE :

- 1. PIN CONNECTIONS ARE DETAILED IN THE SPECIFICATION.
- 2. MARKING INFORMATION IS DETAILED IN THE SPECIFICATION.

RECOMMENDED PAD LAYOUT

- TOP VIEW



TITLE: RXO7050M RSO7050X (Package G)

RELATED DRAWINGS:

FILENAME: CAT615

REVISION: D

DATE: 30-Nov-12

SCALE: 5 : 1

Millimetres

TOLERANCES:

XX =  
 X.X = ±0.1  
 X.XX =  
 X.XXX =  
 X° =  
 Hole =

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