



RFM Integrated Device, Inc.

PRODUCT SPECIFICATION

Part Number: XO9015G

Description:

XO,12.288000 MHz,+/-50ppm@-20C to
+70C

Features:

- Surface Mount Seam Weld Package
- Excellent Reliability Performance
- Excellent Frequency Perturbation and Stability over temperature
- Moisture Sensitive Level (MSL): Level 1



Application:

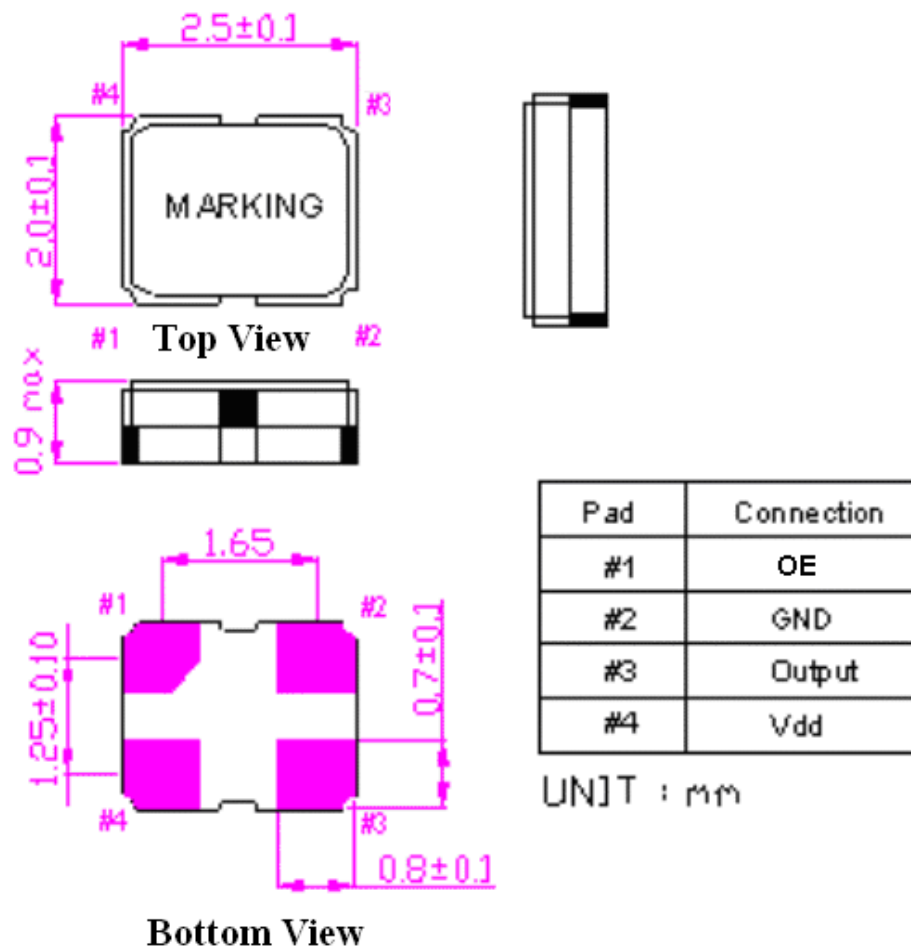
- 1.8V Supply Voltage CMOS Output
- Option-able stand-by functions for output.

Electrical Characteristics:

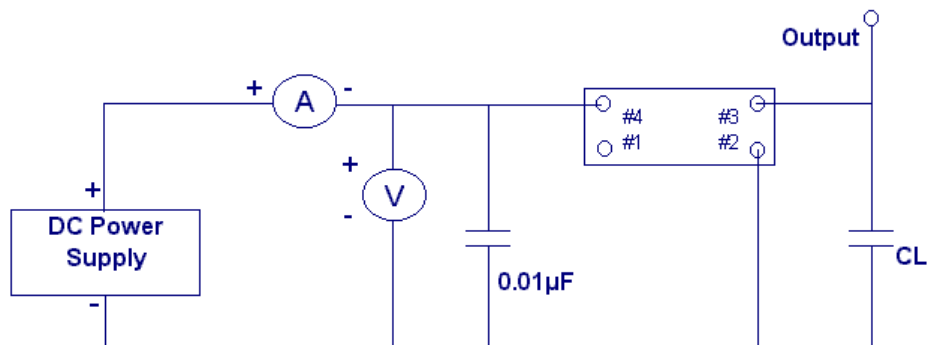
XO9015G	Specifications
Nominal Frequency, Fo	12.288000MHz
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +70°C
Power Supply Voltage, Vcc	1.7V to 3.6V(1.8V nominal)
Load	15pF
“0” Level “1” Level	10% Vcc max 90% Vcc min
Frequency Stability ¹	+/-50ppm max
Duty Cycle	40% ~ 60%
Power Supply Current, Icc	2 mA max
Rise Time (10% -> 90% of final RF level in Vp-p) Fall Time (90% -> 10% of final RF level in Vp-p)	10 nsec max.
Unit Weight	14 +/-0.5mg
Aging	1 ppm/Year
Enable/Disable Function	PIN 1: High or Open, PIN 3:Output Enable PIN 1: Low, PIN 3:Output Disable

#Note 1: Frequency accuracy includes 25C tolerance, operating temperature range -20 to 70 deg C, first year of aging and voltage or load change

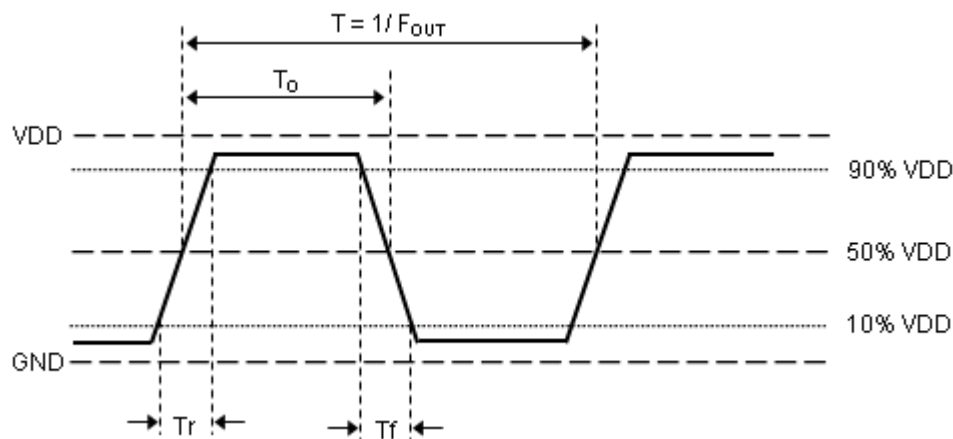
Mechanical Dimensions: (Unit: mm)



Test Circuit:



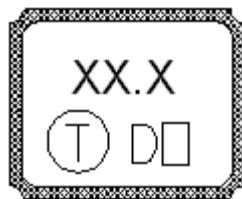
Output Waveform :



Marking:

Line 1: Frequency(12.2)

Line 2: Date Code + Product Code(☐ internal tracking code, could be a~z and A~Z)



Date Code Table

WK01	WK02	WK03	WK04	WK05	WK06	WK07	WK08	WK09	WK10	WK11	WK12	WK13
A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	WK28	WK29	WK30	WK31	WK32	WK33	WK34	WK35	WK36	WK37	WK38	WK39
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	WK41	WK42	WK43	WK44	WK45	WK46	WK47	WK48	WK49	WK50	WK51	WK52
n	o	p	q	r	s	t	u	v	w	x	y	z

Product Code Table:

Year						Product Code
2013	2015	2017	2019	2021	2023	☐
2014	2016	2018	2020	2022	2024	☐

Technical drawing of a circular mechanical part, showing three views: a top view, a side view, and a detail view of the central hole.

Top View: A circular part with four lobes. The central hole has a diameter of $\phi 60.2 \pm 0.5$. The overall diameter is $\phi 180 \pm 0.5$.

Side View: Shows the profile of the part. The total height is 180 ± 0.5 . The distance from the base to the center of the hole is 9.0 ± 0.3 . The distance from the base to the top of the lobes is 12 ± 1.4 .

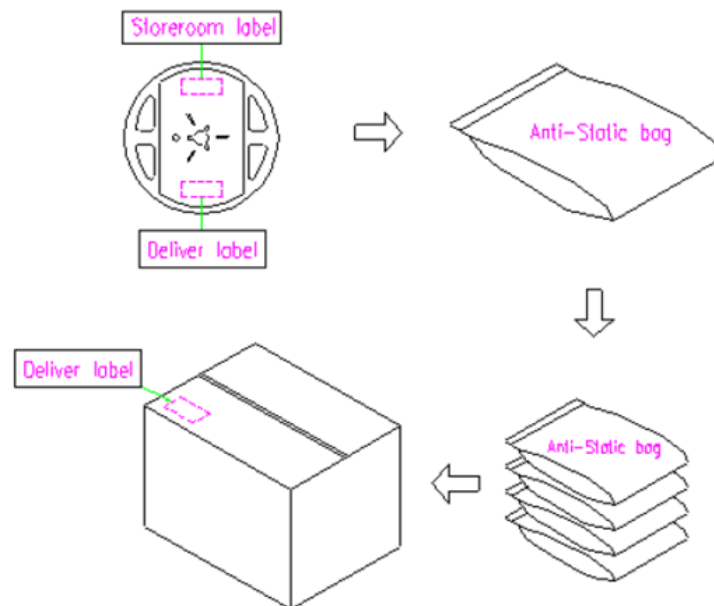
Detail View: A close-up of the central hole. The hole has a diameter of $\phi 13.2 \pm 0.5$ and a depth of 2.1 ± 0.5 .

1. Unless otherwise specified tolerance on dimension +/-0.1 mm.
2. Material: conductive polystyrene with color black.
3. 10 pitch cumulative tolerance +/-0.2 mm.

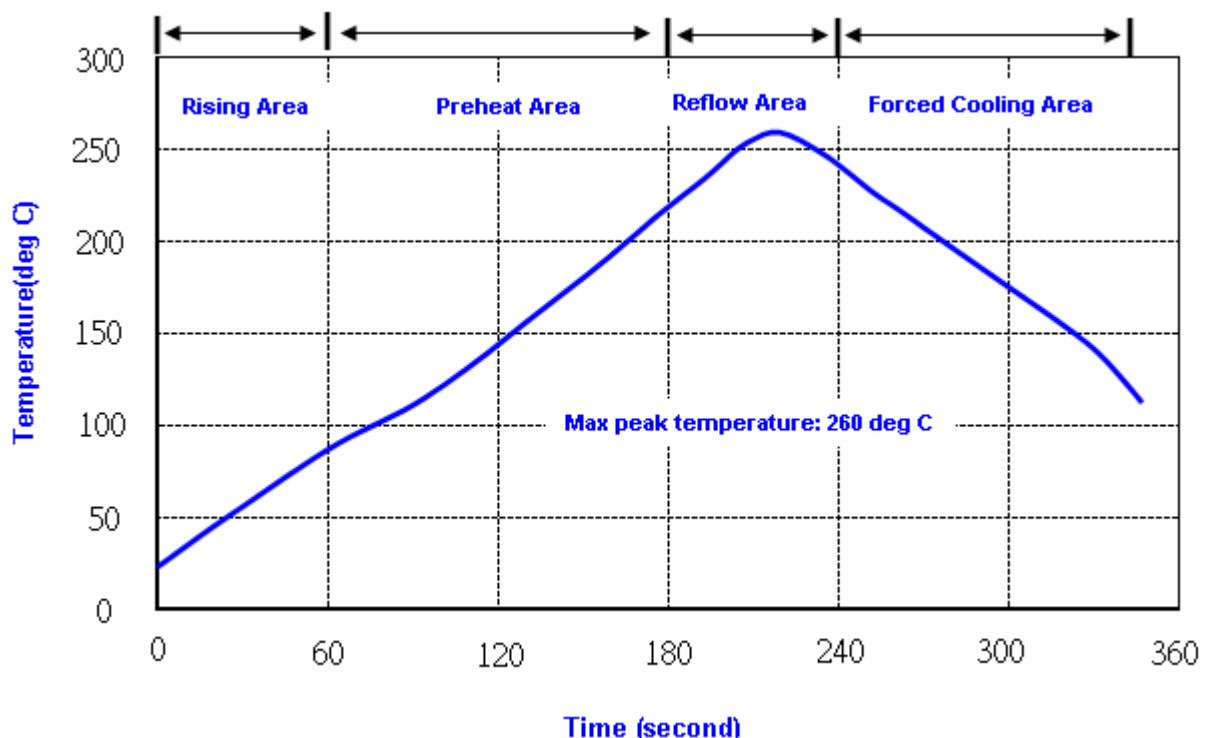
Packing Quantity/Packing:

1Kpcs per reel

Packing Quantity/Packing:



Reflow Profile:



Note: 1. Max peak temperature: 260 $\pm$ 5 deg C; Time: 10 $\pm$ 2 sec
2. Temperature: 217 $\pm$ 5 deg C; Time: 90~100 sec

Reliability Specifications

Test name	Test process / method	Reference standard
Mechanical characteristics		
resistance to Soldering heat (IR reflow)	Temp./ Duration : 265°C /10sec ×2 times Total time : 4min.(IR-reflow)	EIAJED-4701 -300(301)M(II)
Vibration	Total peak amplitude : 1.5mm Vibration frequency : 10 to 2000 Hz Sweep period : 20 minute Vibration directions : 3 mutually perpendicular Duration : 2 hr / direc.	MIL-STD 202G method 204
Mechanical Shock	directions : 3 impacts per axis Acceleration : 3000g's, +20/-0 % Duration : 0.3 ms (total 18 shocks) Waveform : Half-sine	MIL-STD 202G method 213
Solderability	Solder Temperature:265±5°C Duration time: 5±0.5 seconds.	J-STD-002
Environmental characteristics		
Thermal Shock	Heat cycle conditions -40 °C (30min) ↔ 85 °C (30min) * cycle time : 10 times	MIL-STD 883G method 1010.8
Humidity test	Temperature : 85 ± 2 °C Relative humidity : 85% Duration : 96 hours	MIL-STD 202G method 103
Dry heat (Aging test)	Temperature : 125 ± 2 °C Duration : 168 hours	MIL-STD 202G method 108A
Cold resistance (Low Temp Storage)	Temperature : -40 ± 2 °C Duration : 96 hours	IEC 60068-2-1