

Specification	AXG2X45G	Rev.: 1	Date: 2018-11-06
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Oscillator type: Dual Frequency Gated Oscillator 1030 / 1090 MHz

Parameter	min.	typ.	max.	Unit	Condition
Nominal frequency pair (Note 3)	1030.000 / 1090.000			MHz	Switchable
Frequency stability					
Initial tolerance at delivery		±1	±2	ppm	@ +25°C
vs. operating temperature range			±5	ppm	
Long term (aging) per year		±2	±3	ppm	
Switch function					
Voltage level 1030 MHz output V_{SL}		0	1.5	V	
Voltage level 1090 MHz output V_{SH}	2.5	4.0		V	
Input resistance	10			kΩ	
Switching time 1030 MHz / 1090 MHz			1	ms	
Gate function					
Low level input voltage V_{GL}		0	1.5	V	
High level input voltage V_{GH}	2.5	4.0		V	
Input resistance	10			kΩ	
Input capacitance		5	10	pF	
Turn-on time		25	35	ns	
Turn-off time		25	35	ns	
RF output					
Signal waveform	Sine wave				
Load R_L	50			Ω	
Output level Gate ON @ +25°C	0		+3	dBm	@ $V_{GATE} > +2.5$ V
Output level difference @ +25°C			±1	dB	1030 MHz vs. 1090 MHz
Output level Gate OFF @ $V_{GATE} < +1.5$ V		-60	-55	dBm	Active channel
Output level Gate OFF @ $V_{GATE} < +1.5$ V			-100	dBm	Non-active channel
Harmonics		-50	-40	dBc	
Sub-harmonics (N·103/N·109) MHz		-45	-40	dBc	
Spurious			-80	dBc	
Warm-up time			30	sec	$\Delta f_{final}/f_{nominal} < \pm 1$ ppm
Supply voltage V_s	4.75	5.0	5.25	V	
Current consumption		50	100	mA	
Operating temperature range	-20		+70	°C	
Enclosure (see drawing) (LxWxH)	36.1x27.2x14			mm	IEC 60679-3 CO 08
Weight			30	g	
Packing	Palette				

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. For other supply voltage, output level and temperature range please consult factory
3. Other frequency pairs on request

Absolute Maximum Ratings

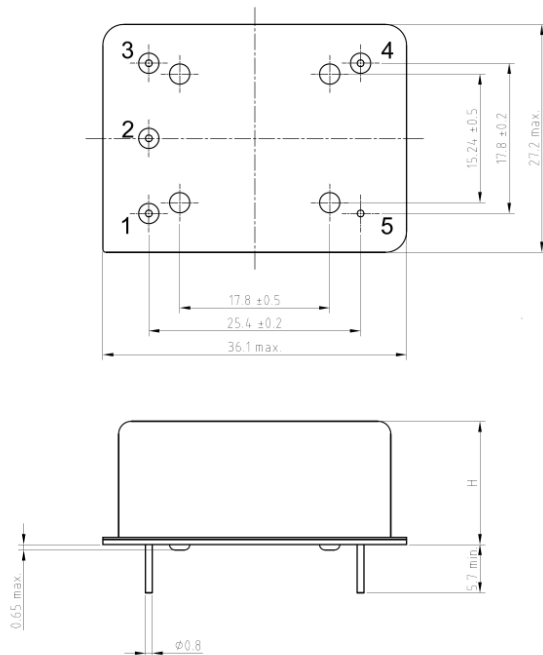
Parameter	min.	max.	Unit	Condition
Supply Voltage V_s	-0.5	$V_s + 10\%$	V	V_s to GND
Switch & Gate Voltage V_{SWITCH} / V_{GATE}	-0.5	4.5	V	V_{GATE} to GND
Storage Temperature	-40	+105	°C	

Ordering Code

Model	Revision	Frequency [MHz]
AXG2X45G	Rev.1	1030-1090

Example: AXG2X45G_Rev.1-1030-1090MHz

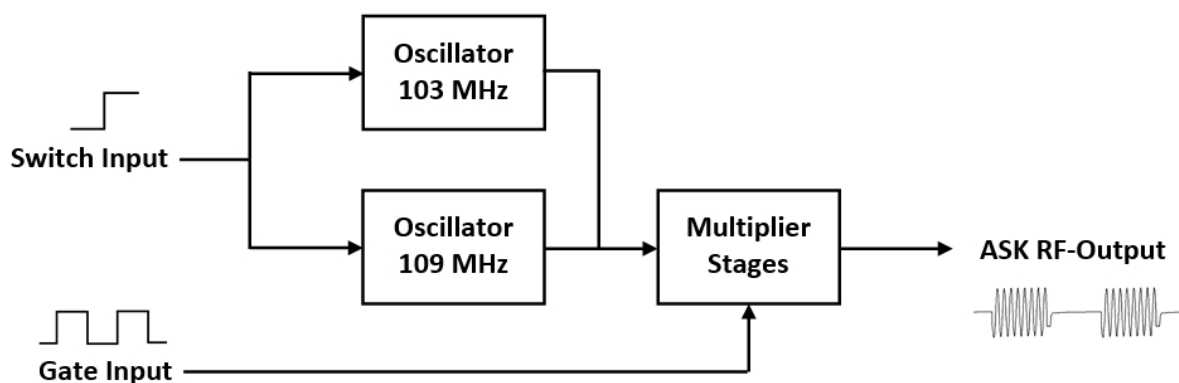
Enclosure drawing



Pin connections

Pin #	Symbol	Function
1	V _{GATE}	Gate Input
2	V _{SWITCH}	Switch Input
3	V _S	Supply Voltage
4	RF OUT	RF Output
5	GND	Ground

Block diagram



Handling and Testing

Parameter	Procedure		Source
Handling and Testing	Application Note AXAN-011		www.axtal.com
Processing	Application Note AXAN-012		www.axtal.com
Parameter	Procedure		Condition
Electrostatic discharge (ESD)			
THD devices	IEC60749-26	HBM	2000 V
SMD devices	IEC60749-27	MM	200 V
Washable	☒ Yes ☐ No		
RoHS compliant	☒ Yes ☐ No		

Environmental conditions

Test	IEC 60068 Part ...	IEC 60679-1 Clause	MIL-STD- 202G Method	MIL-STD- 810F Method	MIL-PRF- 55310D Clause	Test conditions (IEC)
Sealing tests (if applicable)	2-17	5.6.2	112E		3.6.1.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	5.6.3	208H 210F		3.6.52 3.6.48	Test Ta Method 1 Test Td ₁ Method 2 Test Td ₂ Method 2
Shock	2-27	5.6.8	213B	516.4	3.6.40	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Vibration, sinusoidal	2-6	5.6.7.1	201A 204D	516.4-4	3.6.38.1 3.6.38.2	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g
Vibration, random	2-64	5.6.7.3	214A	514.5	3.6.38.3 3.6.38.4	Test Fdb
Humidity				507.4		
Endurance tests - ageing - extended aging		5.7.1 5.7.2	108A		4.8.35	30 days @ 85°C, OCXO @25°C 1000h, 2000h, 8000h @85°C

Other environmental conditions on request

Data sheet is for information purposes only and may be subject to modifications or may be discontinued without notice.

Revision History

Rev.	Drawing	Date [dd.mm.yyyy]	Remarks	Author	Checked
1	D0	06.11.2018	First issue	HH	ME