

Specification	AXGS10	Rev.: 4	Date: 2018-01-18
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Oscillator type: SAW Oscillator in SMD Package with Gating Option

Parameter	min.	typ.	max.	Unit	Condition
Frequency Range	950		1532	MHz	
Standard frequencies	970/1030/1090/1150/1532			MHz	
Frequency stability					
Initial tolerance at @ +25°C			±150	ppm	
vs. operating temperature range			±350	ppm	
Long term (aging) per year			±5	ppm	
Gate function (optional)	Option 1				
Low level input voltage V_{GL}		0	1.5	V	
High level input voltage V_{GH}	3.5	5.0	5.5	V	
Input resistance	10			k Ω	
Input capacitance		5	10	pF	
Turn-on time			40	ns	
Turn-off time			30	ns	
RF output					
Signal waveform	Sine wave				
Load R_L	50			Ω	
Output level Gate ON	+7			dBm	@ $V_{GATE} > +3.5$ V
Output level Gate OFF			-50	dBm	@ $V_{GATE} < +1.5$ V
Harmonics			-30	dBc	
Supply voltage V_S	4.75	5.0	5.25	V	
Current consumption					
Gate ON		45	60	mA	@ $V_{GATE} > +3.5$ V
Gate OFF		10	20	mA	@ $V_{GATE} < +1.5$ V
Operating temperature range	-40		+85	°C	
Enclosure (see drawing) (LxWxH)	20.3x13.0x5.7max.			mm	Similar to IEC 61837 CO 30
Weight			3	g	
Packing	Tape & Reel				IEC 60286-3
Reliability	@ 40°C	MTBF	1239 yr 92 fit		IEC 61709
	@ 85°C	MTBF	430 yr 266 fit		

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Oscillator circuitry and driving gate buffers must not present voltage transients above maximum ratings

Absolute Maximum Ratings

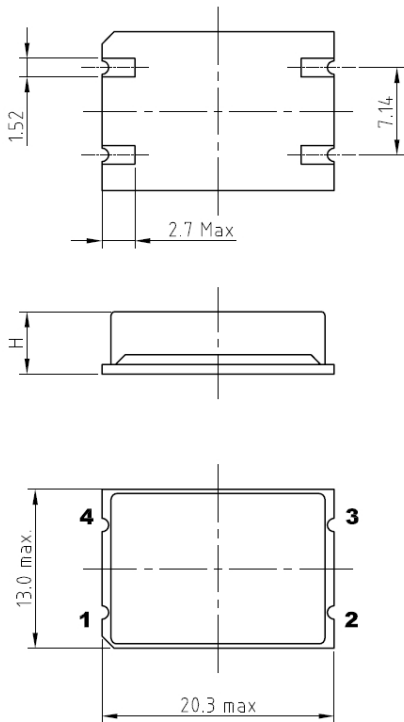
Parameter	min.	max.	Unit	Condition
Supply Voltage V_S	-0.5	$V_S + 10\%$	V	V_S to GND
Gate Voltage V_{GATE} (Note 2)	-0.5	V_S	V	V_{GATE} to GND
Storage Temperature	-55	+125	°C	

Ordering Code

Model	Option 1	Revision	Frequency [MHz]
AXGS10	G = With Gate function Blank = No Gate function	Rev.4	1090.000

Example: AXGS10G_Rev.4 – 1090.000 MHz

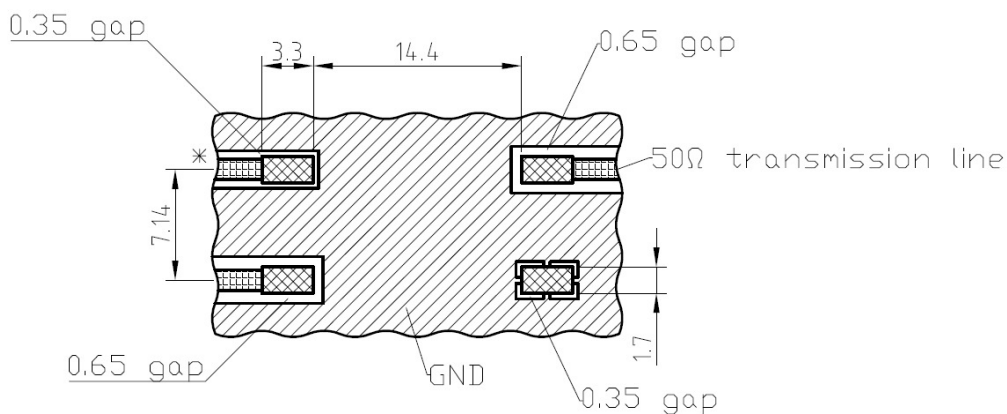
Enclosure drawing



Pin connections

Pin #	Symbol	Function
1	V _{GATE}	Gate Input or N.C.
2	GND	Ground, case
3	RF OUT	RF Output
4	V _S	Supply Voltage

Recommended footprint



- Top View -

* recommended: place 1 nF and 1 μF blocking capacitor close to supply voltage pin

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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
RoHS compliant	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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
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	01.03.2012	First issue	BN	BN
2	D0	02.10.2012	Standard frequencies added	BN	BN
3	D0	22.11.2012	Frequency range extended up to 1532 MHz	BN	BN
4	D0	31.01.2013	Supply voltage 5V, output level changed	BN	BN
4	D1	20.06.2014	Environmental conditions updated, editorial changes	HH	HH
4	D2	16.11.2015	MTFB information added	BN	HH
4	D3	22.03.2016	Title changed	HH	HH
4	D4	18.01.2018	Maximum ratings updated with additional information	HH	HH