Data sheet

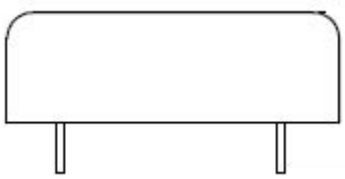
AXGX3434G

GATED HIGH STABILITY 1030/1090 MHz CRYSTAL OSCILLATOR
Microwave oscillator 1 Watt Output (IFF Radar Systems)

FEATURES

- (Gated) Crystal Oscillator in 34 x 34 x 12.7 mm package
- Standard frequency 1030MHz & 1090 MHz
- High stability oscillator
- For use in secondary radar appications (IFF radar systems)

34 x 34 x 12.7 mm max.



Parameter	min.	typ.	max.	Unit	Condition
Frequency Range	1000		1100		
Standard frequencies		1030 / 1090		MHz	
Frequency stability					
Initial tolerance at delivery			± 5	ppm	@+25°C
vs. operating temperature range			± 15	ppm	
operating temperature range	-55		+85	°C	
long term (aging)			± 2	ppm/year	
Gate Function (optional)					
Low level input voltage V_{GL}			1.4	V	TTL compatible
High level input voltage V_{GH}	2.2			V	TTL compatible
Turn-on time			50	ns	Note 3
Turn-off time			50	ns	Note 4
RF output					
Signal waveform		Sine wave			R_L = 50 Ω
Output level Gate ON (Note 2)	+ 30			dBm	@ V_{GATE} > +2.2 V
ON/OFF power ratio	50			dB	@ V_{GATE} < +1.4 V
Output power variation over Operating temperature range			±1	dB	
VSWR			1.2		
Sub-harmonics (multiples of f_{OUT}/10)		 -40	-50 -30	dBc dBc	@ 103 MHz @ 515 MHz and f_N±103 MHz
2nd harmonics			-40	dBc	
Phase Noise			-125 -135 -140 -145	dBc/Hz dBc/Hz dBc/Hz dBc/Hz	@ 1 kHz @ 10 kHz @ 100 kHz @ 1 MHz
Supply voltage V_S	14.25	15	15.75	V	
Current consumption Gate ON Gate OFF			 500 20	 mA mA	 @ V_{GATE} > +2.2 V @ V_{GATE} < +1.4 V
Enclosure (see drawing) (LxWxH)		33.78 x 33.78 x 12.7		mm	
Weight			30	gram	

Notes:

1. Terminology and test conditions are according to IEC standard IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Max. pulse width 32 µs @ 6.4% duty cycle
3. Time between rising edge @ V_{GATE} = 1.8 V and 90% RF output amplitude
4. Time between falling edge @ V_{GATE} = 1.8 V and 10% RF output amplitude

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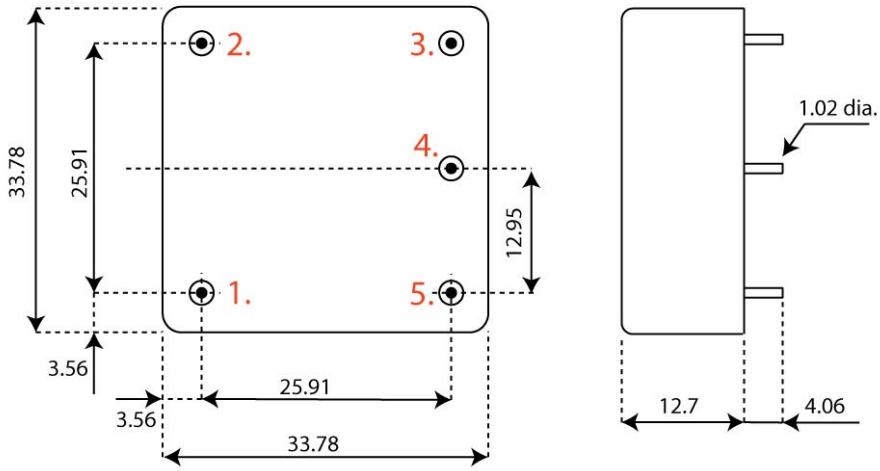
Ordering Code:

Model (Specification)	Revision	Frequency [MHz]
AXGX3434G	Rev.1	1030.000

Enclosure drawing



Pin connections

Pin #	Symbol	Function
1	Vs	Supply Voltage
2	GND	Ground
3	V_{GATE}	Gate Input
4	RF OUT	RF Output
5	GND	Ground,

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, 11 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
Altitude						70 000 ft
Humidity						95% R.H. @ +65°C
RF radiation from case						< -80 dBc (MIL-STD-461F)
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

Absolute Maximum Ratings

Parameter	min.	max.	Unit	Condition
Supply Voltage V_S	-0.5	18	V	Vs to GND
Gate Voltage V_{GATE}	-0.5	7	V	V_{GATE} to GND
Storage Temperature	-55	+125	°C	

Data sheet is for information purposes only and may be subject to modifications or may be discontinued without notice. ***Rev.1 dated 30-12-2014***