

Specification	AXMW1030GYT-01	Issue: 01	Date: 2007-12-03
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Oscillator type : Gated 1030 MHz Microwave Oscillator

Absolute Maximum Ratings

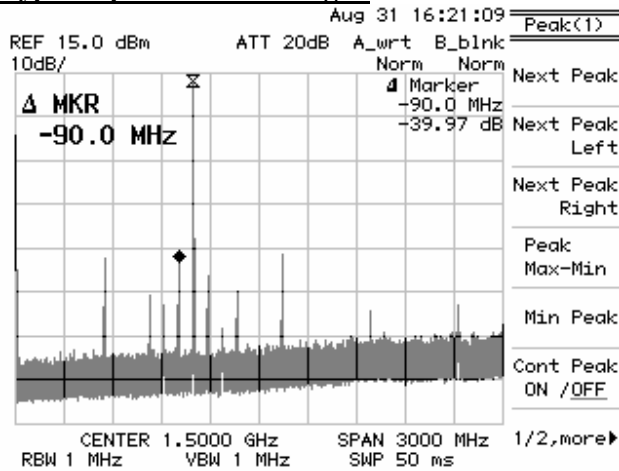
Parameter	Rating	Unit
Supply voltage	-0.5 to 13	V
Gate input voltage	-0.5 to 6	V
Operating Temperature Range	-40 to +70	°C
Operable Temperature Range	-55 to +85	°C
Storage Temperature	-55 to +125	°C

Parameter	Specification			Unit	Condition
	Min.	Typ.	Max.		
Overall					
Frequency tolerance	fn-10		fn+10	KHz	Ta 25°C, fn = 1030 MHz
	fn-30		fn+30	KHz	Ta -40 to +70°C, fn = 1030 MHz
Aging Rate	fn-5		fn+5	KHz	per year
Crystal Frequency Spurs ¹		-45	-30	dBc	
Harmonics ¹		-60	-40	dBc	
Vibration			10	ppm	30 g, 20-2000 Hz
Shock			10	ppm	100g, 11ms
Power Supply					
Supply Voltage V _S	8	12	12.6	V	
Current Consumption		42	50	mA	V _S = 12 V, V _{gate} > +2.5V
		8.5	15	mA	V _S = 12 V, V _{gate} < +1.5V
Output					
Output power	+10	+13		dBm	V _S = 12 V, V _{gate} > +2.5 V
		-90	-60	dBm	V _S = 12 V, V _{gate} < +1.5 V
Output power variation		1.8	3	dB	Ta -40 to +70°C, V _S = 12 V
Load		50		Ω	± 5 %
Gate					
High Level Input Voltage	2.5			V	Ta -40 to +70°C
Low Level Input Voltage			1.5	V	Ta -40 to +70°C
Input Leakage Current			±10	μA	Ta -40 to +70°C, V _{gate} = +5.5V
Input Capacitance			4.5	pF	
Input Resistance		10		KΩ	
Turn On Time ²		8	30	ns	Ta -40 to +70°C
Turn Off Time ²		5	30	ns	Ta -40 to +70°C
Package (L x W x H)	54 x 40 x 20 with SMA connector			mm	see drawing page 3

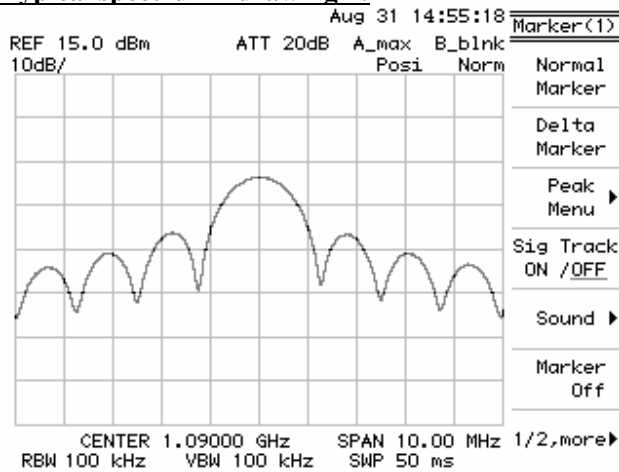
¹ See typical spectrum drawing 1.

² See typical spectrum and waveform drawing 2 & 3.

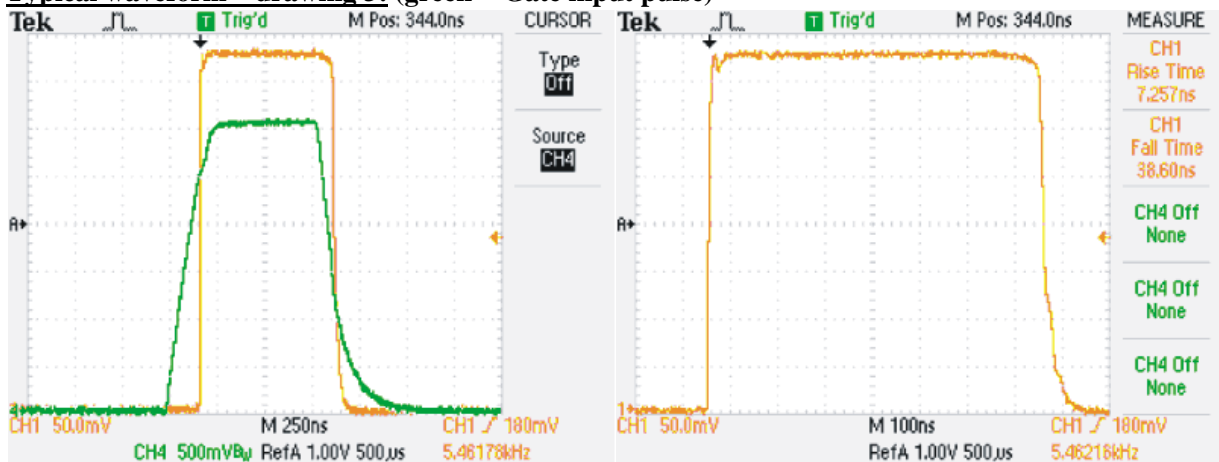
Typical spectrum - drawing 1:



Typical spectrum - drawing 2:



Typical waveform – drawing 3: (green = Gate input pulse)



Configuration of the Oscillator Train:

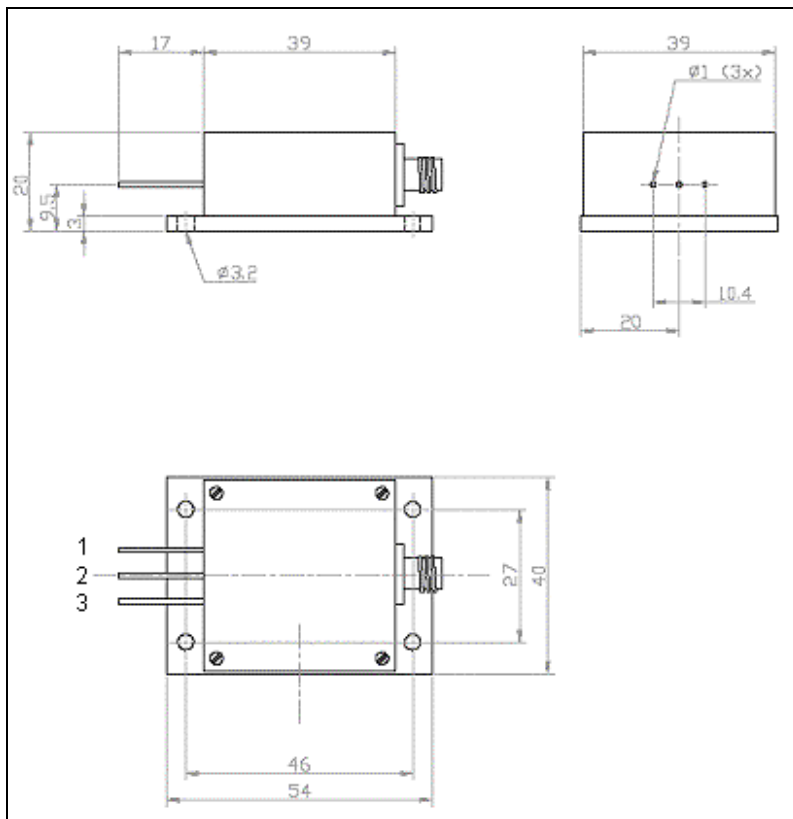
Frequency of the main crystal oscillator: 85.833 MHz.

Multiplication of 12 times by 3 multiplier stages:

- oscillator 3x,
- gate port 2x, and
- buffer amplifier 2x.

Gate port and buffer amplifier operate in class C mode.

Package Drawing



Pin Connections:

Pin	Symbol	Function
1	GATE	Gating Input
2	GND	Ground
3	V _S	Supply Voltage
SMA	RF OUT	RF Output