

Programmable - High Performance SMD Crystal Oscillator

ASG-C Series

Moisture Sensitivity Level (MSL) - This product is Hermetically Sealed and not Moisture Sensitive; therefore MSL = N/A (Not Applicable)



RoHS
Compliant



7.0 x 5.0 x 2.0mm

FEATURES:

- ASG series is a High Performance crystal based oscillator; available either as an XO or a VCXO
- Frequency range from 10MHz to 250MHz with LVCMOS output
- Available from 10MHz to 1.50GHz with LVDS or LVPECL output
- Offered with either 2.50V or 3.30V bias voltage
- Quick turn, 1~5 business days for small quantity orders

APPLICATIONS:

- Networking, SONET/SDH
- WiMax / WLAN
- Computing
- Phase Locked Loops
- Direct Digital Synthesis (DDS)
- DSL/ADSL
- Base Terminal Stations

STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range:	V _{dd} = 3.3V	10		250	MHz	
	V _{dd} = 2.5V	10		250	MHz	
Operating Temperature:		-40		+85	°C	
Storage Temperature:		-55		+125	°C	
Overall Frequency Stability:		-50		+50	ppm	<i>See Note # 1</i>
Initial Set Tolerance		-5.00	≤ ±1.00	+5.00	ppm	
Stability over operating temperature		-35.00	≤ ±20.00	+35.00	ppm	
Aging @ 25°C over 10-years		-7.00		+7.00	ppm	
Frequency variation over supply voltage change (±5%)		-2.00		+2.00	ppm	
Frequency variation over load variation (15pF ± 5%)		-1.00		+1.00	ppm	
Supply Voltage (V _{dd}):	V _{dd} = 3.3V	3.135	3.300	3.465	V	
	V _{dd} = 2.5V	2.375	2.500	2.625	V	
Input Current:	V _{dd} = 3.3V			45	mA	Frequency dependent
	V _{dd} = 2.5V			35	mA	Frequency dependent
Symmetry:		48	50	52	%	@ 1/2V _{dd}
Rise and Fall Time (Tr/Tf):			≤ 450	1000	ps	
Output Load:				15	pF	CMOS
Output Voltage:	VOH	V _{dd} * 0.90			V	
	VOL			V _{dd} * 0.10	V	
Start-up Time:			≤ 2.0	3.0	ms	
Enable/Disable Function :		"1" (V _{IH} ≥ 0.7*V _{dd}) or Open: Oscillation "0" (V _{IL} < 0.3*V _{dd}) : High Z				
V _{control} Range		0.00		V _{dd}	Volts	
Frequency Pull		±50			ppm	
Control Port Bandwidth		10			kHz	
Phase jitter RMS [t _{jitt(φ)}] <i>See Note #2</i>	Integer Mode		< 0.60	1.60	ps	12kHz to 20MHz
	Fractional Mode		< 0.90	1.60	ps	12kHz to 20MHz

Note #1: Inclusive of initial tolerance at 25°C±3°C, operating temperature range, input voltage variation, load variation & aging.

Note #2: The rms jitter over 12kHz to 20MHz Bandwidth is dependent on the carrier and whether or not the final frequency is achieved without engaging the Fractional Mode



Programmable - High Performance SMD Crystal Oscillator

ASG-C Series

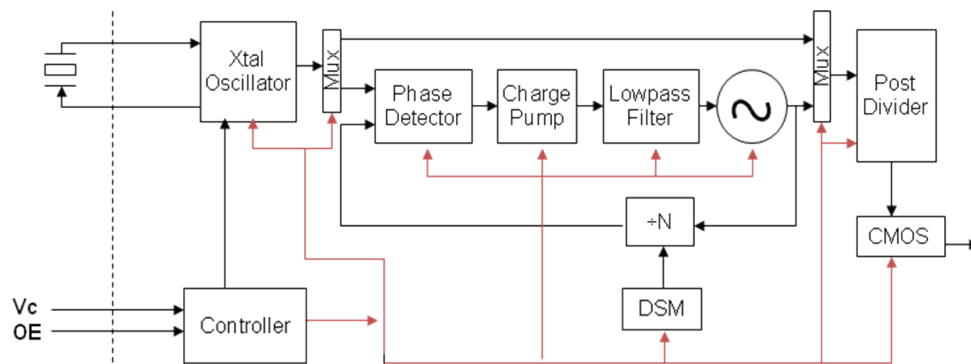


RoHS
Compliant



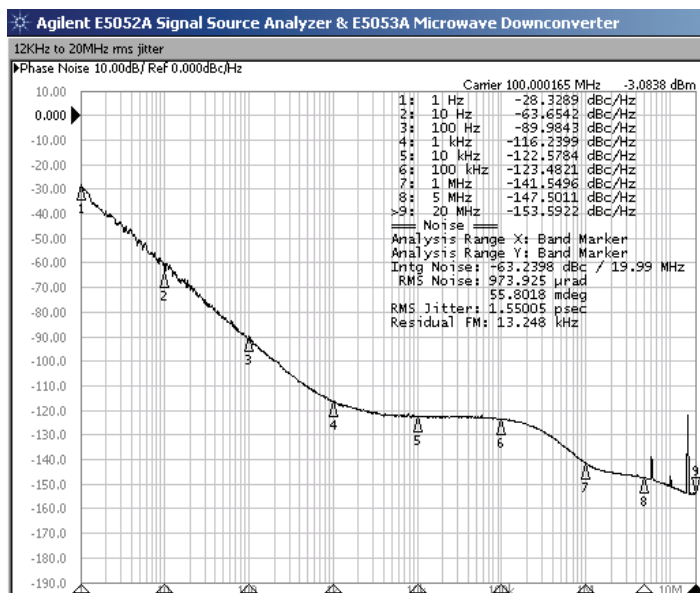
7.0 x 5.0 x 2.0mm

OVERALL SYSTEM BLOCK DIAGRAM

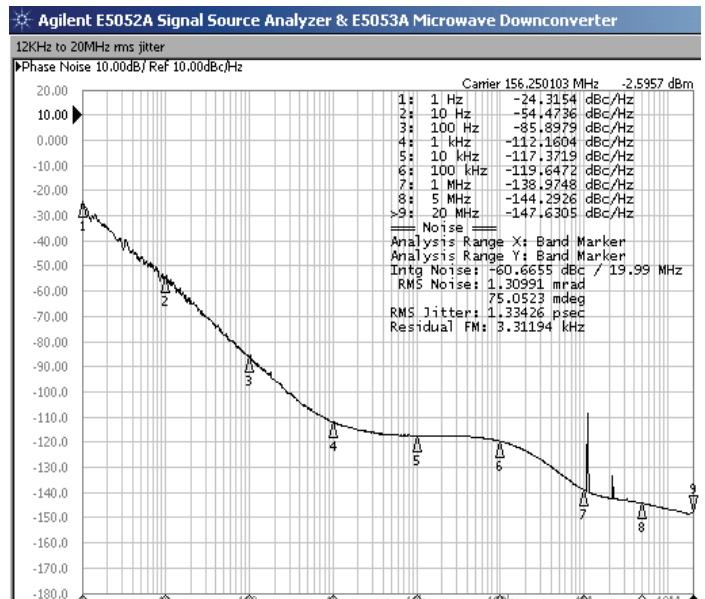


PHASE NOISE & JITTER CHARACTERISTICS

100MHz Carrier



156.25MHz Carrier



Programmable - High Performance SMD Crystal Oscillator

ASG-C Series

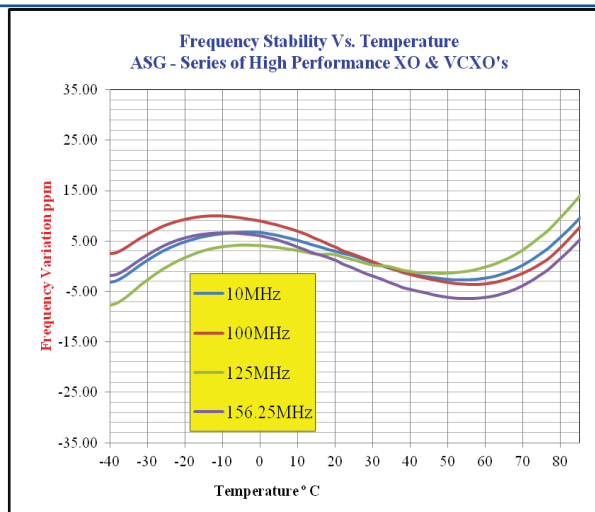


RoHS
Compliant

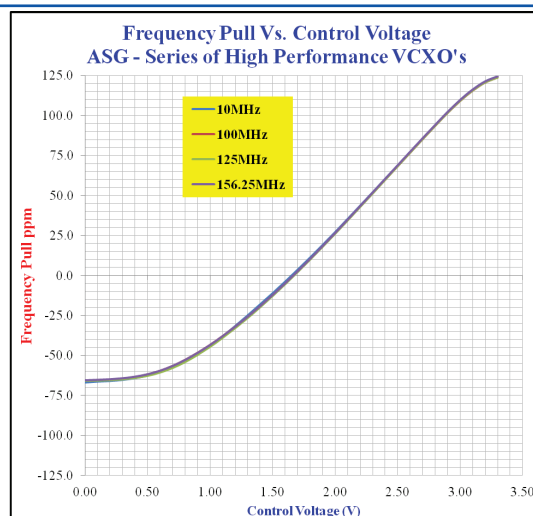


7.0 x 5.0 x 2.0mm

FREQUENCY STABILITY VS. TEMPERATURE



FREQUENCY PULLING VS. CONTROL VOLTAGE (VCXO MODE)



PART IDENTIFICATION:

ASG - C - - - MHz -

Fixed or Pull-able
X = Fixed Oscillator
V = VCXO

Operating Voltage
3.30V = A
2.50V = B

Frequency in MHz
Please specify the Frequency in MHz e.g. 100.000 MHz

Packaging
Blank = Bulk
T = Tape & Reel

MARKING:

Top Line:
Bottom Line:

Pin# 1 Identifier

ASG
GYWW

WW = Work Week

Year Code (B=2011, C=2012, etc.)

Internal Tracking Code



Programmable - High Performance SMD Crystal Oscillator

ASG-C Series



RoHS
Compliant

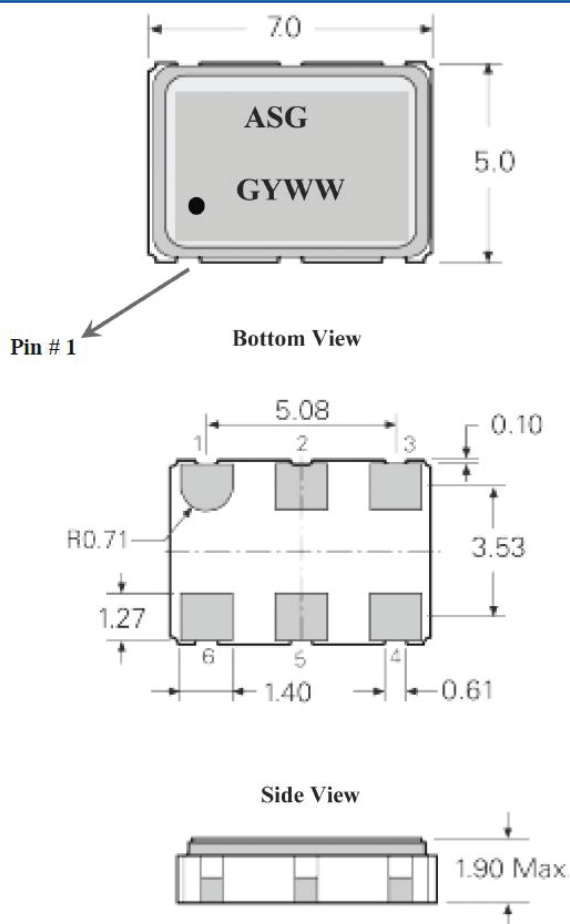


7.0 x 5.0 x 2.0mm

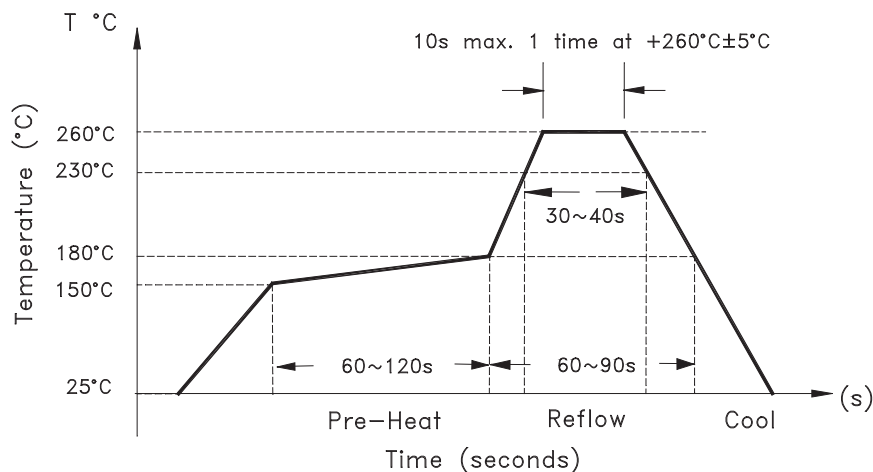
OUTLINE DIMENSIONS:

Pin #	Pin Description For VCXO configuration
1	Voltage Control for VCXO
2	Output Enable (OE)
3	GND
4	RF Output
5	N/C
6	Vdd

Pin #	Pin Description For XO configuration
1	Output Enable (OE)
2	N/C for XO
3	GND
4	RF Output
5	N/C
6	Vdd



REFLOW PROFILE:



Programmable - High Performance SMD Crystal Oscillator

ASG-C Series



RoHS
Compliant

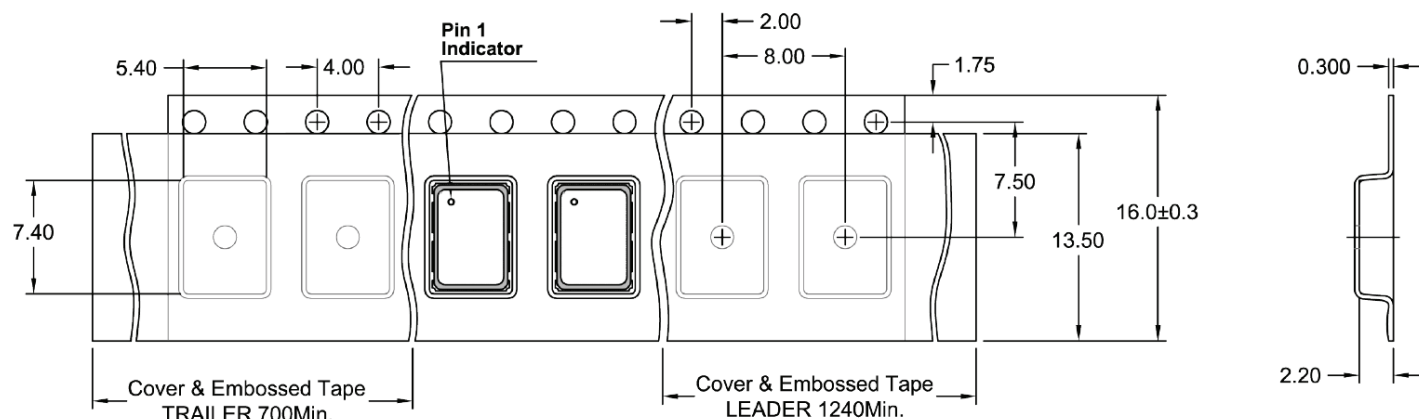


7.0 x 5.0 x 2.0mm

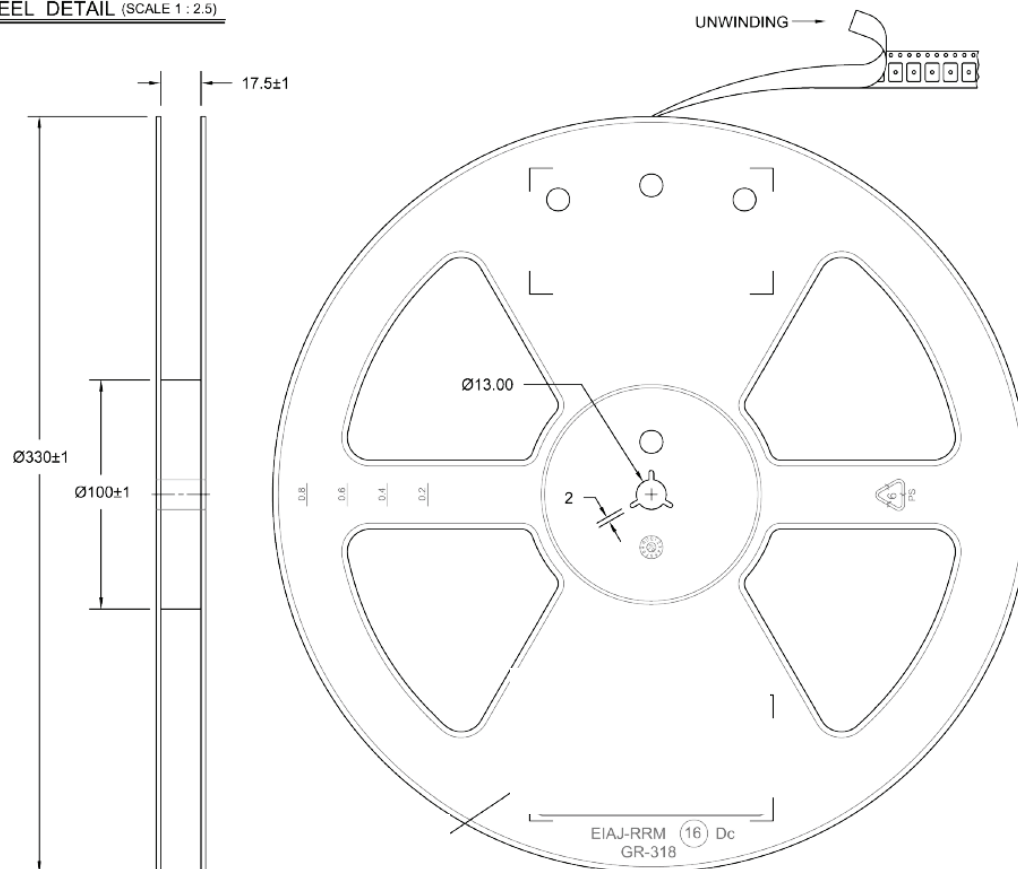
TAPE & REEL:

T= Tape and reel (2,000pcs/reel)

TAPE DETAIL (SCALE 2 : 1)



REEL DETAIL (SCALE 1 : 2.5)



ATTENTION: Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

ABRACON IS
ISO9001:2008
CERTIFIED

Visit www.abracon.com for Terms & Conditions of Sale **Revised: 04.27.12**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ABRACON:

[ASG-C-V-A-10.000MHz](#) [ASG-C-V-A-10.000MHz-T](#) [ASG-C-V-A-100.000MHz](#) [ASG-C-V-A-100.000MHz-T](#) [ASG-C-V-A-106.250MHz](#) [ASG-C-V-A-106.250MHz-T](#) [ASG-C-V-A-122.880MHz](#) [ASG-C-V-A-122.880MHz-T](#) [ASG-C-V-A-125.000MHz](#) [ASG-C-V-A-125.000MHz-T](#) [ASG-C-V-A-155.52MHz](#) [ASG-C-V-A-155.52MHz-T](#) [ASG-C-V-A-156.250MHz](#) [ASG-C-V-A-156.250MHz-T](#) [ASG-C-V-A-19.200MHz](#) [ASG-C-V-A-19.200MHz-T](#) [ASG-C-V-A-19.440MHz](#) [ASG-C-V-A-19.440MHz-T](#) [ASG-C-V-A-20.000MHz](#) [ASG-C-V-A-20.000MHz-T](#) [ASG-C-V-A-200.000MHz](#) [ASG-C-V-A-200.000MHz-T](#) [ASG-C-V-A-212.500MHz](#) [ASG-C-V-A-212.500MHz-T](#) [ASG-C-V-A-25.000MHz](#) [ASG-C-V-A-25.000MHz-T](#) [ASG-C-V-A-38.880MHz](#) [ASG-C-V-A-38.880MHz-T](#) [ASG-C-V-A-50.000MHz](#) [ASG-C-V-A-50.000MHz-T](#) [ASG-C-V-B-10.000MHz](#) [ASG-C-V-B-10.000MHz-T](#) [ASG-C-V-B-100.000MHz](#) [ASG-C-V-B-100.000MHz-T](#) [ASG-C-V-B-106.250MHz](#) [ASG-C-V-B-106.250MHz-T](#) [ASG-C-V-B-122.880MHz](#) [ASG-C-V-B-122.880MHz-T](#) [ASG-C-V-B-125.000MHz](#) [ASG-C-V-B-125.000MHz-T](#) [ASG-C-V-B-155.52MHz](#) [ASG-C-V-B-155.52MHz-T](#) [ASG-C-V-B-156.250MHz](#) [ASG-C-V-B-156.250MHz-T](#) [ASG-C-V-B-19.200MHz](#) [ASG-C-V-B-19.200MHz-T](#) [ASG-C-V-B-19.440MHz](#) [ASG-C-V-B-19.440MHz-T](#) [ASG-C-V-B-20.000MHz](#) [ASG-C-V-B-20.000MHz-T](#) [ASG-C-V-B-200.000MHz](#) [ASG-C-V-B-200.000MHz-T](#) [ASG-C-V-B-212.500MHz](#) [ASG-C-V-B-212.500MHz-T](#) [ASG-C-V-B-25.000MHz](#) [ASG-C-V-B-25.000MHz-T](#) [ASG-C-V-B-38.880MHz](#) [ASG-C-V-B-38.880MHz-T](#) [ASG-C-V-B-50.000MHz](#) [ASG-C-V-B-50.000MHz-T](#) [ASG-C-X-A-10.000MHz](#) [ASG-C-X-A-10.000MHz-T](#) [ASG-C-X-A-100.000MHz](#) [ASG-C-X-A-100.000MHz-T](#) [ASG-C-X-A-106.250MHz](#) [ASG-C-X-A-106.250MHz-T](#) [ASG-C-X-A-122.880MHz](#) [ASG-C-X-A-122.880MHz-T](#) [ASG-C-X-A-125.000MHz](#) [ASG-C-X-A-125.000MHz-T](#) [ASG-C-X-A-155.52MHz](#) [ASG-C-X-A-155.52MHz-T](#) [ASG-C-X-A-156.250MHz](#) [ASG-C-X-A-156.250MHz-T](#) [ASG-C-X-A-19.200MHz](#) [ASG-C-X-A-19.200MHz-T](#) [ASG-C-X-A-19.440MHz](#) [ASG-C-X-A-19.440MHz-T](#) [ASG-C-X-A-20.000MHz](#) [ASG-C-X-A-20.000MHz-T](#) [ASG-C-X-A-200.000MHz](#) [ASG-C-X-A-200.000MHz-T](#) [ASG-C-X-A-212.500MHz](#) [ASG-C-X-A-212.500MHz-T](#) [ASG-C-X-A-25.000MHz](#) [ASG-C-X-A-25.000MHz-T](#) [ASG-C-X-A-38.880MHz](#) [ASG-C-X-A-38.880MHz-T](#) [ASG-C-X-A-50.000MHz](#) [ASG-C-X-A-50.000MHz-T](#) [ASG-C-X-B-10.000MHz](#) [ASG-C-X-B-10.000MHz-T](#) [ASG-C-X-B-100.000MHz](#) [ASG-C-X-B-100.000MHz-T](#) [ASG-C-X-B-106.250MHz](#) [ASG-C-X-B-106.250MHz-T](#) [ASG-C-X-B-122.880MHz](#) [ASG-C-X-B-122.880MHz-T](#) [ASG-C-X-B-125.000MHz](#) [ASG-C-X-B-125.000MHz-T](#)