

Programmable - High Performance SMD XO & VCXO

ASG-D Series



RoHS
Compliant



7.0 x 5.0 x 1.9mm

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		1500	MHz	
	V _{dd} = 2.5V	10		1500	MHz	
Operating Temperature:		-40		+85	°C	
Storage Temperature:		-55		+125	°C	
Overall Frequency Stability:		-50		+50	ppm	See Note # 1
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		< 25	40	mA	Frequency dependent
	V _{dd} = 2.5V		< 25	35	mA	Frequency dependent
LVDS Output (Out & $\overline{\text{Out}}$):	Differential Output Voltage	175	350		mV	V _{OD}
	V _{OD} Magnitude Change			50	mV	ΔV _{OD}
	Offset Voltage		1.25		V	V _{OS}
	V _{OS} Magnitude Change			50	mV	ΔV _{OS}
	Duty Cycle	45	48/52	55	%	ODC _{LVDS}
	Rise Time	125		350	ps	t _R
	Fall Time	150		450	ps	t _F
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				
Vcontrol Range		0.00		V _{dd}	Volts	For VCXO
Frequency Pull		±50			ppm	
Control Port Bandwidth		10			kHz	
Phase jitter RMS [t _{jitt(φ)}] See Note #2	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

ABRACON IS
ISO9001:2008
CERTIFIED



ABRACON
CORPORATION

Visit www.abracon.com for Terms & Conditions of Sale **Revised: 04.17.12**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

Programmable - High Performance SMD XO & VCXO

ASG-D Series

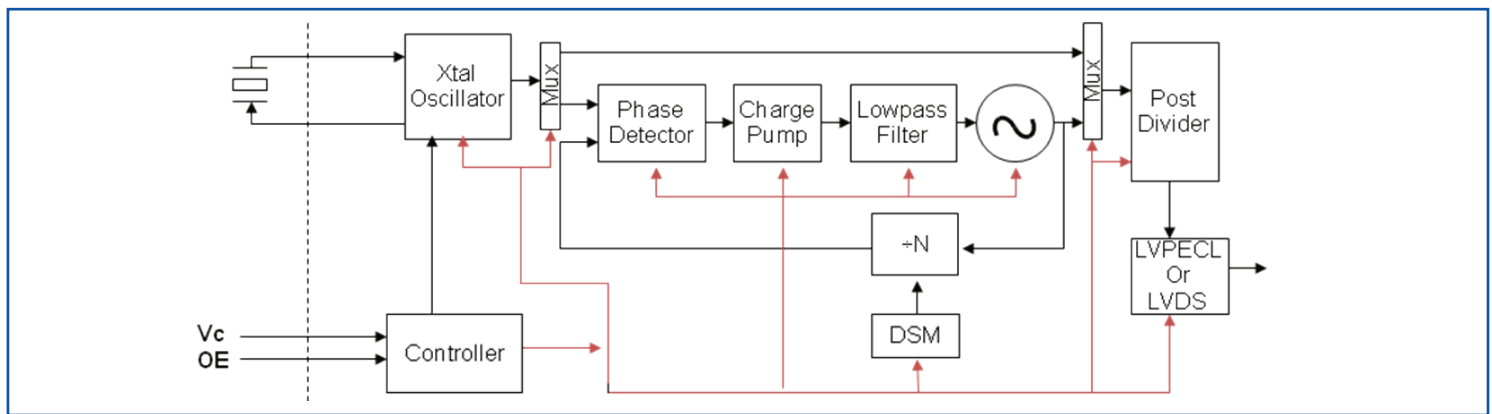


RoHS
Compliant



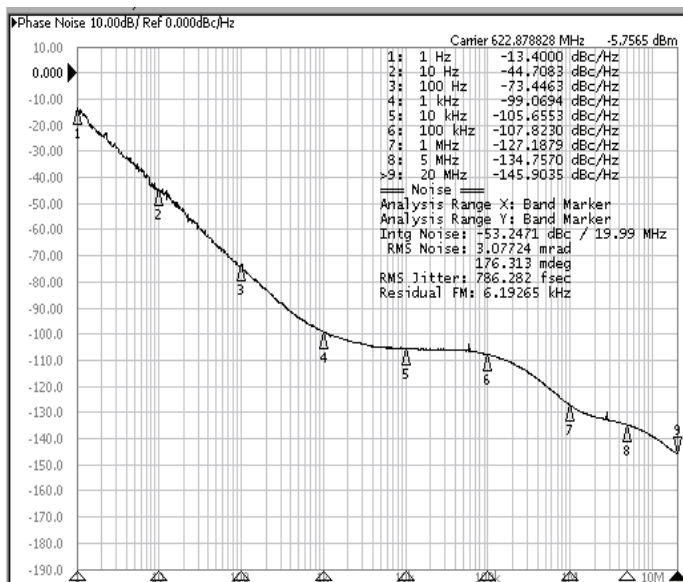
7.0 x 5.0 x 1.9mm

OVERALL SYSTEM BLOCK DIAGRAM

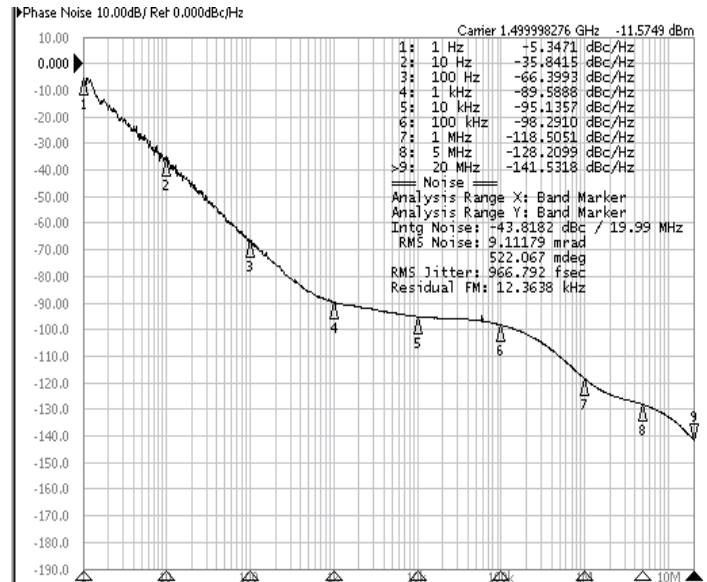


PHASE NOISE & JITTER CHARACTERISTICS

622.88MHz Carrier



1.50GHz Carrier



Programmable - High Performance SMD XO & VCXO

ASG-D Series



RoHS
Compliant



7.0 x 5.0 x 1.9mm

FREQUENCY STABILITY VS. TEMPERATURE



FREQUENCY PULLING VS. CONTROL VOLTAGE (VCXO MODE)



PART IDENTIFICATION:

ASG - D - - - 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

ABRACON IS
ISO9001:2008
CERTIFIED



ABRACON
CORPORATION

Visit www.abracon.com for Terms & Conditions of Sale **Revised: 04.17.12**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

Programmable - High Performance SMD XO & VCXO

ASG-D Series



RoHS
Compliant

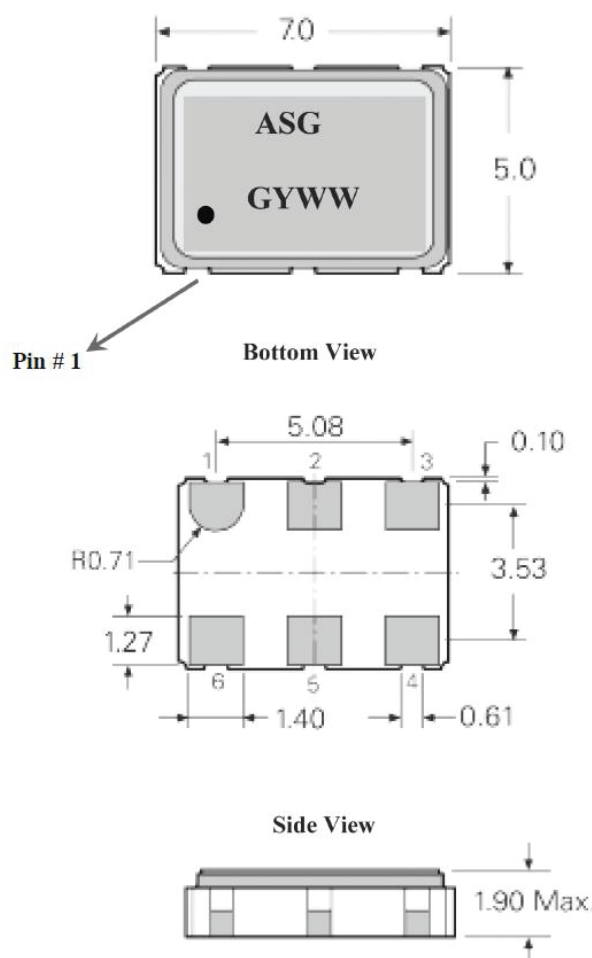


7.0 x 5.0 x 1.9mm

OUTLINE DIMENSIONS:

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

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



REFLOW PROFILE:



ABRACON IS
ISO9001:2008
CERTIFIED



ABRACON
CORPORATION

Visit www.abracon.com for Terms & Conditions of Sale **Revised: 04.17.12**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

Programmable - High Performance SMD XO & VCXO

ASG-D Series



RoHS
Compliant



7.0 x 5.0 x 1.9mm

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: 04.17.12**
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-D-V-A-1.000GHz](#) [ASG-D-V-A-1.000GHz-T](#) [ASG-D-V-A-1.24416GHz](#) [ASG-D-V-A-1.24416GHz-T](#) [ASG-D-V-A-1.500GHz](#) [ASG-D-V-A-1.500GHz-T](#) [ASG-D-V-A-100.000MHz](#) [ASG-D-V-A-100.000MHz-T](#) [ASG-D-V-A-106.250MHz](#) [ASG-D-V-A-106.250MHz-T](#) [ASG-D-V-A-122.880MHz](#) [ASG-D-V-A-122.880MHz-T](#) [ASG-D-V-A-125.000MHz](#) [ASG-D-V-A-125.000MHz-T](#) [ASG-D-V-A-155.52MHz](#) [ASG-D-V-A-155.52MHz-T](#) [ASG-D-V-A-156.250MHz](#) [ASG-D-V-A-156.250MHz-T](#) [ASG-D-V-A-200.000MHz](#) [ASG-D-V-A-200.000MHz-T](#) [ASG-D-V-A-212.500MHz](#) [ASG-D-V-A-212.500MHz-T](#) [ASG-D-V-A-320.000MHz](#) [ASG-D-V-A-320.000MHz-T](#) [ASG-D-V-A-491.52MHz](#) [ASG-D-V-A-491.52MHz-T](#) [ASG-D-V-A-500.000MHz](#) [ASG-D-V-A-500.000MHz-T](#) [ASG-D-V-A-622.08MHz](#) [ASG-D-V-A-622.08MHz-T](#) [ASG-D-V-B-1.000GHz](#) [ASG-D-V-B-1.000GHz-T](#) [ASG-D-V-B-1.24416GHz](#) [ASG-D-V-B-1.24416GHz-T](#) [ASG-D-V-B-1.500GHz](#) [ASG-D-V-B-1.500GHz-T](#) [ASG-D-V-B-100.000MHz](#) [ASG-D-V-B-100.000MHz-T](#) [ASG-D-V-B-106.250MHz](#) [ASG-D-V-B-106.250MHz-T](#) [ASG-D-V-B-122.880MHz](#) [ASG-D-V-B-122.880MHz-T](#) [ASG-D-V-B-125.000MHz](#) [ASG-D-V-B-125.000MHz-T](#) [ASG-D-V-B-155.52MHz](#) [ASG-D-V-B-155.52MHz-T](#) [ASG-D-V-B-156.250MHz](#) [ASG-D-V-B-156.250MHz-T](#) [ASG-D-V-B-200.000MHz](#) [ASG-D-V-B-200.000MHz-T](#) [ASG-D-V-B-212.500MHz](#) [ASG-D-V-B-212.500MHz-T](#) [ASG-D-V-B-320.000MHz](#) [ASG-D-V-B-320.000MHz-T](#) [ASG-D-V-B-491.52MHz](#) [ASG-D-V-B-491.52MHz-T](#) [ASG-D-V-B-500.000MHz](#) [ASG-D-V-B-500.000MHz-T](#) [ASG-D-V-B-622.08MHz](#) [ASG-D-V-B-622.08MHz-T](#) [ASG-D-X-A-1.000GHz](#) [ASG-D-X-A-1.000GHz-T](#) [ASG-D-X-A-1.24416GHz](#) [ASG-D-X-A-1.24416GHz-T](#) [ASG-D-X-A-1.500GHz](#) [ASG-D-X-A-1.500GHz-T](#) [ASG-D-X-A-100.000MHz](#) [ASG-D-X-A-100.000MHz-T](#) [ASG-D-X-A-106.250MHz](#) [ASG-D-X-A-106.250MHz-T](#) [ASG-D-X-A-122.880MHz](#) [ASG-D-X-A-122.880MHz-T](#) [ASG-D-X-A-125.000MHz](#) [ASG-D-X-A-125.000MHz-T](#) [ASG-D-X-A-155.52MHz](#) [ASG-D-X-A-155.52MHz-T](#) [ASG-D-X-A-156.250MHz](#) [ASG-D-X-A-156.250MHz-T](#) [ASG-D-X-A-200.000MHz](#) [ASG-D-X-A-200.000MHz-T](#) [ASG-D-X-A-212.500MHz](#) [ASG-D-X-A-212.500MHz-T](#) [ASG-D-X-A-320.000MHz](#) [ASG-D-X-A-320.000MHz-T](#) [ASG-D-X-A-491.52MHz](#) [ASG-D-X-A-491.52MHz-T](#) [ASG-D-X-A-500.000MHz](#) [ASG-D-X-A-500.000MHz-T](#) [ASG-D-X-A-622.08MHz](#) [ASG-D-X-A-622.08MHz-T](#) [ASG-D-X-B-1.000GHz](#) [ASG-D-X-B-1.000GHz-T](#) [ASG-D-X-B-1.24416GHz](#) [ASG-D-X-B-1.24416GHz-T](#) [ASG-D-X-B-1.500GHz](#) [ASG-D-X-B-1.500GHz-T](#) [ASG-D-X-B-100.000MHz](#) [ASG-D-X-B-100.000MHz-T](#) [ASG-D-X-B-106.250MHz](#) [ASG-D-X-B-106.250MHz-T](#)