

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

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OVERALL SYSTEM BLOCK DIAGRAM

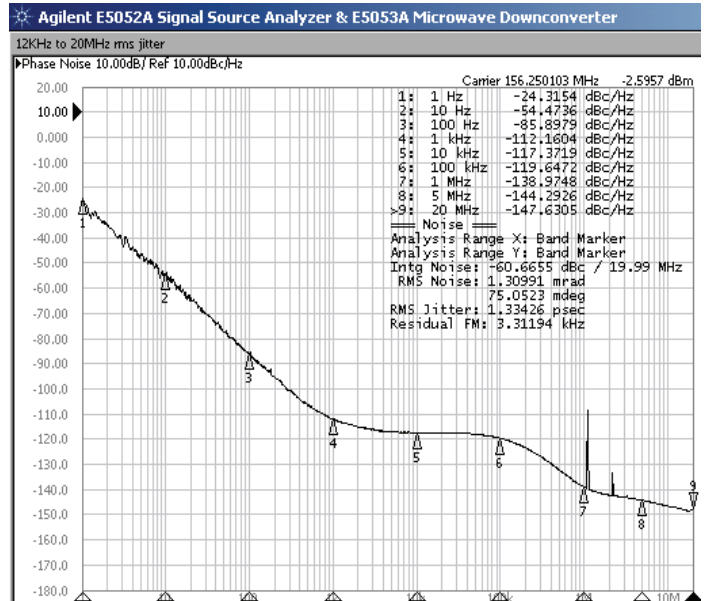


PHASE NOISE & JITTER CHARACTERISTICS

100MHz Carrier



156.25MHz Carrier



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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

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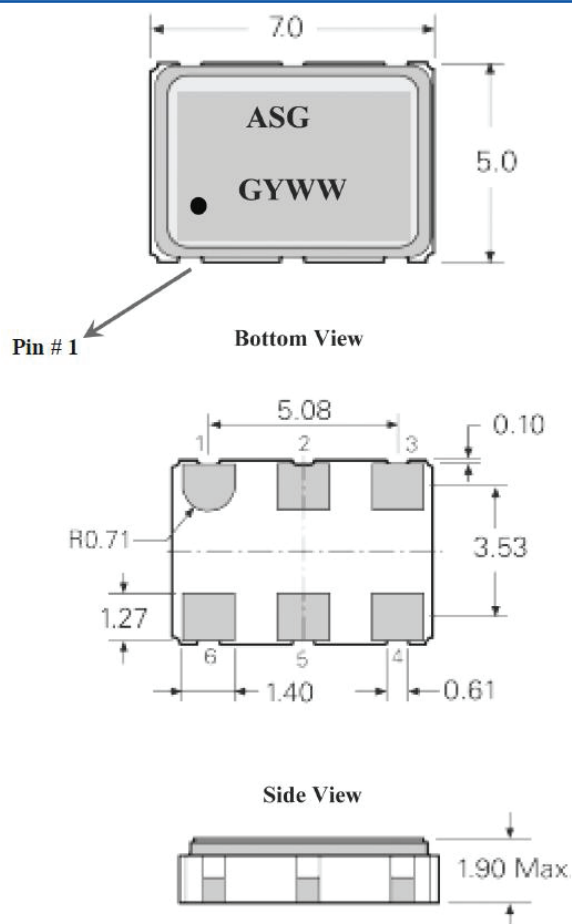


7.0 x 5.0 x 2.0mm

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:



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TAPE & REEL:

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

TAPE DETAIL (SCALE 2 : 1)



REEL DETAIL (SCALE 1 : 2.5)



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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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