

Programmable - High Performance SMD XO & VCXO (LVDS Output)



2.5 x 2.0 x 1.0 mm

ASG2-D



ESD Sensitive



RoHS / RoHS II Compliant

Moisture Sensitivity Level (MSL) – 1

FEATURES:

- +2.5V or +3.3V operation
- -40°C to +85°C standard operating temperature range
- Miniature size 2.5 x 2.0 x 1.0 mm Ceramic SMT Package
- Short lead time

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 | | 8 | | 1500 | MHz | |
| Operating Temperature | | -40 | | +85 | °C | |
| Storage Temperature | | -55 | | +125 | °C | |
| Overall Frequency Stability | | -50 | | +50 | ppm | <i>See Note # 1</i> |
| Initial Tolerance + Stability over operating temperature | | -35.00 | | +35.00 | 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 | | | | 40 | mA | Frequency dependent |
| LVDS Output (OUT & OUT ₋) | Differential Output Voltage Swing | | 350 | | mV | V _{OD} |
| | Duty Cycle | 45 | | 55 | % | @1.25V |
| | Rise Time | | | 600 | ps | RL=100Ω/CL=10pF |
| | Fall Time | | | 600 | ps | RL=100Ω/CL=10pF |
| Enable/Disable Function | | "1" (V _{IH} ≥ 0.7*V _{dd}) or Open: Oscillation "0" (V _{IL} < 0.3*V _{dd}) : High Z | | | | |
| Control Voltage Range | | 0 | | V _{dd} | V | For VCXO Only |
| Absolute Pull Range | | ±35 | | | ppm | For VCXO Only |
| Control Port Bandwidth | | 10 | | | kHz | For VCXO Only |
| Linearity | | | | 15 | % | For VCXO Only |
| Slope | | Positive | | | | For VCXO Only |
| Phase jitter RMS (12kHz to 20MHz offset) | | | 1.0 | 1.8 | ps | <i>See Note #2</i> |

Note #1: Inclusive of initial tolerance at 25°C±3°C, operating temperature range, input voltage variation, load variation & 15 years aging at 25°C.

Note #2: The rms jitter integrated 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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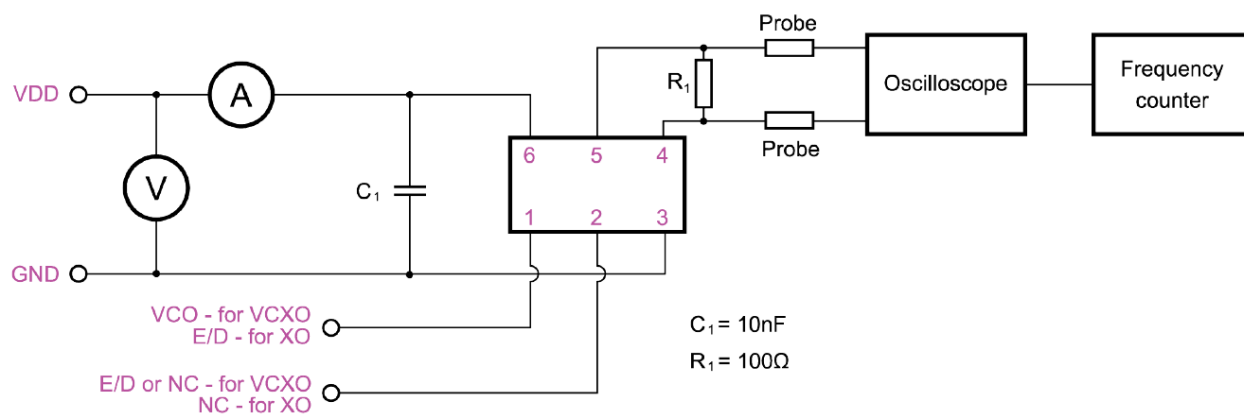
2.5 x 2.0 x 1.0 mm

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TEST CIRCUIT



OPTIONS & PART IDENTIFICATION:

ASG2 - D - - - MHz -

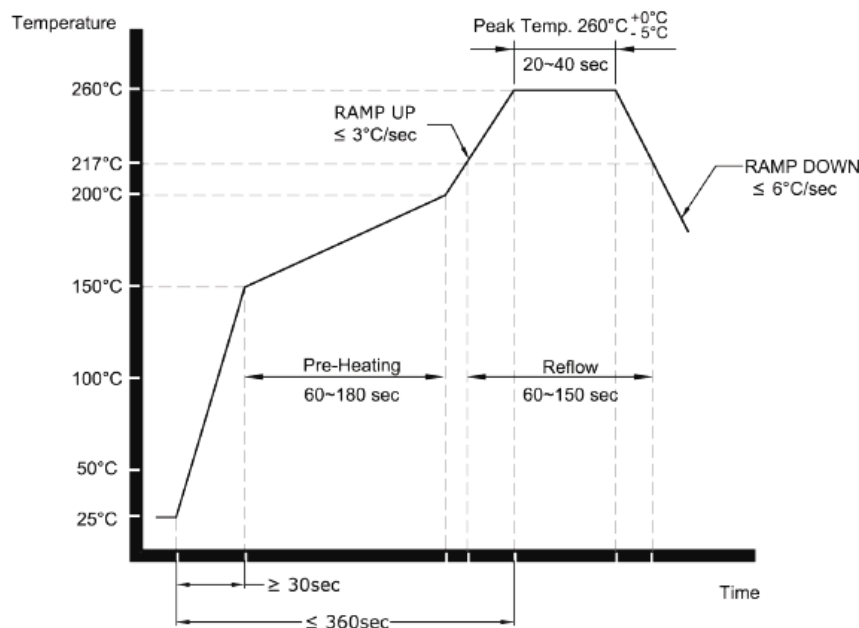
| Fixed or Pull-able |
|----------------------|
| X = Fixed Oscillator |
| V = VCXO |

| Operating Voltage |
|-------------------|
| 3.30V = A |
| 2.50V = B |

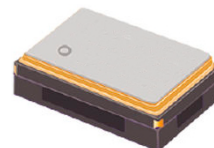
| Frequency in MHz |
|--|
| Please specify the Frequency in MHz e.g. 100.000 MHz |

| Packaging |
|-----------------|
| Blank = Bulk |
| T = Tape & Reel |

RECOMMENDED REFLOW PROFILE



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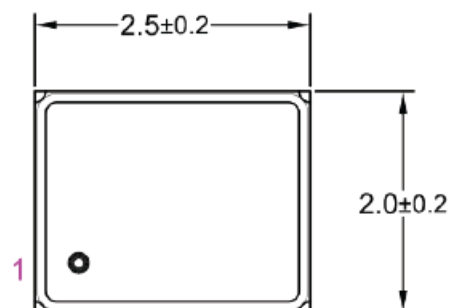
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OUTLINE DIMENSION:

| Pin # | Pin Description For VCXO configuration |
|-------|--|
| 1 | Voltage Control for VCXO |
| 2 | Output Enable (OE) <i>or</i> No Connect (N/C) |
| 3 | GND |
| 4 | RF Output |
| 5 | Complimentary Output |
| 6 | Vdd |

| Pin # | Pin Description For XO configuration |
|-------|---|
| 1 | Output Enable (OE) |
| 2 | No Connect (N/C) for XO |
| 3 | GND |
| 4 | RF Output |
| 5 | Complimentary Output |
| 6 | Vdd |

Top View



Bottom View



Recommended Land Pattern



Side View



Dimensions: mm

