DIELECTRIC RESONATOR OSCILLATOR
SURFACE MOUNT MODEL: SDRO900-8

FREQUENCY
9 GHz

FEATURES:
► Exceptional Phase Noise Performance
► Small Size Surface Mount
► Lead Free RoHS Compliant

SPECIFICATIONS

Frequency 9 GHz
Tuning Voltage 1 - 10 VDC
Bias Voltage +8 VDC @ 25 mA (Max.)
Output Power +1 dBm (Min.)
Tuning Sensitivity 1.5 MHz/V (Typ.)
Thermal Drift 2 ppm / °C (Typ.)
Output Impedance 50 Ohms (Nom.)
Harmonic Suppression 34 dBC (Typ.)
Frequency Pulling 500 kHz (Typ. @ 1.75:1 VSWR)
Frequency Pushing 400 kHz/V (Typ.)
Tuning Port Capacitance 10 pF (Typ.)
Modulation Bandwidth > 20 MHz

Phase Noise @ 25 °C

<table>
<thead>
<tr>
<th>Offset Frequency (Hz)</th>
<th>Phase Noise (dBc/Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 kHz</td>
<td>-112</td>
</tr>
<tr>
<td>100 kHz</td>
<td>-132</td>
</tr>
<tr>
<td>1 MHz</td>
<td>-152</td>
</tr>
<tr>
<td>10 MHz</td>
<td>-165</td>
</tr>
</tbody>
</table>

Jitter 90 fs (@ 1 kHz to 30 MHz) (Typ.)
Operating Temperature Range -15 to +75 °C

Absolute Maximum Ratings

Storage Temp. Range -30 to +85 °C
Bias Voltage +8.5 V
Tuning Voltage +16 V
DC Voltage Applied to RF Out ±25 V

Notes:
1. Tuning screws are factory locked for optimum performance at the center frequency. Tuning of the mechanical screw can cause significant shifts in frequency and adversely affect overall performance. Warranty is void if seal over tuning screw is damaged.
2. Test data measured with bias voltage at +8V.
3. Specifications guaranteed at 8 GHz.

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PERFORMANCE PLOTS

**Frequency (GHz)**

- **Control Voltage (Vdc)**
  - +25°C
  - +75°C
  - -15°C

**Output Power (dBm)**

- **Control Voltage (Vdc)**
  - +25°C
  - +75°C
  - -15°C
PERFORMANCE PLOTS

**Tuning Sensitivity (MHz/V)**

Control Voltage (Vdc)

-25ºC
-75ºC
-15ºC

**2nd Harmonic Suppression (dB)**

Control Voltage (Vdc)

-25ºC
-75ºC
-15ºC
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PERFORMANCE PLOTS

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pk - pk at +8 V (+/-0.25 V)

Control Voltage (Vdc)

Frequency Pushing (kHz)

0 50 100 150 200 250 275

0 1 2 3 4 5 6 7 8 9 10