

# DIELECTRIC RESONATOR OSCILLATOR

**MDR2100-13500**

**13500 - 14500 MHz**

## Features

- Rugged Construction for Extreme Environmental Conditions
- High Frequency Stability
- Free Running, Mechanically Tuned

## Specifications<sup>1</sup>

| CHARACTERISTIC                                | TYPICAL<br>Ta = +25 °C | MIN/MAX<br>Ta = -20°C to +65 °C |
|-----------------------------------------------|------------------------|---------------------------------|
| Frequency                                     | 13500 - 14500 MHz      | 13500 - 14500 MHz               |
| Mechanical Tuning<br>Bandwidth (MHz)          | —                      | ±20 Min.                        |
| Frequency Stability <sup>2</sup><br>(ppm)/ °C | 4                      | 5 Max.                          |
| Pulling, 12 dB RL (ppm)                       | —                      | ±100 Max.                       |
| Pushing (ppm/Volt)                            | —                      | 20 Max.                         |
| Harmonics (dBc)                               | -20                    | -15 Max.                        |
| Spurious (dBc)                                | -75                    | -70 Max.                        |
| Output Power (dBm) <sup>3</sup>               | +11                    | +10 Min.                        |
| Power                                         | Vdc <sup>4</sup><br>mA | +15<br>125 Max.                 |

NOTES: Care should always be taken to effectively ground the case of each unit.

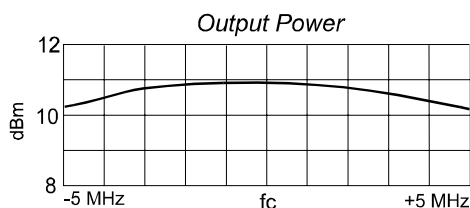
1. Specifications labeled "min." or "max." are guaranteed in a 50 Ohm system over the specified temperature range.

2. Averaged over the full temperature range.

3. Higher output power is available.

4. Alternate input voltage is available.

5. Package must be verified by Spectrum Microwave.



## Absolute Maximum Ratings

Ambient Operating Temperature ..... -55°C to +100 °C

Storage Temperature ..... -62°C to +125 °C

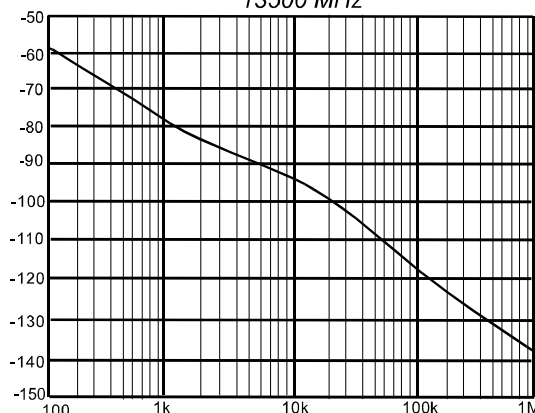
Case Temperature ..... +125 °C

DC Voltage ..... +24 Volts

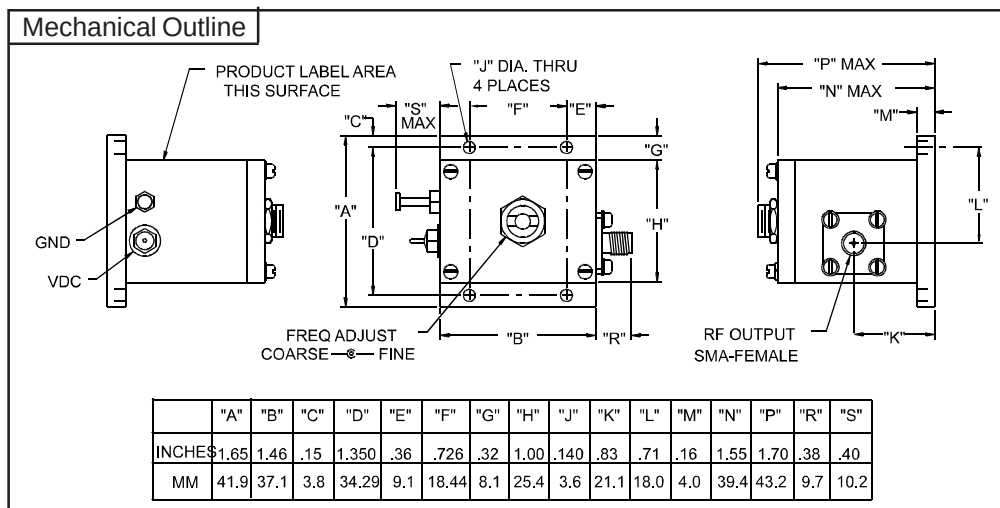
## Typical Performance Data

| Phase Noise | Typical<br>13500 MHz | Typical<br>14500 MHz |
|-------------|----------------------|----------------------|
| Offset      |                      |                      |
| 10 kHz      | -93                  | -92                  |
| 100 kHz     | -118                 | -117                 |
| 1 MHz       | -138                 | -137                 |

**Phase Noise (dBc/Hz)  
13500 MHz**



## Mechanical Outline



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Rev.  
10/23/08

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