**FEATURES**

- Broadband Design (4 to 20 GHz)
- Fast Switching (<100 µSec)
- Low Phase Noise (<-92 dBc/Hz @ 10 KHz, at 20 GHz)
- Low Spurs (<-60 dBc across entire range)
- Vibe Tolerant, Compact Package (4.5” x 2.5” x 0.6”)

**SPECIFICATIONS**

- **Frequency**: 4000-20000 MHz
- **Step Size**: 10 MHz
- **Switching Speed**: <100 µSec
- **External Reference**: 10 MHz
- **Power Output**: +10 dBm ±3 dB
- **Harmonics**: <-20 dBc
- **Spurs**: <-65 dBc (4-10 GHz), <-60 dBc (10-20 GHz)
- **Supply**: +5 V @ ≤1500 mA
- **Temperature Range (Operating)**: -40°C to +85°C
- **Programming**: Serial; Clock, Data, Enable (3.3V TTL Logic)
- **Connectors**: 21 Pin Micro-D (I/O), SMA (RF)
- **Package Size**: 4.5” x 2.5” x 0.6”

**Phase Noise (dBc/Hz)**

<table>
<thead>
<tr>
<th>Offset</th>
<th>4-10 GHz</th>
<th>10-20 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 KHz Offset</td>
<td>&lt; -89</td>
<td>&lt; -88</td>
</tr>
<tr>
<td>10 KHz Offset</td>
<td>&lt; -92</td>
<td>&lt; -92</td>
</tr>
<tr>
<td>100 KHz Offset</td>
<td>&lt; -89</td>
<td>&lt; -89</td>
</tr>
<tr>
<td>1 MHz Offset</td>
<td>&lt; -106</td>
<td>&lt; -105</td>
</tr>
</tbody>
</table>

**OPTIONS**

- GPPO, SMA, K, or Pinned Connector Configurations Available
- Configurable Designs Available

**APPLICATION**

Local Oscillator for Airborne Radar System

**PACKAGE OUTLINE**

Notes:
1. Includes removable SMA connectors for drop-in, surface-mountability.
2. Alternate connectors available: GPO, GPPO, K
3. Demoboard and Reference Modules available.
4. All dimensions are in inches unless otherwise specified.
5. Diagrams and pictures shown are examples only.

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ZFR-20000-XA
PRODUCT RELEASE

Broadband, High-Performance Synthesizer
4 to 20 GHz

PERFORMANCE PLOTS

Figure 1: Phase noise at 4 GHz at -40°C

Figure 2: Phase noise at 4 GHz at +85°C

Figure 3: Phase noise at 10 GHz at -40°C

Figure 4: Phase noise at 10 GHz at +85°C

Figure 5: Phase noise at 20 GHz at -40°C

Figure 6: Phase noise at 20 GHz at +85°C