

# DFSL Series Frequency Synthesizer

## 1 to 23 GHz, Integrated High Stability Reference (OCXO)

### Features

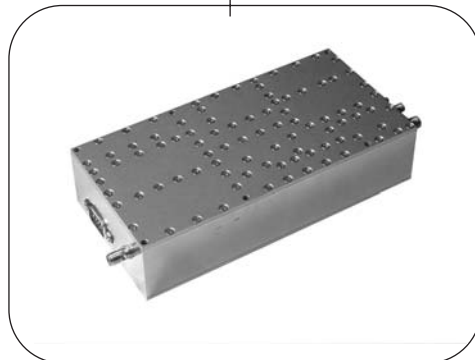
- No Phase Hits or Phase Pops
- Meets ETSI 300019-1-4 Shock and Vibration Requirements
- Low Phase Noise (refer to Phase Noise Graph below)
- Wide Tuning Bandwidth (Up to 1 GHz at KU Band)
- Standard Step Sizes: 125 KHz, 1 MHz, 5/3 MHz, 10/3 MHz
- Lock to External 5 or 10 MHz (optional)
- BCD input Frequency Control, Serial RS232
- Meets IESS 308 / 309 with Safe Margins
- Wide Operating Temperature Range
- Small Size, Low Profile (6.00" x 3.00" x 1.25")

### Applications

- High Capacity Digital Radio Relay System
- LMDS / MMDS Backhaul
- SONET / SDH Microwave Fiber
- Wireless ATM Networks
- SATCOM Converters

### Description

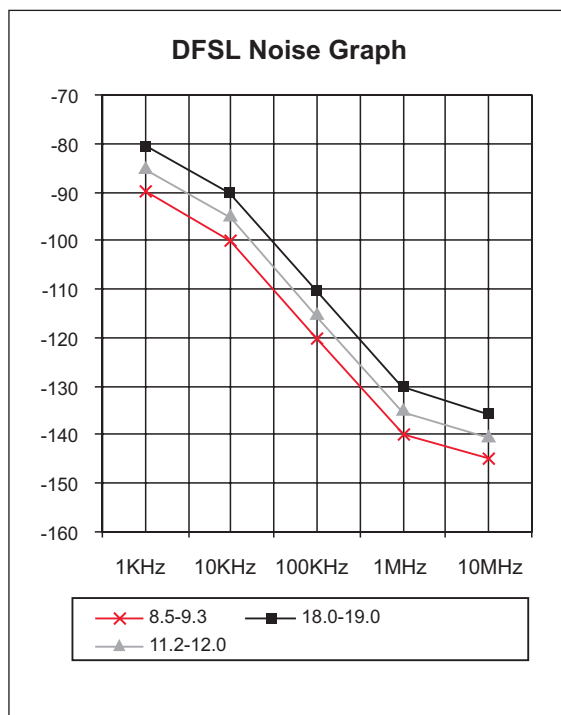
DFSL series frequency synthesizers were designed with special emphasis on zero phase hits or pops. This, in combination with extremely low microphonics and a wide operating temperature range, provides a unique solution for the emerging high capacity Digital Radio Market in millimeter wave, KA, KU, X and C bands. The synthesizers employ low power consumption components that keep the total DC power drain below 4 Watts. This keeps the junction temperatures low and improves the overall reliability. The frequency control is handled by the built in microcomputer. The standard format is serial BCD, but other options are available. The DFSL Synthesizers can be customized to meet a wide range of special needs such as optional frequency bands, step size and output power. Please contact the Sales Department at (201) 767-8030 for details.



Size: 6.00" x 3.00" x 1.25"

### Specifications

Frequency Range	0.5 - 23 GHz (IN BANDS)
Tuning Bandwidth	Up to 1000 MHz
Tuning Sizes	25 KHz, 125 KHz, 500 KHz, 1.25 MHz, 5/3 MHz, 10/3 MHz
Switching Speed	<25 ms (1 ms option)
Output Power Range	12 - 18 dBm
Output Power Variation	+/- 2 dB max
Load VSWR	2.0 : 1 max
Phase Noise	Refer to graph
Spurious Output	< -70 dBc
Harmonics	-20 dBc
Frequency Stability	+/- 3PPM
Aging	< 5 PPM per 10 years
Optional Input Reference	5 - 50 MHz
Frequency Control	BCD, Serial RS 232 or RS 485
DC Power	12 V / 350mA; 6 V / 250mA
Operating Temperature	-35°C to +70°C
Operating Vibration & Shock	ETSI 300019-1-4
Size	6.00" x 3.00" x 1.25"
Microphonics	ETSI 300019-1-4



## DFSL Series Frequency Synthesizer

## Ordering Information

**DFSL** - \_\_\_\_\_  
Start Freq [GHz]      Stop Freq [GHz]      Step [KHz]      Reference Option      Alarm Option

**Example:** DFSL - 4.70 / 5.20 - 125 - 15 - TH

### Reference Option

I1: +/- 1 PPM OCXO      I5: +/- 1 PPM OCXO      E5: EXTERNAL 5MHz      E10: EXTERNAL 10 MHz

## Alarm Options

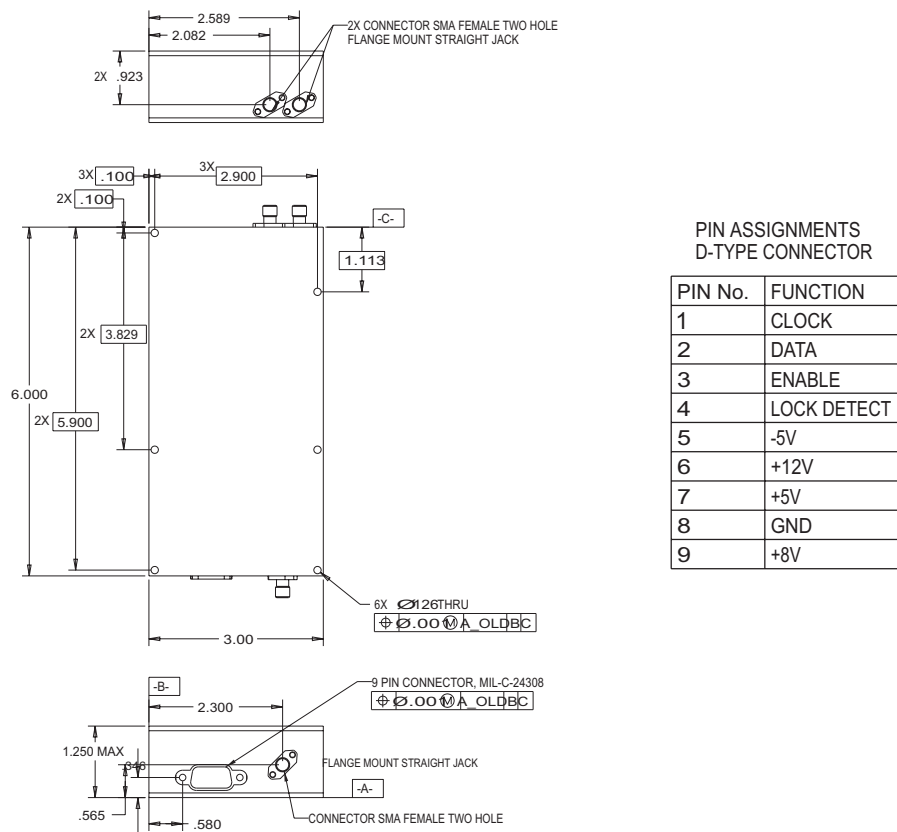
TH: TTL high alarm

TL: TTL low alarm

OH: Open collector high alarm

OL: Open collector low alarm

## Outline drawing



## Additional Products

- 0.5 - 26 GHz miniature MPDRO series phase locked sources, size 2.25" x 1.4" x 0.8"
- 0.5 - 23 GHz PDRO series phase locked sources with fractional reference multiplication, size 4.1" x 2.8" x 0.67"
- 1 - 23 GHz MFS series frequency synthesizers covering standard satcom bands, size 7.7" x 5.5" x 0.73"