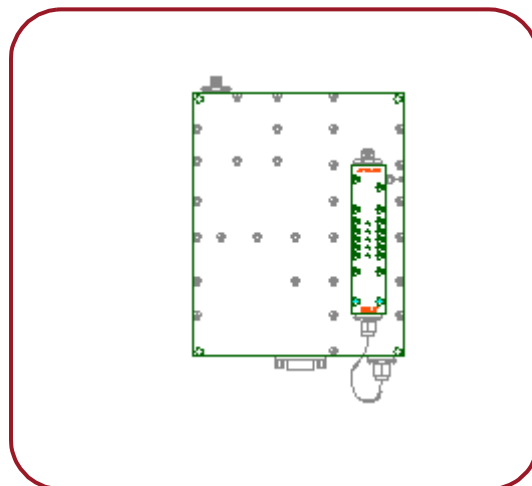


## FAST-SWITCHING SYNTHESIZER

**SLS SERIES:  
4.85–5.65 GHz**

### FEATURES

- Ideal for wireless and SATCOM applications
- 100 kHz to 10 MHz standard step size
- Wide bandwidth/fast requisition
- Guaranteed spurious performance during shock and vibration
- Low cost



MITEQ's SLS Series synthesizers utilizes a fast-tuning phase-locked loop architecture to provide a balanced combination of exceptionally low phase noise and fast-tuning speed. This design incorporates traditional single-loop circuits with a rugged design to operate over harsh environmental conditions.

### ELECTRICAL SPECIFICATIONS

Output frequency range	
Multiplied Band	4.850-5.650 GHz
Step size	100 kHz – 10 MHz (Note 1)
Output power	+13 dBm minimum
Output power variation	±2 dB maximum
Input reference frequency	5 or 10 MHz, internal reference available (Note 2)
Input power level	0 ±3 dBm
Output spurious (in-band)	-70 dBc minimum (Note 3)
Phase noise	See graphs (Note 3)
Offset from carrier	(Typical phase noise at 3.5GHz, 1 MHz step size)
100 Hz	65 dBc
1 kHz	-70 dBc
10 kHz	-75 dBc
100 kHz	-95 dBc
1 MHz	-120 dBc
	See Note 6
Output harmonic	-20 dBc typical
Output impedance	50 ohm nominal
Load VSWR	1.5:1 maximum, all phases
Regulation	±5%

# FAST-SWITCHING SYNTHESIZER

## ELECTRICAL SPECIFICATIONS (CONT.)

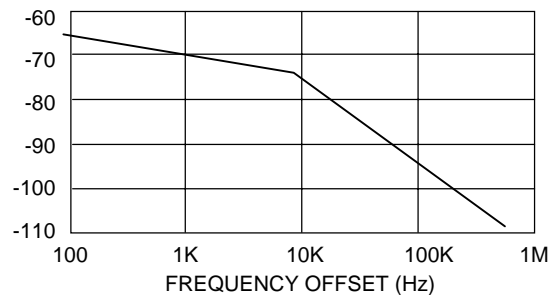
Noise and ripple	10 mV, P-P maximum
Frequency control	BCD, TTL, parallel lines
Acquisition time (to phase lock)	500 $\mu$ s (Note 4) Option to 25 $\mu$ s
Summary alarm	In-lock TTL 1
VCO lock voltage	2 – 14 volts
DC power	+15 volts, 0.2 amps (Note 5) +5.2 volts, 0.5 amps typical

**Notes:**

1. Actual step size dependent upon frequency.
2. Internal reference stability  $\pm 2.5$  ppm.
3. Spur and phase noise performance based upon stable platform conditions. Spur degradation to 25 dBc over operational vibration levels. Phase noise degradation is typically on the order of 10 dB/Hz within the loop bandwidth.
4. Acquisition time dependent upon step size, please contact MITEQ for complete options.
5. Actual current dependent upon specified operating frequency.
6. Phase noise dependent on step size.

### TYPICAL PHASE NOISE

AT 5 GHz (1 MHz Step Size)



### OPERATING VIBRATION PROFILE

