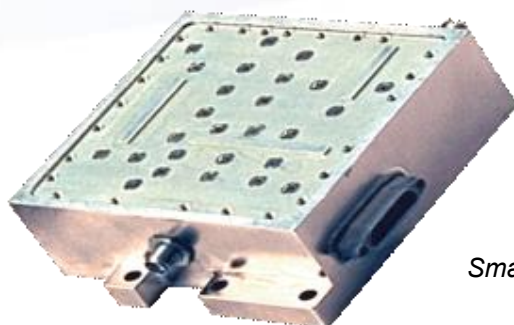




RS-1000 Series

RS (RUGGEDIZED) SERIES SYNTHESIZER



Small Size: 3"x 3"x 1.0"

FREQUENCY RANGE:
1 to 23 GHz, In Bands Up To 25%
1, 5, or 10 MHz Steps

FEATURES

- Fast Switching < 50 usec
- Wide Temperature Range -54°C to +85°C
- Stable Operation To Beyond 6 G RMS Vibration
- Ultra Low Phase Noise, -110 dBc 10 KHz Offset, 10 GHz
- Hermetically Sealed
- High Reliability
- Airborne Up 60,000 Feet



APPLICATION

- Spread Spectrum Communications
- Radar
- UAV
- SATCOM

BENEFITS

- Ultra Low Phase Noise
- Low Microphonics
- Small Size
- Low Power

GENERAL DESCRIPTION

The single-loop RS Series PLL Synthesizers employ Elcom's proprietary design architecture to provide low phase noise and fast switching speed, <50 microseconds, in a compact ruggedized configuration. These synthesizers maintain specified performance under conditions of vibration up to and exceeding 6 G RMS. Operating base plate temperature range is 55° C to +85° C.

The RS Series PLL Synthesizers are ideal for the LO in spread-spectrum military airborne and ground based communications systems. They have application in many types of radar and ECM systems and in other types of communications systems.



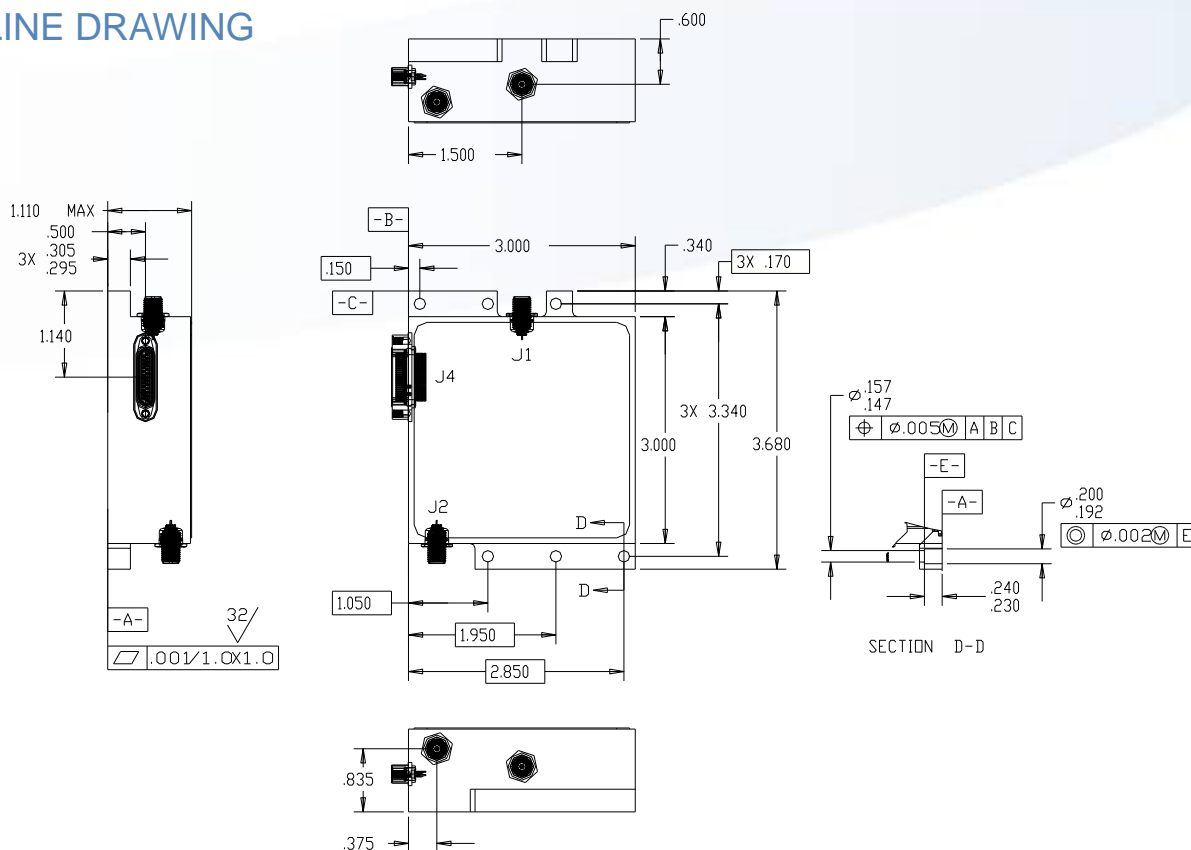
SPECIFICATIONS

RF Output, Electrical Characteristics

Frequency	Ku-Band or C-Band or Ku-Band 1 to 23 GHz (In Bands)	
Frequency Bandwidth	up to 25%	
Frequency Step Size	5 MHz (KU-Band), 2.5 MHz (C-Band), 1 MHz S Band	
Phase Settling (within 4° of the final phase)	Less then 50 us for any step in the BW	
SSB Phase Noise, at 6 G RMS		
Random Vibration		
Ku-Band, at offset	100 Hz	-76 dBc/Hz
	1 KHz	-99 dBc/Hz
	10 KHz	-103 dBc/Hz
	100 KHz	-103 dBc/Hz
	1 MHz	-118 dBc/Hz
	10 MHz	-140 dBc/Hz
C-Band, at offset	100 Hz	-82 dBc/Hz
	1 KHz	-105 dBc/Hz
	10 KHz	-110 dBc/Hz
	100 KHz	-110 dBc/Hz
	1 MHz	-120 dBc/Hz
	10 MHz	-145 dBc/Hz
Spurious	< -77 dBc	
Harmonics	< -40 dBc	
Output power	14 dBm (+/-2 dBm)	
Output Impedance	50 ohms Nominal	
Output Return Loss	< -15 dB	
DC Power		
+15.0 VDC	0.1 A	
+6.5 VDC	1.3 A	
Mechanical		
Weight	.75 lbs	
Dimensions	See drawing	
Operating Temperature Range	-54°C to +85°C, base plate	
Thermal Cooling	Conduction	



OUTLINE DRAWING



ABOUT FEI-ELCOM TECH, Inc

Elcom designs and manufactures instruments and modules in the RF and Microwave frequency spectrum for broadband and narrow band applications in ATE, Aerospace/ Defense, SIGINT and commercial communications. Proprietary technologies include low phase noise fast switching direct analog synthesis, low noise indirect PLL designs, and RF DSP up to 40GHz.

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