

# 2-18 GHz Broadband Synthesizer

+13 dBm Output Power with Low Phase Noise



## Features

- Ultra Low Phase Noise: - 81 dBc/Hz @ 10 KHz Offset
- Frequency control options include Serial inputs or BCD/Binary format.
- Fully Customizable
- Multiple Frequency Control Options
- Environmental Screening Available

Model BXFS1045 2-18 GHz Synthesizer covers the S, C, X, and Ku-Bands, offers fast 65  $\mu$ sec settling time, provides +13 dBm of output power from the +/- 6 and +5 volt supply, and delivers low phase noise performance (-81 dBc/Hz @ 10 KHz Offset). API Technologies offers flexibility to meet customer-specific requirements including options for input voltages, output power, and frequency control.

Using a hermetic laser-welded package, the BXFS1045 is able to withstand extreme environmental conditions, and is configurable for most military airborne and ground based applications. Able to provide outstanding performance at a wide temperature range (-40°C to +85°C), the Synthesizer is ideally suited for military requirements and high-end commercial applications such as microwave receivers, microwave telemetry systems, uplink communication platforms, instrumentation, and military communication systems.

## Technical Specifications

Parameter	Typical	Min/Max
<b>Frequency Range</b>	2-18 Ghz	2-18 Ghz
<b>Output Power</b>	13 dBm (x4)	-
<b>Internal Input Reference Frequency</b>	100 Mhz	100 Mhz
<b>Step Size (at 18 GHz)</b>	20 Mhz	20 Mhz
<b>SSB Phase Noise (at 18 Ghz)</b>	-80 dBc/Hz @ 1 kHz -81 dBc/Hz @ 10 kHz -82 dBc/Hz @ 100 kHz -113 dBc/Hz @ 1 MHz -135 dBc/Hz @ 10 MHz	-
<b>Settling Time</b>	65 $\mu$ sec	-
<b>Stability</b>	+/- 10 ppm	-
<b>Spurious</b>	-60 dBc	-
<b>Harmonics</b>	-15 dBc	-
<b>Sub-Harmonics</b>	-25 dBc	-
<b>Input/Output VSWR</b>	2.0:1	2.5:1
<b>DC Supply Voltage</b>	+6 volts, + 5 volts, -6 volts	(+/- 2%)
<b>DC Supply Current</b>	650 mA, 300 mA, 50 mA	700 mA, 350 mA, 100 mA

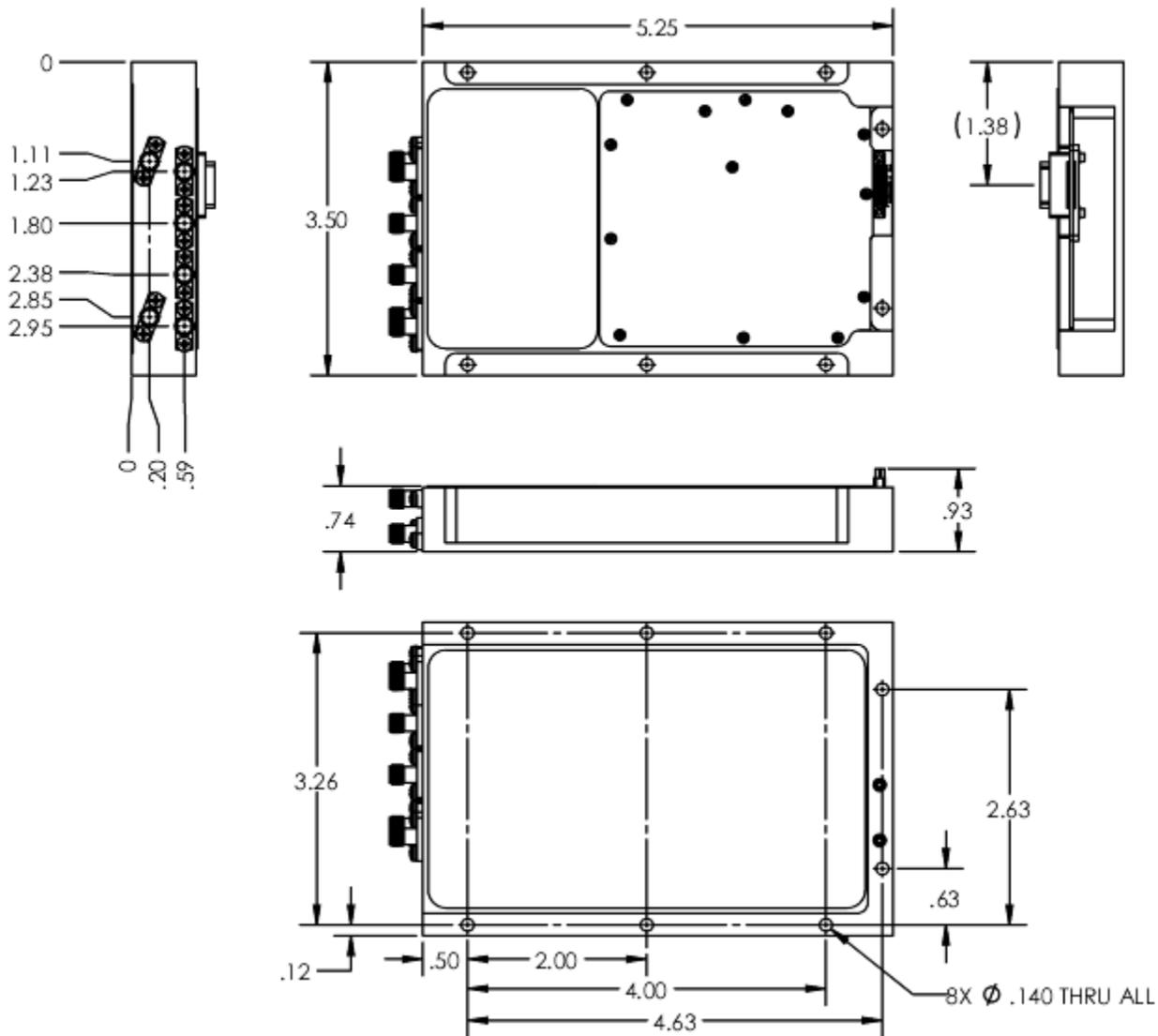
## Maximum Ratings

Minimum (No Damage) Results	
<b>Operating Temperature</b>	-40°C to +85°C
<b>Storage Temperature</b>	-55°C to +85°C
<b>DC Voltage @ 25°C</b>	8 Volts

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## Outline Drawing



### Miscellaneous:

1. Specifications labeled "min." or "max." are guaranteed in a 50 Ohm system over the specified temperature range.
2. Higher output power is available.
3. Other input voltages are available.