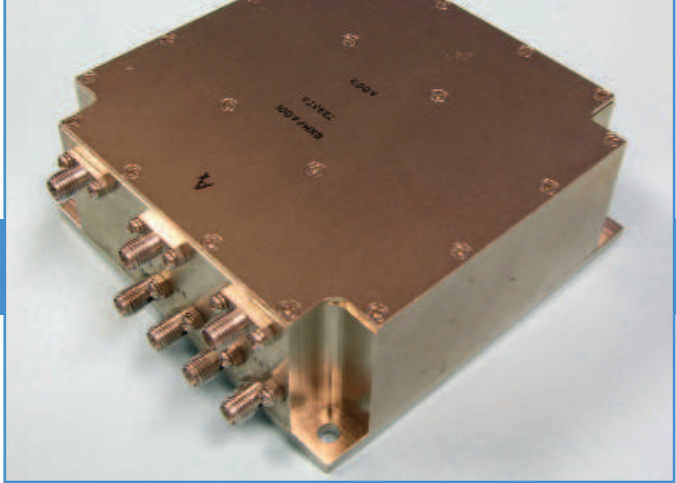


Frequency Multipliers

X4, X8 Multiplication

SPECTRUM MICROWAVE



Spectrum Microwave offers a line of low noise frequency multipliers based on multiple passive doubler/amplifier combinations. These custom designed assemblies cover input frequency ranges of 5 to 500 MHz with output frequencies in the range of 100 to 1000 MHz. Narrowband or broadband devices are available. Additive phase noise testing ensures low phase noise/jitter performance. All internal amplifiers and doublers are contained in rugged TO-8 hermetic packages for excellent performance over military environmental conditions.

Features

- Low additive noise (-146 dBc/Hz 10 KHz offset X8 multiplication)
- Low harmonic and sub harmonic content (-60 dBc)
- Low discrete Spurious (-75 dBc integrated over a 10 MHz Bandwidth)
- High reliability (200,000 hour MTBF Naval Sheltered)

Optional Features

- Output filtering
- Digital ECL outputs (single or differential)
- Built in test power detectors
- Internal voltage regulation

Typical Performance Characteristics

<i>Input Frequency Range</i>	..... 5 – 500 MHz
<i>Output Frequency Range</i>	..... 100 – 1000 MHz
<i>Bandwidth</i>	..... 2%
<i>Pin</i>	..... 10 dBm
<i>Pout</i>	..... 0 dBm
<i>ECL Differential Delay</i>	..... ≥ 100 ps
<i>Harmonics</i>	..... ≤ -50 dBc
<i>Sub-Harmonics</i>	..... ≤ -70 dBc
<i>Phase Noise</i>	..... 1 KHz -146 dBc/Hz
(Referenced to Input)	10 KHz - 158 dBc/Hz
	100 KHz -158 dBc/Hz
<i>Input Power</i>	..... +5 VDC and +15 VDC @ 60 mA
<i>Package Size</i>	..... 4" x 4" x 1.5"

