

Subharmonic Pumped Up-converters

FEATURES:

- ❖ Frequency coverage: 18 to 110 GHz
- ❖ Balanced configuration for low conversion loss
- ❖ Up to full waveguide band operation
- ❖ LO frequency at half of RF frequency
- ❖ Standard temperature range: -10 to +60°C

APPLICATIONS:

- ❖ Communication systems
- ❖ Radar systems
- ❖ Test instrumentations



CSUP Series

DESCRIPTION:

Cernex's CSUP series subharmonically pumped up-converters are GaAs Schottky beamlead diode and MMIC based mixers. The subharmonically pumped up-converters are widely used in many communication systems where superior harmonic and spurious performance are concerned. In addition, these up-converters have extremely low LO signal leakage at RF port. Furthermore, the LO frequency at the half of the RF frequency reduces the system cost tremendously.

The subharmonically pumped up-converters are offered in seven common waveguide bands to cover the frequency range from 18 to 110 GHz. The catalog models employ broadband circuitry and balanced structure to offer low conversion loss and harmonics products for close to the full waveguide band operation. The typical instantaneous RF bandwidth of these up-converters are 75% of the bandwidth of waveguide bands. Although non biased version is the baseline design, externally biased option is available upon request. While catalog models' focus is on broader bandwidth operation for the general applications, narrow bandwidth custom designed models are optimized to meet customers' specific applications needs.

SPECIFICATIONS:

Waveguide Band	K	Ka	Q	U	V	E	W
Waveguide Size	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10
RF Frequency Range (GHz)	18 to 26.5	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110
LO Frequency Range (GHz)	9.0 to 13.25	12.25 to 20	16.5 to 25.0	20.0 to 30.0	25.0 to 37.5	30.0 to 45.0	37.5 to 55.0
IF Frequency Range (GHz)	DC to 5.0	DC to 5.0	DC to 5.0	DC to 5.0	DC to 5.0	DC to 5.0	DC to 5.0
Conversion Loss (dB)	12.5	13.5	14.5	15.0	16.0	16.0	17.0
LO Power (dBm)	10 to 15	10 to 15	10 to 15	10 to 15	10 to 15	10 to 15	10 to 15
Port Isolation (dB)	15.0	15.0	15.0	15.0	15.0	15.0	15.0
RF/LO Connectors	WR-42/SMA(F)	WR-28/K(F)	WR-22/K(F)	WR-19/K(F)	WR-15/K(F)	WR-12/2.4(F)	WR-10/V(F)