

COMPACT THZ GENERATORS



Product description:

These generators are based on a QS2 Backward Wave Oscillator (BWO) combined with frequency multipliers. While QS2 is only tunable in range 100-180 GHz, combination of QS2 with frequency multipliers extends the operating spectral range to 1.6 THz.

The frequency multipliers are very compact (1"×0.5"×0.5") solid-state electronic devices that are attached directly on the QS2 output waveguide. Power conversion efficiency of the multipliers varies from 0.1 to 20 percent, depending on the frequency range. Starting with 100 mW of power generated by QS2, output power of the multiplied source ranges from a few μ W to 20 mW.

Product specifications:

MODEL	TUNING RANGE	OUTPUT POWER
QS2	100 - 180 GHz	10 - 100 mW
QS2-D	200 - 360 GHz	1 - 20 mW
QS2-T	300 - 540 GHz	0.5 - 2 mW
QS2-DT	600 - 900 GHz	20 - 100 μ W
QS2-TT	1100 - 1620 GHz	1 - 5 μ W

Application notes:

QS2-D and QS2-T are comparable in power and tuning range to QS-1500, QS-1000, QS-700. **QS2-DT** is covering the spectral range of QS-500, QS-400 and QS-300 combined at the expense of lower power. **QS2-TT** exceeds the tuning range of QS-260 and QS-200 combined, extending operation of BWO-based sources to 1.6 THz. However, the output power falls significantly at higher frequencies.

Apart from the wide tuning range, advantages of frequency multiplied BWO sources include compact size, light weight, lower operating voltages, no water cooling, and extended operating lifetime.

Computer Control of THz Sources:

Digital to Analog Converter (DAC-16) enables computer control of the high voltage power supply VR-3M via RS-232, GPIB or USB interfaces THz Generator software package provides for a windows based interface to control THz sources via DAC-16 and high voltage power supplies.

Pricing information is available on request at sales@mtinstruments.com

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