AVAILABLE WITH integra
See page **36** for details

THZ-D

THz Detectors for use with our universal monitors

AVAILABLE MODELS

THZ12D-3S-VP
(3W - Thermal Volume Absorber)

THZ9D-20mS-BL
(25mW - Pyroelectric)

ACCESSORIES

Stand with Steel Post
(Model Number: 200160)

Extension Cables
(4, 15, 20 or 25 m)

SDC-500 Digital
Optical Chopper

Pelican Carrying Case

KEY FEATURES

1. **COVERS THE ENTIRE THZ SPECTRUM**
   Get the best precision across the entire wavelength range and relative measurements from 30 THz to 0.1 THz.

2. **ROOM TEMPERATURE OPERATION**
   Easier to use and less expensive than a Golay cell.

3. **CALIBRATED AT 10.6 µm**
   THZ-D detectors are calibrated at a single wavelength 10.6 um (30 THz) and at 10 Hz chopping frequency for the THZ9D. Both include typical wavelength correction data from 10.6 to 440 µm. They are used for relative measurements outside that range.

4. **LARGE AREA**
   Models range from 9 mm Ø for the THZ9D and 12 mm Ø for the THZ12D.

5. **WIDE RANGE OF MEASUREMENTS**
   Measure from 100 uW to 3 W of continuous power with the THZ12D model, the highest in our terahertz range of products, and down to 5 uW to 25 mW with the THZ9D model.

6. **USE WITH A UNIVERSAL MONITOR**
   No need for an exclusive monitor. These unique THz detectors work with our standard universal monitors:
   - MAESTRO
   - M-LINK

7. **SDC-500 OPTICAL CHOPPER**
   The THZ9D model requires the use of an optical chopper, like our SDC-500, running at 10 Hz.

8. **integra OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

SEE ALSO

THZ-D

*Also traceable to NRC-CNRC

SPECIFICATIONS

	THZ9D- 20mS-BL	THZ12D-3S-VP
MAX AVERAGE POWER	25 mW	3 W
EFFECTIVE APERTURE	9 mm Ø	12 mm Ø
COMPATIBLE MONITORS	MAESTRO, M-LINK & APM	MAESTRO & M-LINK
MEASUREMENT CAPABILITY		
Spectral Range [a]		
Frequency	0.1 - 30 THz	0.1 - 30 THz
Wavelength	3000 – 10 µm	3000 – 10 µm
Maximum Average Power		
with MAESTRO	20 mW	3 W
with M-LINK	25 mW	3 W
Noise Equivalent Power [b]	300 nW	0.5 µW
Minimum Measurable Power [c]	N/A	50 - 100 µW
Thermal Drift [d]	N/A	12 µW/°C
Rise Time (nominal) [d]	<0.2 sec	3 sec
Sensitivity (typ into 100 kΩ load) [e]	120 V/W	200 mV/W
Minimum Repetition Rate [d]	1000 Hz	7 Hz
Chopping Frequency	10 Hz (required)	N/A
Calibration Uncertainty [f]	±5.0 % @ 10.6 µm; ±15 % @ 10.6 - 440 µm [a]	±8.0 % @ 10.6 - 300 µm; ±15 % @ 300 - 440 µm [a]
Repeatability	±0.5 %	±0.5 %
DAMAGE THRESHOLDS		
Maximum Average Power Density [g]	50 mW/cm^2	30 W/cm^2
Maximum Energy Density	<0.1 J/cm^2	<1 J/cm^2
PHYSICAL CHARACTERISTICS		
Effective Aperture	9 mm Ø	12 mm Ø
Absorber (High Damage Threshold)	BL (Black Absorber)	VP (Volume Absorber)
Dimensions	38.1Ø x 26.2 mm	73H x 73W x 28D mm (80D mm with tube)
Weight (head only)	91 g	320 g
ORDERING INFORMATION		
Product Name	THZ9D-20mS-BL	THZ12D-3S-VP
Product Number (Including stand)	202257	202230
Add Extension for INTEGRA (USB)		-INT
Product Number (Including stand)		203028
Add Extension for INTEGRA (RS-232)		-IDR

Specifications are subject to change without notice

a. From 10 to 440 µm, spectrometer measurement with multiple laser references validation.
From 440 to 600 µm, spectrometer measurement only.
From 600 to 3000 µm, relative measurement only.
This spectral range is subject to change.
b. Nominal value, actual value depends on electrical noise in the measurement system.
c. Actual value depends on ambient conditions and the measurement system.
d. Minimum repetition rate for stable average power measurements.
e. Maximum output voltage = sensitivity x maximum power.
f. Including linearity with power.
g. At 1064 nm, 1 W CW.