

QS-THZ

Hybrid THz Detectors



* Pictures for indicative purposes only

AVAILABLE MODELS

- QS2-THZ-BL 2 x 2 mm, Pyroelectric Sensor with Organic Black Coating in T05 Packaging
- QS5-THZ-BL 5 mm Ø, Pyroelectric Sensor with Organic Black Coating in T05 Packaging
- QS9-THZ-BL 9 mm Ø, Pyroelectric Sensor with Organic Black Coating in T08 Packaging

ACCESSORIES



QS-I-Test
Evaluation Test Box



Permanent IR Windows
(Various types available)



SDC-500 Digital
Optical Chopper



Pelican Carrying Case

KEY FEATURES

- 1. RELATIVE MEASUREMENTS FROM 0.1 TO 30 THz**
Broadband, room temperature operation, easier to use and less expensive than a Golay cell
- 2. EASY TO INTEGRATE FORMAT**
T05 and T08 packages make the QS-THz detectors small and easy to integrate in an existing system
- 3. SEVERAL SENSOR SIZES AVAILABLE**
Choice of 2 x 2 mm, 5 and 9 mm Ø
- 4. CALIBRATED AT 0.63 µm**
All THz detectors are calibrated at a single wavelength (0.63 µm) and include a typical wavelength correction data from 0.25 to 440 µm. They are used for relative measurements outside that range.
- 5. TEST BOX AVAILABLE**
Can be used with our QS-I-TEST test box which provides mounting and power supply
- 6. PERMANENT IR WINDOW OPTIONS**
Every model can be fitted with a permanent IR window to narrow the wavelength range:
S5/8: Sapphire (0.3 – 4.5 and 100 - 1000 µm)
Q5/8: Quartz (0.25 – 3.0 and 50 - 1000 µm)
Si5/8: Silicon (1.2 – 8.0 and 50 - 1000 µm)

SEE ALSO

TECHNICAL DRAWINGS	142
LIST OF ALL ACCESSORIES	196

APPLICATION NOTES

THZ MEASUREMENT: PYROELECTRIC VS GOLAY CELL	201924
QS-I-TEST SPECIFICATIONS	202187
HOW TO HANDLE PYROS	202181
PIN-OUTS	202931
SDC-500 DIGITAL OPTICAL CHOPPER	202154

QS-THZ



*Also traceable to NRC-CNRC

SPECIFICATIONS

	QS2-THZ-BL	QS5-THZ-BL	QS9-THZ-BL
VOLTAGE RESPONSIVITY	140 kV/W	70 kV/W	30 kV/W
EFFECTIVE APERTURE	2 x 2 mm	5 mm Ø	9 mm Ø
PACKAGE	T05	T05	T08
MEASUREMENT CAPABILITY			
Spectral Range ^a			
Frequency	0.1 - 30 THz	0.1 - 30 THz	0.1 - 30 THz
Wavelength	3000 - 10 µm	3000 - 10 µm	3000 - 10 µm
Max Power Density	50 mW/cm ²	50 mW/cm ²	50 mW/cm ²
Noise Equivalent Power	4.0 x 10 ⁻¹⁰ W/(Hz) ^{1/2}	1.0 x 10 ⁻⁹ W/(Hz) ^{1/2}	3.0 x 10 ⁻⁹ W/(Hz) ^{1/2}
Detectivity ^b	5.10 ⁸ cm(Hz) ^{1/2} /W	4.10 ⁸ cm(Hz) ^{1/2} /W	2.7.10 ⁸ cm(Hz) ^{1/2} /W
Voltage Responsivity ^b	140 kV/W	70 kV/W	30 kV/W
PHYSICAL CHARACTERISTICS			
Effective Aperture	2 x 2 mm	5 mm Ø	9 mm Ø
Package	T05	T05	T08
Sensor	Pyroelectric	Pyroelectric	Pyroelectric
Absorber	BL	BL	BL
Dimensions (Excluding Pins)	9.1Ø x 6.4D mm	9.1Ø x 6.4D mm	15.2Ø x 6.4D mm
Weight	45 g	45 g	45 g
ORDERING INFORMATION			
Product Name	QS2-THZ-BL	QS5-THZ-BL	QS9-THZ-BL
Product Number	201691	202289	201690

Specifications are subject to change without notice

- a. Projected Spectral Range.
From 10 to 440 µm, spectrometer measurement.
From 440 to 3000 µm, relative measurement only.
This spectral range is subject to change.
- b. 630 nm, 5 Hz



QS-I-TEST EVALUATION TEST BOX

	QS-I-TEST
Batteries	+9V/-9V
R _i Resistors	10 ⁵ - 10 ¹⁰ Ω
C _i Compensating	YES
Package	101.6H x 127W x 58.4D
Optical Mount	1/4-20 Threaded
Front Bezel	SM1 (1.035-40)
Product Number	201693

* For details, contact your Gentec-EO representative