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THORLABS

TERA10-SL25-FC - MAR 12, 2018

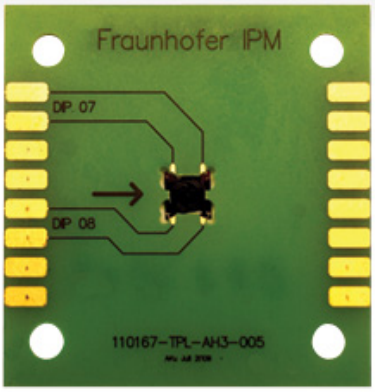
Item # TERA10-SL25-FC was discontinued on MAR 12, 2018. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

TERAHERTZ ANTENNAS

- **THz Antennas for 800 nm, 1030 nm, or 1550 nm**
- **Optimized Structures for High Signal to Noise Ratios and Improved Bandwidth**
- **Individually Tested, Includes Test Report**

T8-H2

TERA15-RX-FC



TERA8-1

OVERVIEW

Features

- Easy to Use Fiber-Coupled Modules
- Mounts Available for Chip-Mounted Antennas
- Broad Bandwidth

Applications

- THz Generation
- THz Physics
- Broadband THz Spectroscopy
- THz Imaging

Menlo Systems brings the TERA8-1 to the market with our collaborator IPM, Fraunhofer Institut für Physikalische Messtechnik. The newest generation of the TERA10 and TERA15 series antennas are brought to the market with our collaborator, the Fraunhofer-Institut für Nachrichtentechnik Heinrich-Hertz-Institut. The structure of the THz antennas is optimized for broadest bandwidth and the best signal-to-noise ratio. For more technical details about each antenna, please see the *Specs* Tab, or contact Menlo systems using the information below. For complete terahertz solutions, including a laser source and data acquisition hardware and software, see the TERA-K8, TERA-K15, and TERA-OSCAT spectrometer systems.

Jason Reeves
Sales Engineer
Menlo Systems

Feedback? Questions? Need a Quote?

Contact Us

Please note that these Terahertz Antennas are available directly from Menlo Systems, Inc. within the United States and from Menlo Systems GmbH outside the United States.

United States
Phone: +1-973-300-4490
Email: ussales@menlosystems.com

Outside United States
Phone: +49-89-189166-0
Email: sales@menlosystems.com

SPECS

Terahertz Antennas for 800 nm

Item #	TERA8-1
Photoconductive Material	LT GaAs
Bandwidth	>4 THz
Dipole Structures	20 µm[a]
Gap Size	5 µm
Substrate Size	5 mm x 5 mm x 0.35 mm
Electrical Conection	Bonded Structure on PCB (40 mm x 40 mm)
Operating Conditions	
Average Optical Power	<10 mW
Pulse Duration	<100 fs
Repitition Rate	100 MHz (80 - 250 MHz)
Bias Voltage	Recommended: ±35 V Max: ±40 V
Recommended Laser Source	C-TERA-780

Item # TERA8-1

- Our Standard Length for High Bandwidth and High Sensitivity

Terahertz Antennas for 1030 nm

Item #	TERA10-SL25-FC (Emitter)	TERA10-DP25-FC (Receiver)
Photoconductive Material	LT InGaAs/InAlAs	
Bandwidth	>2 THz	
Spectral Photosensitivity	1.03 µm	
Antenna Type	Strip Line: 25 µm	Dipole: 25 µm Gap: 10 µm
Electrical Conection	1 m BNC Connector	
Fiber Patch Cable	PM-Panda Fiber with FC/APC Connector	
Fiber Length	106 cm ± 2.5 cm	
Housing Diameter	30 mm	
Operating Conditions		
Average Optical Power	<5 mW	
Pulse Duration	<100 fs	
Repitition Rate	100 MHz (80 - 250 MHz)	
Bias Voltage	±20 V	N/A
Recommended Laser Source	ORANGE	

Terahertz Antennas for 1560 nm

Item #	TERA15-SL25 (Emitter)	TERA15-DP25 (Receiver)
Photoconductive Material	LT InGaAs/InAlAs	
Bandwidth	>3 THz	
Spectral Photosensitivity	Up to 1.57 µm	
Antenna Type	Strip Line: 25 µm	Dipole: 25 µm Gap: 10 µm
Electrical Conection	Bonded Structure on PCB (40 mm x 40 mm)	
Operating Conditions		
Average Optical Power	<40 mW	
Pulse Duration	<100 fs	
Repitition Rate	100 MHz (80 - 250 MHz)	

Item #	TERA15-SL25 (Emitter)	TERA15-DP25 (Receiver)
Bias Voltage	±20 V	N/A
Recommended Laser Source	T-LIGHT, C-FIBER	

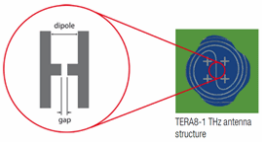
Item #	TERA15-RX-FC (Emitter)	TERA15-TX-FC (Receiver)
Photoconductive Material	InGaAs/InAlAs	LT InGaAs/InAlAs
Bandwidth	>4 THz	
Spectral Photosensitivity	Up to 1.57 µm	
Antenna Type	Strip Line: 100 µm	Dipole: 25 µm Gap: 10 µm
Electrical Conection	1 m BNC Connector	
Fiber Patch Cable	PM-Panda Fiber with FC/APC Connector[a]	
Fiber Length	100 cm ± 2.5 cm	
Housing Diameter	25 mm	
Operating Conditions		
Average Optical Power	<30 mW	<40 mW
Pulse Duration	<100 fs	
Repitition Rate	100 MHz (80 - 250 MHz)	
Bias Voltage	0 to ±60 V (Unipolar)	N/A
Recommended Laser Source	T-LIGHT-FC, C-FIBER	

Item # TERA15-RX-FC (Emitter) TERA15-TX-FC (Receiver)

- SMF28 Fiber on Request

Terahertz Antennas for 800 nm

- Optimized for Lasers Around 800 nm, Pulse Widths <100 fs, 100 MHz Repetition Rate
- 1 Wrapped Dipole Structure on Each Chip
- Low Temperature Grown GaAs Dipole Structures



Click to Enlarge
Detail of the wrapped dipole structure of the TERA8-1.

The TERA8-1 antenna is a single dipole structure mounted on a PCB. The antenna can be used both as an emitter and as a detector. The TERA8-1 antennas are used in the TERA-K8 time domain spectrometer kit.

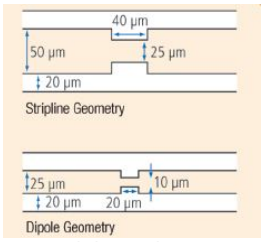
To obtain the best performance of the TERA8-1 antenna, Menlo Systems offers the T8-H2 mount, which includes a focusing lens for the optical beam and a pre-collimating Si lens for the THz radiation. The T8-H2 mount features an X-Y position adjustment of the Si lens relative to the TERA8-1 antenna and an X-Y differential screw adjustment for precise control of the alignment of the TERA8-1 to the focus of the optical beam.

Part Number	Description	Price	Availability
TERA8-1	**Terahertz Antenna for 800 nm, Free-Space Input**	**$0.00**	**Menlo Lead Time**
T8-H2	**Mount for TERA8-1 THz Antenna**	**$0.00**	**Menlo Lead Time**

Terahertz Antennas for 1030 nm

- Optimized for Lasers Around 1030 nm, Pulse Widths <100 fs, 100 MHz Repetition Rate
- Based on Novel Mesa-Structured InGaAs/InAlAs Photoconductive Layers

The TERA10-SL25-FC and TERA10-DP25-FC Antennas feature a polarization-maintaining, fiber-coupled solution for greatest ease of use and optimum performance. The geometries of the emitter and receiver antennas are optimized for best signal-to-noise and bandwidth. The emitter has a strip line geometry and the detector has a dipole geometry (see figure to the right). These “plug and play” antenna modules offer the best flexibility in experimental configuration and setup.



Click to Enlarge
Strip line Geometry vs. Dipole Geometry in the TERA10 and TERA15 Antennas

Part Number	Description	Price	Availability
TERA10-DP25-FC	**Terahertz Receiver for 1030 nm, Fiber-Coupled Input**	**$0.00**	**Menlo Lead Time**
TERA10-SL25-FC	**Terahertz Emitter for 1030 nm, Fiber-Coupled Input**	**$0.00**	**Menlo Lead Time**

Terahertz Antennas for 1560 nm

- Optimized for Lasers Around 1560 nm, Pulse Widths <100 fs, 100 MHz Repetition Rate
- Patented LT InGaAs/InAlAs on InP Multi-Layer Structure
- Available for Both Free-Space and Fiber-Coupled Inputs

Click to Enlarge
TERA15-TX-FC

The TERA15-SL25 and TERA15-DP25 antennas, like the TERA8-1 above, are substrates mounted on PCBs. The TERA-SL25 emitter is a stripline geometry, and the TERA15-DP25 is a dipole geometry. Menlo Systems also offers the T15-H2 mount for best performance and easy adjustment of the TERA15 antennas. The T15-H2 includes a focusing lens for the infrared beam and a pre-collimating Si lens for the THz radiation. The T15-H2 mount features an X-Y position adjustment of the Si lens relative to the TERA15 antenna and an X-Y differential screw adjustment for precise control of the alignment of the TERA15 antenna to the focus of the infrared beam.

The TERA15-TX-FC and TERA15-RX-FC antennas are polarization-maintaining, fiber-coupled modules optimized for better THz power production. These antennas are used in the fully fiber-coupled TERA-K15 and TERA-OSCAT terahertz spectrometers.

Part Number	Description	Price	Availability
TERA15-SL25	**Terahertz Emitter for 1560 nm, Free-Space Input**	**$0.00**	**Menlo Lead Time**
TERA15-DP25	**Terahertz Receiver for 1560 nm, Free-Space Input**	**$0.00**	**Menlo Lead Time**
T15-H2	**Mount for TERA15-DP25 and TERA15-SP25 THz Antennas**	**$0.00**	**Menlo Lead Time**
TERA15-TX-FC	**Terahertz Emitter for 1560 nm, Fiber-Coupled Input**	**$0.00**	**Menlo Lead Time**
TERA15-RX-FC	**Terahertz Receiver for 1560 nm, Fiber-Coupled Input**	**$0.00**	**Menlo Lead Time**

Visit the *Terahertz Antennas* page for pricing and availability information:
https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=4716