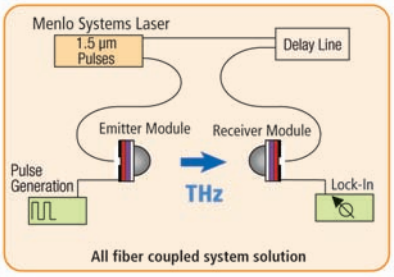
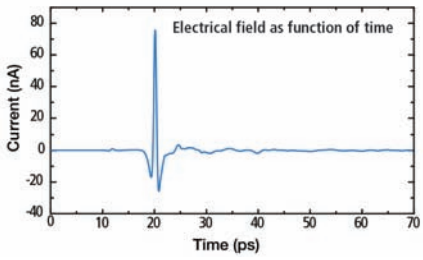
TERA15-FC: Fiber-Coupled THz Antennas for 1550 nm

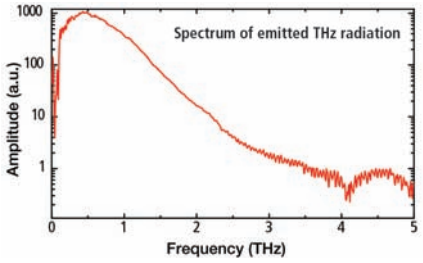
TERA15-FC

The TERA15-FC THz Antennas are optimized for 1560 nm and are used in the fully fiber-coupled TERAK15 terahertz spectrometer. Menlo Systems, in collaboration with the Fraunhofer-Institut für Nachrichtentechnik Heinrich-Hertz-Institut, continues to make THz products more user friendly.



All Fiber-Coupled THz Schematic with TERA15-FC Antennas





Test Conditions for Plots

Laser model: Menlo Systems C-Fiber HP, 1560 nm center wavelength, 100 MHz repetition rate, dispersion pre-compensated for SMF of 10 m length, pulse width at antenna <100 fs, 30 mW of optical input power at emitter and detector, electrical input at emitter, 10 V, 1 kHz modulation, electrical output of receiver pre-amplified by 10^7 before lock-in detection 45 V bias at emitter.

Features

- Optimized for Lasers Around 1560 nm and Pulse Widths <150 fs at 100 MHz Repetition Rate
- Based on Novel Mesa-Structured InGaAs/InAlAs Photoconductive Layers
- Antenna Design Specified for Emitter/Receiver Applications
- Each Device is Tested and Ships with Individualized Test Report

Specifications

	Emitter SL25	Detector DP25
Photoconductive Material	LT InGaAs/InAlAs	LT InGaAs/InAlAs
Photosensitivity	Up to 1.57 µm	Up to 1.57 µm
Antenna Type	Strip Line 25 µm	Dipole 25 µm; Gap 10 µm
Chip Size	4 mm x 4 mm, d = 0.35 mm	4 mm x 4 mm, d = 0.35 mm
Optical Power at 100 MHz Repetition Rate	<40 mW	<40 mW
Bias Voltage	±10 V	N/A
Characteristics Measured in Fiber Testbed		
THz pulse Shape	Peak-to-Peak Time Difference <700 fs	
Maximum of Fourier Spectrum	>0.5 THz	
1/10 Bandwidth of Fourier Spectrum	>1.5 THz	
Noise Floor	>3 THz	
Recommended Optical Light Sources		
Menlo Systems Femtosecond Fiber Lasers	T-Light, C-Fiber HP, M-Fiber	

ITEM #	$	£	€	RMB	DESCRIPTION
TERA15-SL25-FC	CALL				Fiber-Coupled THz Emitter, Strip Line 25 µm
TERA15-DP25-FC	CALL				Fiber-Coupled THz Detector Dipole 25 µm; Gap 10 µm

For local and updated pricing, please call Menlo Systems, Inc. in North America 973-300-4490, Menlo Systems GmbH in Europe +49-89-189-1660, or Thorlabs Japan, Inc. in Asia +81-3-5979-8889, or email sales@menlosystems.com.