

Optical to Electrical Converters

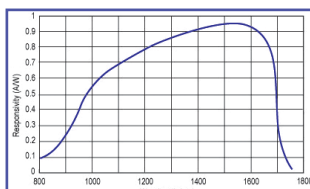
Features:

- 400 nm to 1700 nm wavelengths
- Battery or External AC Operation
- Bandwidth to 20 GHz
- Compact Size

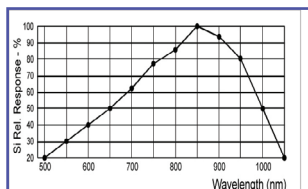
The TIA-525, 527 and 952 series have BNC outputs for direct connection to your oscilloscope or digitizer. The TIA-1200, 2000 and 3000 use a type K SMA female output connector. The TIA525 offers a free space option. Patch cords and adapters can be supplied to mate with various fiber optic connectors. The TIA-525 and 527 have dual power capability, battery and external universal power supply.



Typical InGaAs Detector Response



Typical Si Detector Response



TIA-3000



TIA-527

Model/BW	Detector	Wavelength	Power	AC/DC Coupling	Conversion Gain @ Peak Wavelength
TIA-525S (125 MHz)	Silicon	400 -1000 nm	9 V Lithium Battery*/ Univ. Power Supply	Selectable	100,000 V/W
TIA-525I (125 MHz)	InGaAs	850 - 1700 nm	9 V Lithium Battery*/ Univ. Power Supply	Selectable	100,000 V/W
TIA-527 (125 MHz)	Matched InGaAs	850 - 1700 nm	9 V Lithium Battery*/ Univ. Power Supply	Selectable	100,000 V/W
TIA-952 (750 MHz)	InGaAs	850 - 1700 nm	Universal Power Supply	AC	2500 V/W
TIA-1200 (12 GHz Typ.)	InGaAs	900 - 1700 nm	Universal Power Supply	DC	0.8 A/W
TIA-2000 (20 GHz Typ.)	InGaAs	900 - 1700nm	Universal Power Supply	DC	0.8 A/W
TIA-3000 (10 GHz)	InGaAs	900 - 1700 nm	Universal Power Supply	AC	450 V/W

See reverse side for full specifications

*30 hrs. avg. (no load) 9 V Lithium, use of std. 9 Volt battery will provide approx. 1/3 life of Lithium battery.

Specifications subject to change without notice

1-855-TTI-TEAM (884-8326)



Made In the USA

Terahertz Technologies Inc.

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O/E Converter Selection Chart

	TIA-525	TIA-527	TIA-952	TIA-1200	TIA-2000	TIA-3000
Detector Types	Silicon(400-1000nm) In-GaAs (850 -1700nm)	Matched InGaAs InGaAs (850 -1700nm)	InGaAs (850-1700nm)	InGaAs (900 -1700nm)	InGaAs/InP (900-1700nm)	InGaAs (900 -1700nm)
Transimpedance Ranges	1.4 K, 14 K	1.4 K, 14 K	1.2 K	50 Ohm internal in parallel, user supplied load	50 Ohm internal in parallel, user supplied load	$V_R = 450 \text{ V/W}$
Current Responsivity	N/A	N/A	N/A	0.8 A./W @ 1550nm Typ.	0.8 A./W @ 1550nm Typ.	N/A
Post Amplifier Gain	1.0, 10.0 selectable	1.0, 10.0 selectable	1.0, 5.0 selectable	Not amplified	Not amplified	NA
Max. Linear Input Power	1.2 mW	1.2 mW	2 mW	3 mW	3 mW	1.25 mW
Max. Input w/o Damage	10 mW	10 mW	15 mW	10 mW	10 mW	2.5 mW
Bandwidth (-3 dB) 50 Ohms	DC - 125 MHz Tr =1.4K DC - 35 MHz Tr = 14K	DC - 125 MHz Tr =1.4K DC - 35 MHz Tr = 14K	30KHz - 800 MHz Gain 1.0 30KHz - 300 MHz Gain 5.0	DC to 12GHz Typ. 10 GHz Min.	DC to 20GHz Typ, 18 GHz Min.	40 KHz to 11 GHz (typ) 8.5 GHz (min.)
Output Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Output Connector	Male BNC	Male BNC	Male BNC	SMA Type K Female	SMA Type K Female	SMA Type K Female
F. O. Input Connector	ST, FC or Free-Space	FC	FC or ST	FC/UPC or FC/APC	FC/UPC or FC/APC	FC/UPC or FC/APC
Input Numeric Aperture	0.29	0.29	0.29	0.11 9 μm Singlemode	0.11 9 μm Singlemode	0.11 9 μm Singlemode
Inter-Stage Coupling	AC or DC selectable	AC or DC selectable	AC	DC	DC	AC
Output Offset Voltage	+/- .1 V at Max Gain	+/- .1 V at Max Gain	N/A	0	0	NA
Max Output Voltage	4 V pk-pk, no load, 2 V pk-pk 50 ohm load	4 V pk-pk, no load, 2 V pk-pk 50 ohm load	2 V pk-pk 50 ohm load	0.1 V	0.1 V	0.65 V into 50 Ohms
Noise Level	3 pW/Hz ^{1/2}	3.6 pW/Hz ^{1/2}	9.5 pW/Hz ^{1/2}	Dark Current <1.0 nA	Dark Current <1.0 nA	15pW/Hz ^{1/2}
Power Required	9 V Lithium Battery or Univ. Power Supply	9 V Lithium Battery or Univ. Power Supply	Universal Power Supply	Univ. Power Supply	Univ. Power Supply	Universal Power Supply
Dimensions	1.2W, 2.5L, 1.35H inches 30.5W, 63L, 33H mm	1.2W, 2.5L, 1.5H inches 30.5W, 63L, 32H	1.2W, 2.5L, 1.35H inches 30.5W, 63L, 33H mm	1.2W, 2.5L, 1.35H inches 30.5W, 63L, 33H mm	1.2W, 2.5L, 1.35H inches 30.5W, 63L, 33H mm	1.2W, 2.5L, 1.35H inches 30.5W, 63L, 33H mm
Weight	4 oz, 114 g	5.6 oz, 160 g	4 oz, 114 g	2.8 oz, 80g	2.8 oz, 80 g	2.8 oz, 80 g
Operating Temperature	0 to 40 C	0 to 40 C	0 to 40 C	0 to 40 C	0 to 40 C	0 to 40 C
Limited Warranty	2 yrs from date of receipt	2 yrs from date of receipt	2 yrs from date of receipt	2 yrs from date of receipt	2 yrs from date of receipt	2 yrs from date of receipt

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