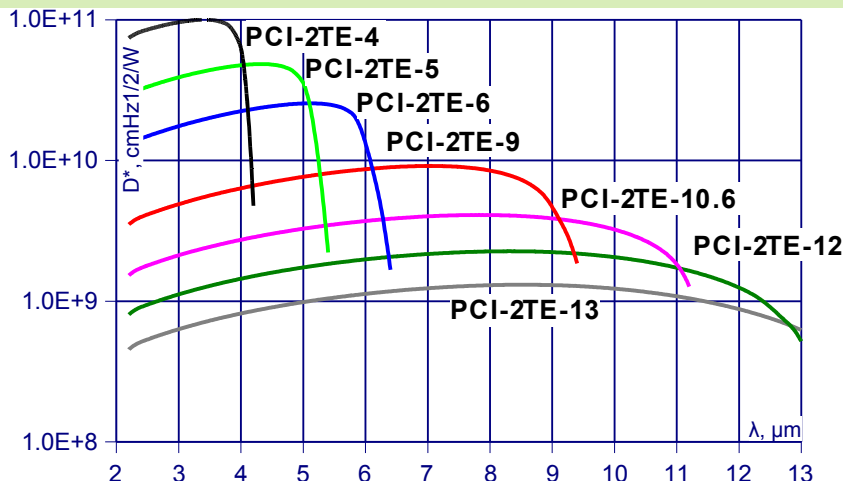
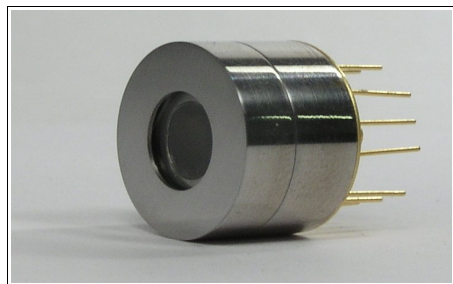


SERIES PCI-2TE 2-12 μm IR PHOTOCONDUCTORS THERMOELECTRICALLY COOLED / OPTICALLY IMMERSED



FEATURES

- High performance in the 2-14 μm range without LN-cooling
- Fast response
- Convenient to use
- Wide dynamic range
- Compact, rugged and reliable
- Low cost
- Prompt delivery
- Custom design upon request

DESCRIPTION

The PCI-2TE-n (where n is wavelength λ_{op} , in micrometers, to which the detector is optimized) series photodetectors are two-stage TE-cooled IR photoconductive detectors, which have been optically immersed to high refractive index GaAs (or CdZnTe) hyperhemispherical (standard) or hemispherical (option) lenses. These devices can be optimized for the maximum performance anywhere within 2-14 μm range. High performance and stability were achieved by using a variable gap (Hg,Cd,Zn)Te semiconductors, optimized doping and improved surface processing. Custom devices with quadrant cells, multielement arrays, various immersion lenses, windows and optical filters are available on request.

Standard detectors are available in modified TO-8 packages with BaF₂ windows. Other packages, windows and connectors are available upon request. See application notes for more details.

SPECIFICATION

@ 20°C

CHARACTERISTICS	UNITS	PCI-2TE-4	PCI-2TE-5	PCI-2TE-6	PCI-2TE-9	PCI-2TE-10.6	PCI-2TE-12	PCI-2TE-13
λ_{op}	μm	4	5	6	9	10.6	12	13
Detectivity:	$\text{cmHz}^{1/2}/\text{W}$							
at λ_{peak} , 20kHz		>1E11	>6E10	>2E10	>9E9	>5E9	>4E9	>2E9
at λ_{op} , 20kHz		>5E10	>3E10	>1E10	>4E9	>2.5E9	>1.5E9	>6E8
Responsivity-Width product @ λ_{op} 1x1 mm	Vmm/W	>6000	>3000	>600	>40	>25	>15	>5
Response Time	ns	<4000	<2000	<1000	<20	<10	<2	<2
1/f Corner Frequency	kHz	1÷10	1÷10	1÷10	1÷10	1÷20	1÷20	1÷20
Active Area, (length x width)	mm x mm	0.25x0.25; 0.5x0.5; 1x1; 2x2;						
Bias current-Width Ratio*	mA/mm	0.05÷0.3	0.1÷0.5	0.3÷0.8	2÷5	5÷20	5÷20	5÷20
Sheet Resistivity	Ω/sqr	600÷1500	300÷500	200÷400	50÷200	50÷150	50÷150	50÷150
Acceptance angle, F#	deg	35, 1.65						

* Data sheet states minimum D* values for each detector model. Higher performance detectors can be provided upon request. See application notes for more details.



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Manufacturer

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