



**FEATURES**

- High performance in the 2 to 13 μm range
- Fast response
- Convenient to use
- Wide dynamic range
- Compact, rugged and reliable
- Low cost
- Prompt delivery
- Custom design upon request

**DESCRIPTION**

The PC-2TE-n (where n is wavelength λ<sub>op</sub>, in μm, to which the detector is optimized) series photodetectors are two-stage TE-cooled IR photoconductive detectors. These devices can be optimized for the maximum performance anywhere within 2 to 13 μm range. High performance and stability were achieved by using band gap engineered (HgCdZn)Te structures with 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 BaF<sub>2</sub> windows. Other packages, windows and connectors are available upon request. See application notes for more details.

**SPECIFICATION**

@20°C

CHARACTERISTICS	UNITS	PC-2TE-4	PC-2TE-5	PC-2TE-6	PC-2TE-9	PC-2TE-10.6	PC-2TE-12	PC-2TE-13
λ <sub>op</sub>	μm	4	5	6	9	10.6	12	13
Detectivity*: at λ <sub>peak</sub> , 20kHz at λ <sub>op</sub> , 20kHz	cmHz <sup>1/2</sup> /W	>3.2×10 <sup>10</sup> >2×10 <sup>10</sup>	>2×10 <sup>10</sup> >1×10 <sup>10</sup>	>6×10 <sup>9</sup> >3×10 <sup>9</sup>	>2×10 <sup>9</sup> >8×10 <sup>8</sup>	>4×10 <sup>8</sup> >1.4×10 <sup>8</sup>	>1×10 <sup>8</sup> >4.5×10 <sup>7</sup>	>4×10 <sup>7</sup> >2×10 <sup>7</sup>
Responsivity-Width product @ λ <sub>op</sub> 1x1 mm	Vmm/W	>1000	>500	>70	>5	>1.5	>0.5	>0.25
Response Time	ns	<4000	<2000	<1000	<20	<10	<2	<2
1/f Corner Frequency	kHz	1 to 10	1 to 10	1 to 10	1 to 10	1 to 20	1 to 20	1 to 20
Bias current-Width Ratio	mA/mm	1 to 2	2 to 4	4 to 8	4 to 10	5 to 15	5 to 15	5 to 15
Sheet Resistivity	Ω/sqr	600 to 1500	300 to 500	200 to 400	80 to 200	50 to 150	60 to 100	40 to 120
Acceptance angle, F/#	deg, -	70, 0.87						

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

Type	Length [mm]									
	0.025	0.05	0.1	0.2	0.25	0.5	1	2	3	4
PC-2TE-4		X	X	X	X	X	X	X		
PC-2TE-5		X	X	X	X	X	X	X		
PC-2TE-6		X	X	X	X	X	X			
PC-2TE-9		X	X	X	X	X	X			
PC-2TE-10.6		X	X	X	X	X	X			
PC-2TE-12		X	X	X	X	X	X			
PC-2TE-13		X	X	X	X	X	X			



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