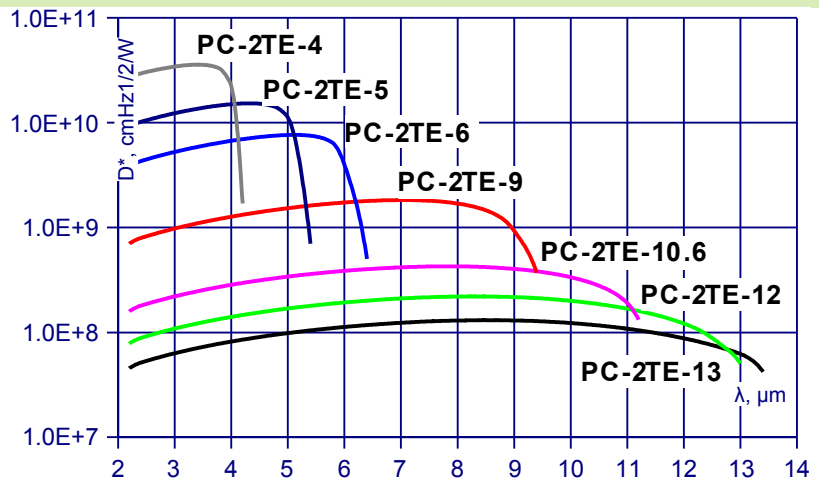
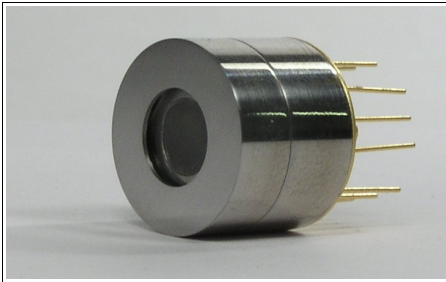


SERIES PC-2TE

2-12 μm IR PHOTOCONDUCTORS THERMOELECTRICALLY COOLED



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 PC-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 | PC-2TE-4 | PC-2TE-5 | PC-2TE-6 | PC-2TE-9 | PC-2TE-10.6 | PC-2TE-12 | PC-2TE-13 |
|---------------------------------------------------------------------|-----------------------------|---------------------------------------------------|----------|----------|----------|-------------|-----------|-----------|
| λ_{op} | μm | 4 | 5 | 6 | 9 | 10.6 | 12 | 13 |
| Detectivity: | cmHz^{1/2}/W | | | | | | | |
| at λ_{peak} , 20kHz | | >4E10 | >2E10 | >6E9 | >2E9 | >5E8 | >4E8 | >3E8 |
| at λ_{op} , 20kHz | | >2E10 | >1E10 | >3E9 | >8E8** | >2.5E8** | >1.5E8** | >6e7** |
| Responsivity-Width product @λ_{op} 1x1 mm | V/W | >1000 | >500 | >70 | >5 | >3 | >1 | >0.5 |
| 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) | mmxmm | 0.05x0.05; 0.1x0.1; 0.25x0.25; 0.5x0.5; 1x1; 2x2; | | | | | | |
| Bias current-Width Ratio* | mA/mm | 1÷2 | 2÷4 | 4÷8 | 4÷10 | 5÷15 | 5÷15 | 5÷15 |
| Sheet Resistivity | Ω/sqr | 600÷1500 | 300÷500 | 200÷400 | 80÷200 | 50÷150 | 50÷150 | 50÷150 |
| Acceptance angle, F# | deg | 60, 0.5 | | | | | | |

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

** For devices with active area below 0.5x0.5 See application notes for more details.



DoroTEK

A member of Solaris Group

Flugplatzstraße F1, Nr. 9
Tel. : +49 (0) 3341 2154 -27

D-15344 Strausberg
Fax -29

Internet : www.dorotek.de

e-mail : info@dorotek.de



Manufacturer

AP, 29.12.05