



FEATURES

- Ambient temperature operation
- Wide dynamic range
- Perfect match to fast electronics
- Convenient to use
- Low cost
- Prompt delivery
- Custom design upon request

DESCRIPTION

The PC- λ_{opt} (λ_{opt} - optimal wavelength in micrometers) feature IR photoconductive detector. This series is easy to use, no cooling or heatsink needed. The devices are optimized for the maximum performance at λ_{opt} . Cut-on wavelength is limited by GaAs transmittance (~0.9 μm). Bias is needed to operate photocurrent. Performance at low frequencies (<20 kHz) is reduced due to 1/f noise. Highest performance and stability are achieved by application of variable gap (HgCd)Te semiconductor, optimized doping and sophisticated surface processing. Standard detectors are available without window in TO-39 or BNC based package. Various windows, other packages and connectors are available upon request.

SPECIFICATION

@20°C

CHARACTERISTICS	UNITS	PC-4	PC-5	PC-6	PC-9	PC-10.6
λ_{opt}	μm	4	5	6	9	10.6
Detectivity ¹⁾ : @ λ_{peak} , 20kHz @ λ_{opt} , 20kHz	cmHz ^{1/2} /W	≥3.2×10 ⁹ ≥2×10 ⁹	≥1.5×10 ⁹ ≥1×10 ⁹	≥7×10 ⁸ ≥3×10 ⁸	≥1×10 ⁸ ≥2×10 ⁷	≥1.9×10 ⁷ ≥9×10 ⁶
Responsivity-Width product @ λ_{opt}	Vmm/W	>100	>40	>6	>0.4	>0.1
Time Constant	ns	<1000	<500	<200	<2	<1
1/f Corner Frequency	kHz	1 to 10	1 to 10	1 to 10	1 to 10	1 to 20
Bias current-Width Ratio	mA/mm	1 to 5	1 to 10	1 to 15	2 to 20	5 to 30
Sheet Resistance	Ω/sqr	300 to 1000	200 to 400	100 to 300	50 to 150	40 to 120
Operating temperature	K	~300				
Acceptance angle, F/#	deg, -	>90, 0.71				

¹⁾Data sheet states minimum guaranteed D* values for each detector model. Higher performance detectors can be provided upon request.

Type	Length [mm]									
	0.025	0.05	0.1	0.2	0.25	0.5	1	2	3	4
PC-4	X	X	X	X	X	X	X	X	X	X
PC-5	X	X	X	X	X	X	X	X	X	X
PC-6	X	X	X	X	X	X	X	X	X	X
PC-9	X	X	X	X	X	X	X	X	X	X
PC-10.6 (R005)	X	X	X	X	X	X	X	X	X	X

X – standard detectors