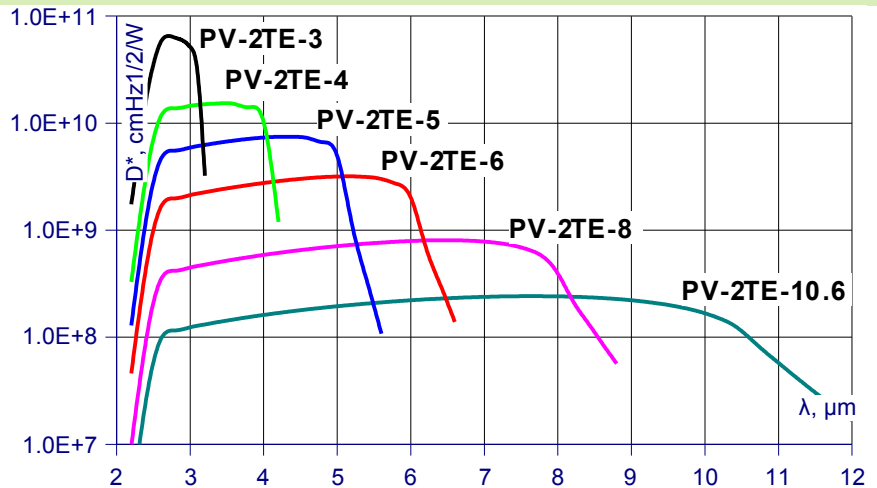
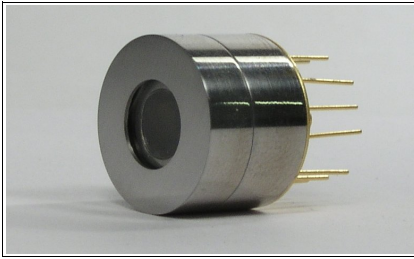


# SERIES PV-2TE

# 2-12 μm IR PHOTOVOLTAIC DETECTORS THERMOELECTRICALLY COOLED



## FEATURES

- High performance in the 2-12 μm range without LN-cooling!
- Fast response
- No flicker noise
- Convenient to use
- Wide dynamic range
- Compact, rugged and reliable
- Low cost
- Prompt delivery
- Custom design upon request

## DESCRIPTION

The PV-2TE-n (where n is wavelength  $\lambda_{op}$ , in micrometers, to which the detector is optimized) series photodetectors are two-stage TE-cooled IR photovoltaic detectors. These devices can be optimized for the maximum performance anywhere within 2 to 12 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 BaF<sub>2</sub> windows. Other packages, windows and connectors are available upon request. See application notes for more details.

Multiple cells connected in series are preferable for large area devices. They are characterized by similar D\*, larger parallel resistance and lower R<sub>i</sub>.

## SPECIFICATION\*

@ 20°C

CHARACTERISTICS	UNITS	PV-2TE-3	PV-2TE-4	PV-2TE-5	PV-2TE-6	PV-2TE-8	PV-2TE-10.6	
$\lambda_{op}$	μm	3	4	5	6	8	10,6	
<b>Detectivity:</b>								
at $\lambda_{peak}$	cmHz <sup>1/2</sup> /W	≥8E10	≥1.5E10	≥8E9	≥4E9	≥8E8	≥3E8	
at $\lambda_{op}$	W	≥5E10	≥1E10	≥5E9	≥2E9	≥4E8	≥1E8	
Responsivity	A/W	≥1.2	≥1.3	≥1.3	≥1.2	≥1	≥0.7	
Response time	ns	≤15**	≤20**	≤20**	≤10**	≤7**	≤3**	
Parallel resistance-optical area product	Ω×cm <sup>2</sup>	≥0.3	≥0.10	≥0.02	≥0.006	≥0.001	≥0.0001	
Optical area length × width or diameter for round devices	mm×mm mm	0.025×0.025; 0.05×0.05; 0.1×0.1; 0.25×0.25; 0.5×0.5; 1×1; 2×2; ø0.025; ø0.05; ø0.1; ø0.25; ø0.5; ø1; ø2; ø3					See PVM-2TE for large areas	
Operating temperature	K	220±240						
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.

\*\* Faster response may be achieved at reverse bias and with high-frequency-optimized devices.



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