

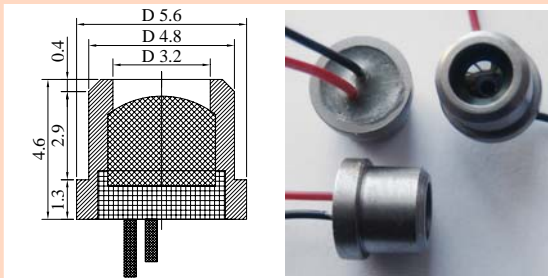
# Optically Immersed 4.2 μm Photodiode

# PD42Su, PD42Sr

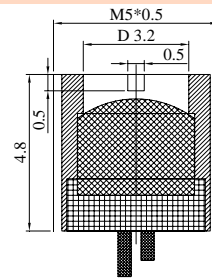
Peak wavelength	$\lambda_{max}$	μm	4.1÷4.2
Current sensitivity	$S_I$	A/W	≥0.75
Shunt Resistance	$R_0$	Ohm	≥30
Detectivity	$D^*_{\lambda_{max}}$	$cmHz^{1/2}W^{-1}$	≥0.9×10 <sup>10</sup>
Switching time	$\tau$	ns	≤20

Model	Sensitive area, mm	Lens material	Field of view, deg.	Optical axis deviation, deg.	Operation conditions, °C	Lifetime, hrs	Polarity
PD42Su/Sr	Ø 3.2	Si	~15	≤5	-25÷+60	>80 000	Red wire (red point on house) – positive, Black or/and short wire– negative

Product view



PD42Su



PD42Sr

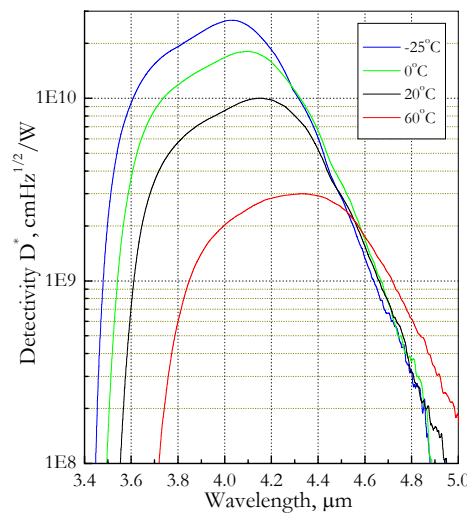
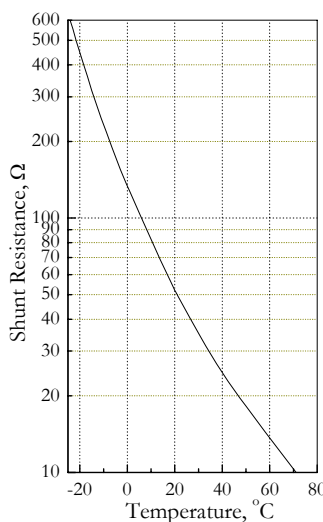
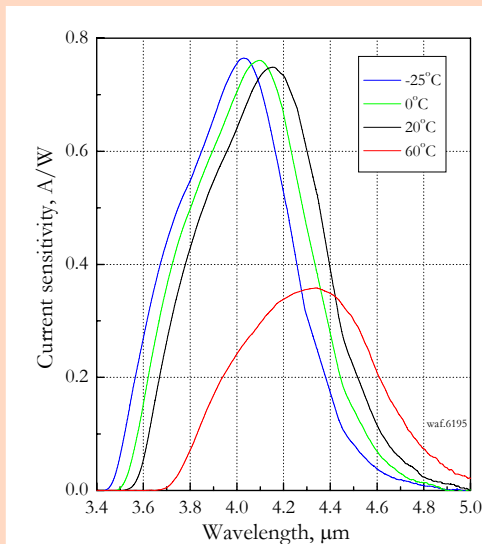
Features

Growth of narrow gap semiconductor alloys onto n<sup>+</sup>-InAs substrate; Back side illuminated Flip-chip design of PDs; Optical coupling through the use of chalcogenide glasses and Si lenses with antireflection coating

Ambient and high temperature operation; No bias required; Short time constant; High value of shunt resistance; Operation from DC to VHF; Highest long term stability

Photodiode could be equipped with preamplifier that is designed for conversion of PD photocurrent into a convenient output voltage and is adjusted for the particular PD taking into account the R<sub>0</sub> value and frequency range. Other packages are available upon request. Angle of view is small and thus we recommend adjusting PD position regarding to the emission system before final evaluation/use of the devices.

Spectral response and shunt resistance vs. temperature



Product specifications are subject to change without prior notice due to improvements or other reasons. Updated 3.11.11



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