Ioffe Light Emitting Diodes

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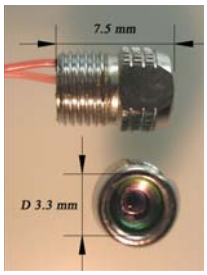
Optically Immersed 1.9 μm photodiode — PD19Sc

Peak wavelength	λ	μm	1.9
Cutoff wavelength (10 %)	λ_{co}	μm	2.05
Detectivity	$D^*_{\lambda max}$	$cmHz^{1/2}W^{-1}$	$(0.7\div1)\times10^{11}$
Current sensitivity	S_I	A/W	0.3÷0.5
Voltage sensitivity	S_U	V/W	3000÷6000
Resistance at zero bias	R_0	Ohm	10÷20 k
Switching time	τ	ns	≤20

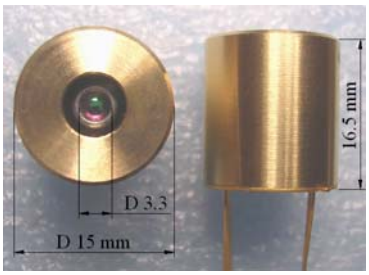
Code	Thread	Sensitive area, mm	Lens material	Angle of view FWHM, deg.	Operation (storage) conditions, °C	Polarity
PD19Sc	M5×0.5	∅ 3.3	Si	≤20	-25÷+60 (+80)	short wire or black point is negative
PD19TO8TEC			Si lens and quartz window			See fig. below

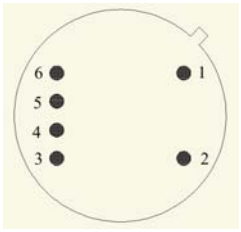
Product view

PD19Sc



PD19TO8TEC



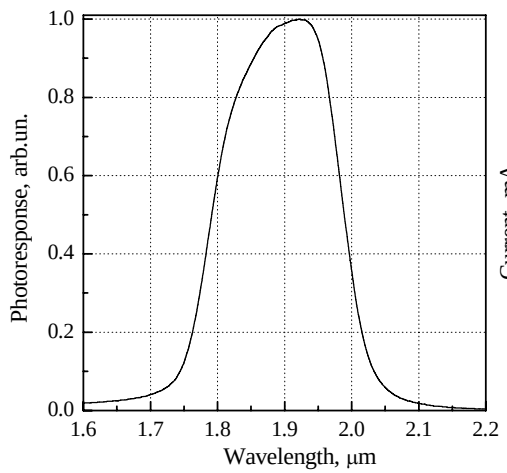


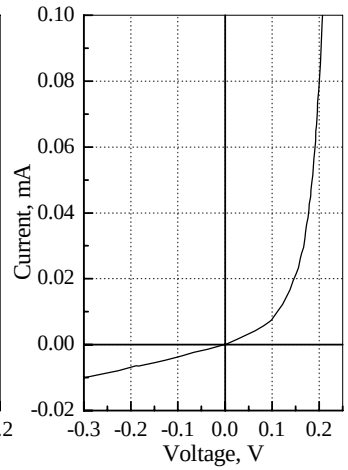
1 TEC −
2 TEC +
3 PD +
4 thermosensor
5 thermosensor
6 PD −

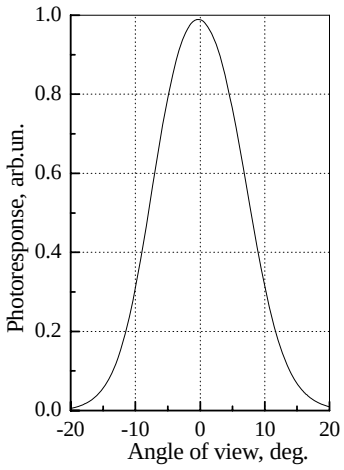
TEC and thermosensor specifications are available on request.

- ✓ All devices are stressed at 80ºC for 10 hrs before final test and shipping to a customer.
- ✓ Angle of view of the PD is small and thus we recommend adjusting PD position before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22ºC).
- ✓ PD could be equipped with preamplifier. Preamplifier has been designed for conversion of PD photocurrent into a convenient output voltage. Normally each preamplifier is adjusted for the particular PD and specifications issued by a customer (e.g. taking into account the Ro value and frequency range).

Spectral sensitivity, current-voltage curve and angle of view







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Mremennyy@mail.ioffe.ru

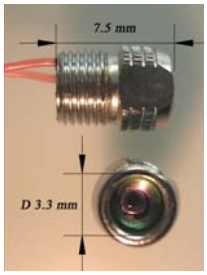
Optically Immersed 2.1 μm photodiode — PD21Sc

Peak wavelength	λ	μm	2.0÷2.1
Cutoff wavelength (10 %)	λ_{co}	μm	2.25
Detectivity	$D^*_{\lambda max}$	$cmHz^{1/2}W^{-1}$	$\geq 0.7\times10^{11}$
Current sensitivity	S_I	A/W	≥0.5
Voltage sensitivity	S_U	V/W	≥3500
Resistance at zero bias	R_0	Ohm	≥7 k
Switching time	τ	ns	≤20

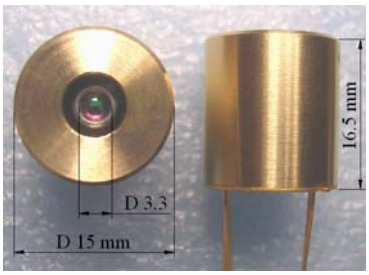
Code	Thread	Sensitive area, mm	Lens material	Angle of view FWHM, deg.	Operation (storage) conditions, °C	Polarity
PD21Sc	M5×0.5	∅ 3.3	Si	≤20	-25÷+60 (+80)	short wire or black point is negative
PD21TO8TEC			Si lens and quartz window			See fig. below

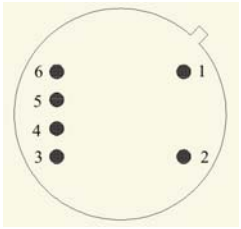
Product view

PD21Sc



PD21TO8TEC



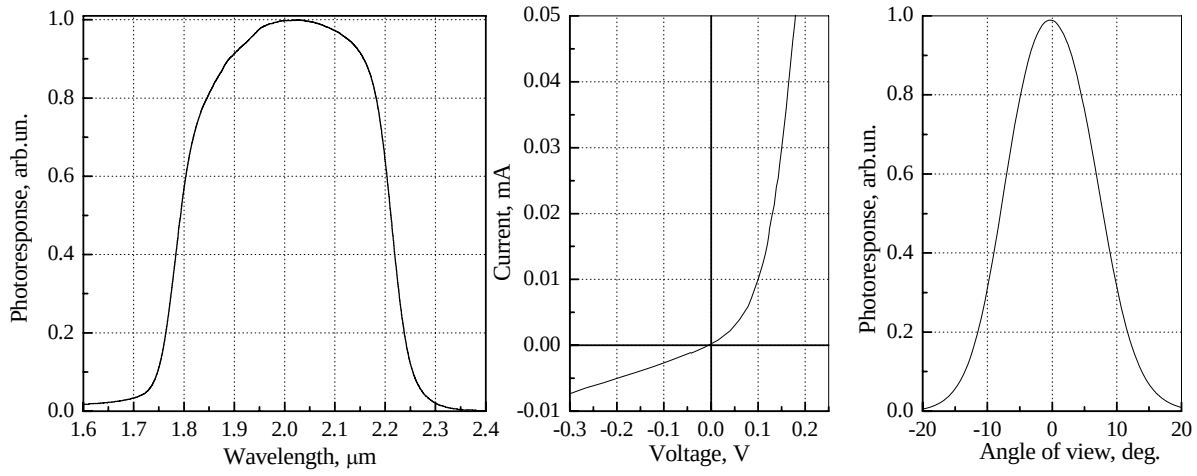


1 TEC −
2 TEC +
3 PD +
4 thermosensor
5 thermosensor
6 PD −

TEC and thermosensor specifications are available on request.

- ✓ All devices are stressed at 80ºC for 10 hrs before final test and shipping to a customer.
- ✓ Angle of view of the PD is small and thus we recommend adjusting PD position before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22ºC).
- ✓ PD could be equipped with preamplifier. Preamplifier has been designed for conversion of PD photocurrent into a convenient output voltage. Normally each preamplifier is adjusted for the particular PD and specifications issued by a customer (e.g. taking into account the Ro value and frequency range).

Spectral sensitivity, current-voltage curve and angle of view



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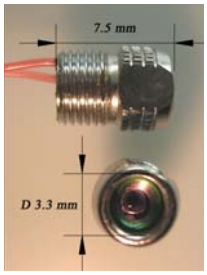
Optically Immersed 2.9 μm photodiode — PD29Sc

Peak wavelength	λ	μm	2.85÷2.95
Cutoff wavelength (10 %)	λ_{co}	μm	3.2÷3.3
Detectivity	$D^*_{\lambda max}$	$cmHz^{1/2}W^{-1}$	$\geq 6\times10^{10}$
Current sensitivity	S_I	A/W	≥0.6
Voltage sensitivity	S_U	V/W	≥900
Resistance at zero bias	R_0	Ohm	≥1.5k
Switching time	τ	ns	≤20

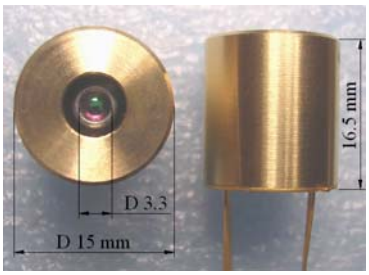
Code	Thread	Sensitive area, mm	Lens material	Angle of view FWHM, deg.	Operation (storage) conditions, °C	Polarity
PD29Sc	M5×0.5	∅ 3.3	Si	≤20	-25÷+60 (+80)	short wire or black point is negative
PD29TO8TEC			Si lens and quartz window			See fig. below

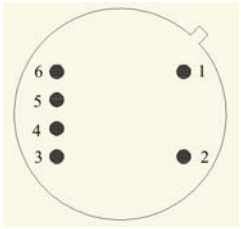
Product view

PD29Sc



PD29TO8TEC





1 TEC −
2 TEC +
3 PD +
4 thermosensor
5 thermosensor
6 PD −

TEC and thermosensor specifications are available on request.

- ✓ All devices are stressed at 80ºC for 10 hrs before final test and shipping to a customer.
- ✓ Angle of view of the PD is small and thus we recommend adjusting PD position before final evaluation/use of the devices.
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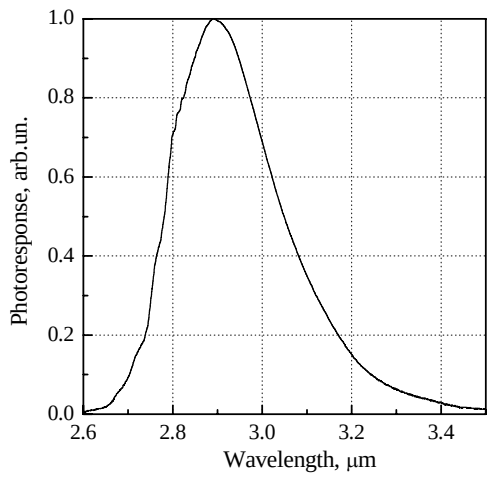
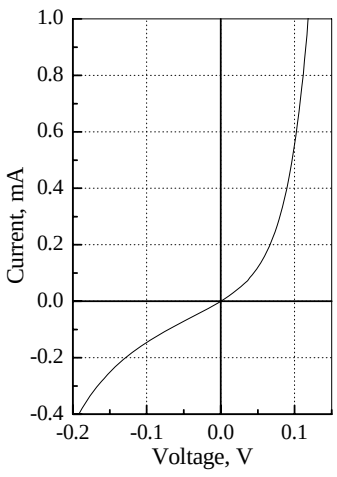
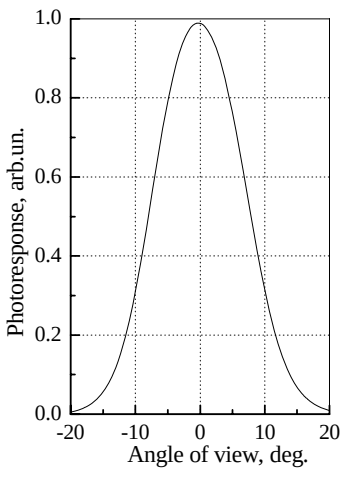
- ✓ PD could be equipped with preamplifier. Preamplifier has been designed for conversion of PD photocurrent into a convenient output voltage. Normally each preamplifier is adjusted for the particular PD and specifications issued by a customer (e.g. taking into account the Ro value and frequency range).

Spectral sensitivity, current-voltage curve and angle of view







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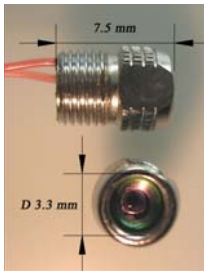
Optically Immersed 3.4 μm photodiode — PD34Sc

Peak wavelength	λ	μm	3.35
Cutoff wavelength (10 %)	λ_{co}	μm	3.7
Detectivity	$D^*_{\lambda max}$	$cmHz^{1/2}W^{-1}$	$\geq 1\times10^{11}$
Current sensitivity	S_I	A/W	≥1.0
Voltage sensitivity	S_U	V/W	≥1000
Resistance at zero bias	R_0	Ohm	≥1k
Switching time	τ	ns	≤20

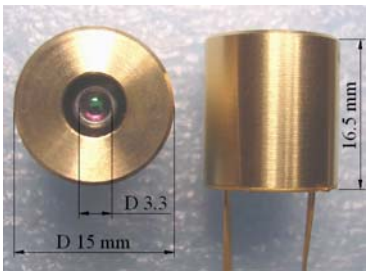
Code	Thread	Sensitive area, mm	Lens material	Angle of view FWHM, deg.	Operation (storage) conditions, °C	Polarity
PD34Sc	M5×0.5	∅ 3.3	Si	≤20	-25÷+60 (+80)	short wire or black point is negative
PD34TO8TEC			Si lens and quartz window			See fig. below

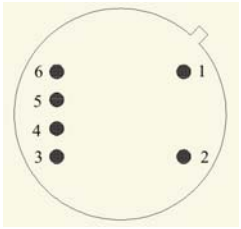
Product view

PD34Sc



PD34TO8TEC





1 TEC −
2 TEC +
3 PD +
4 thermosensor
5 thermosensor
6 PD −

TEC and thermosensor specifications are available on request.

- ✓ All devices are stressed at 80ºC for 10 hrs before final test and shipping to a customer.
- ✓ Angle of view of the PD is small and thus we recommend adjusting PD position before final evaluation/use of the devices.
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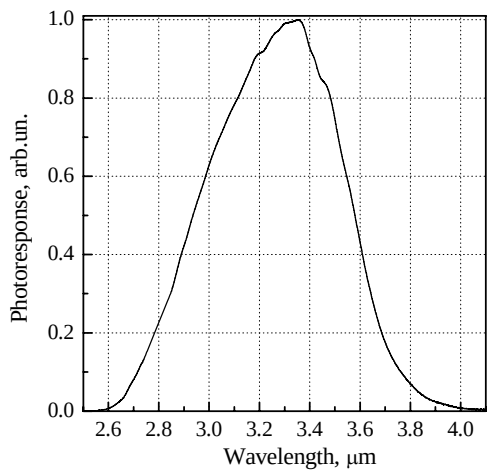
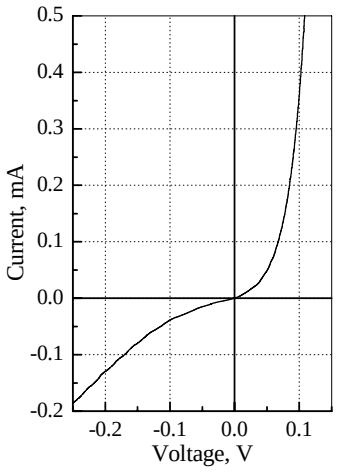
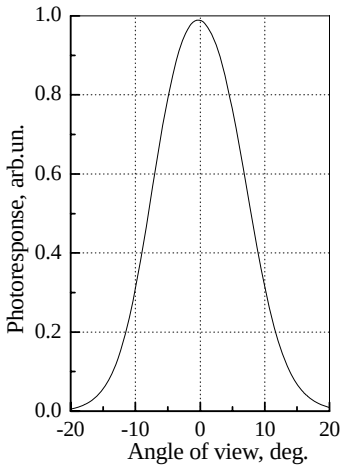
- ✓ PD could be equipped with preamplifier. Preamplifier has been designed for conversion of PD photocurrent into a convenient output voltage. Normally each preamplifier is adjusted for the particular PD and specifications issued by a customer (e.g. taking into account the Ro value and frequency range).

Spectral sensitivity, current-voltage curve and angle of view







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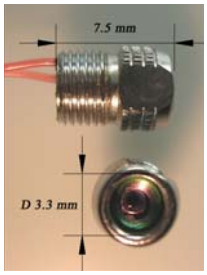
Optically Immersed 3.8 μm photodiode — PD38Sc

Peak wavelength	λ	μm	3.7÷3.9
Cutoff wavelength (10 %)	λ_{co}	μm	4.4÷4.5
Detectivity	$D^*_{\lambda max}$	$cmHz^{1/2}W^{-1}$	$\geq 1.4\times10^{10}$
Current sensitivity	S_I	A/W	≥1.0
Voltage sensitivity	S_U	V/W	≥100
Resistance at zero bias	R_0	Ohm	≥100
Switching time	τ	ns	≤20

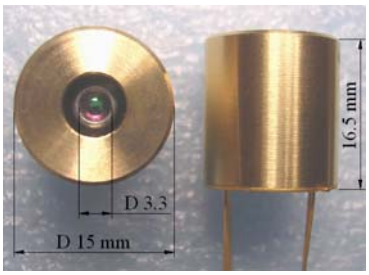
Code	Thread	Sensitive area, mm	Lens material	Angle of view FWHM, deg.	Operation (storage) conditions, °C	Polarity
PD38Sc	M5×0.5	∅ 3.3	Si	≤20	-25÷+60 (+80)	short wire or black point is negative
PD38TO8TEC			Si lens and quartz window			See fig. below

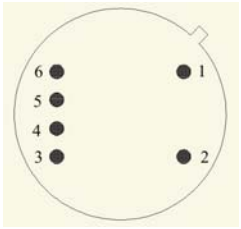
Product view

PD38Sc



PD38TO8TEC



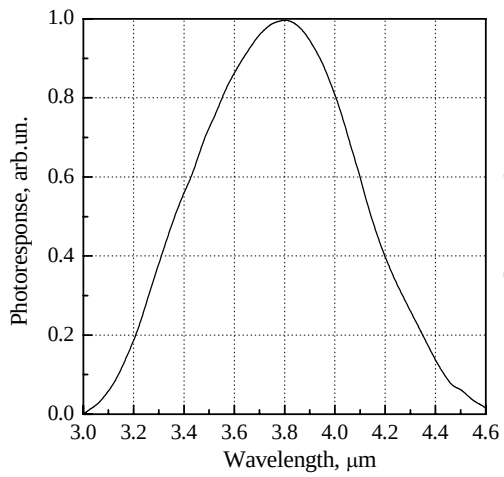


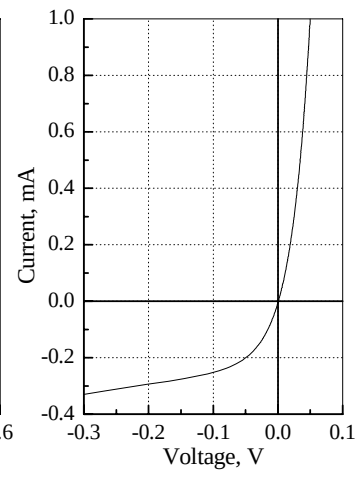
1 TEC −
2 TEC +
3 PD +
4 thermosensor
5 thermosensor
6 PD −

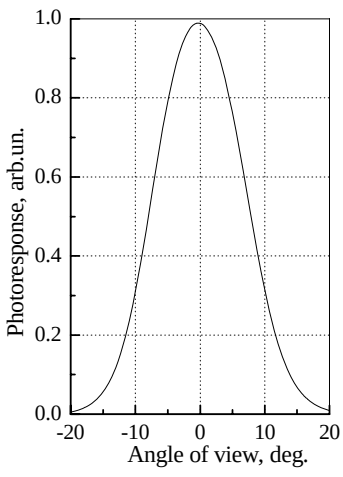
TEC and thermosensor specifications are available on request.

- ✓ All devices are stressed at 80ºC for 10 hrs before final test and shipping to a customer.
- ✓ Angle of view of the PD is small and thus we recommend adjusting PD position before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22ºC).
- ✓ PD could be equipped with preamplifier. Preamplifier has been designed for conversion of PD photocurrent into a convenient output voltage. Normally each preamplifier is adjusted for the particular PD and specifications issued by a customer (e.g. taking into account the Ro value and frequency range).

Spectral sensitivity, current-voltage curve and angle of view







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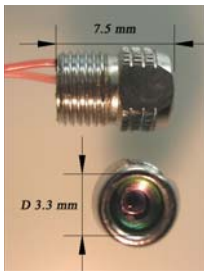
Optically Immersed 4.2 μm photodiode — PD42Sc

Peak wavelength	λ	μm	4.15±0.1
Cutoff wavelength (10 %)	λ_{co}	μm	4.5÷4.6
Detectivity	$D^*_{\lambda max}$	$cmHz^{1/2}W^{-1}$	$(0.7÷1)\times10^{10}$
Current sensitivity	S_I	A/W	≥1.0
Voltage sensitivity	S_U	V/W	20÷40
Resistance at zero bias	R_0	Ohm	20÷40
Switching time	τ	ns	≤20

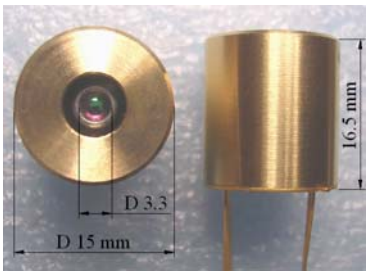
Code	Thread	Sensitive area, mm	Lens material	Angle of view FWHM, deg.	Operation (storage) conditions, °C	Polarity
PD42Sc	M5×0.5	∅ 3.3	Si	≤20	-25÷+60 (+80)	short wire or black point is negative
PD42TO8TEC			Si lens and quartz window			See fig. below

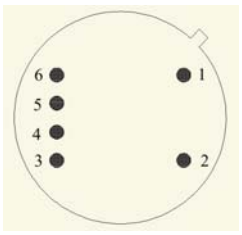
Product view

PD42Sc



PD42TO8TEC



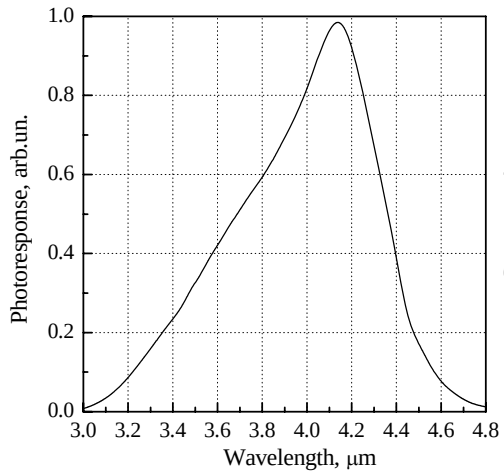


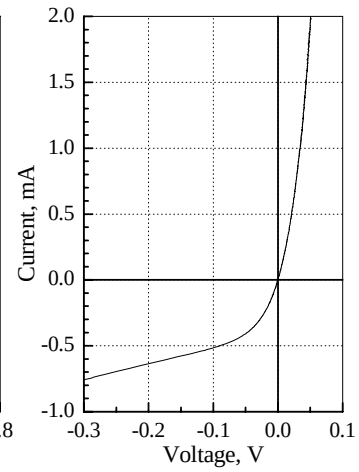
1 TEC −
2 TEC +
3 PD +
4 thermosensor
5 thermosensor
6 PD −

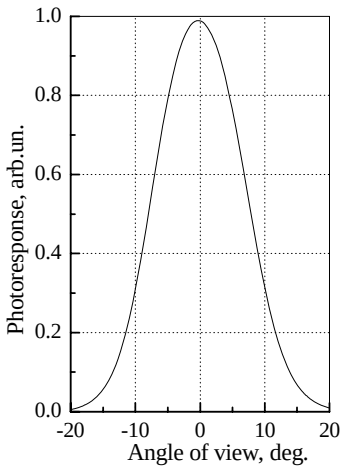
TEC and thermosensor specifications are available on request.

- ✓ All devices are stressed at 80ºC for 10 hrs before final test and shipping to a customer.
- ✓ Angle of view of the PD is small and thus we recommend adjusting PD position before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22ºC).
- ✓ PD could be equipped with preamplifier. Preamplifier has been designed for conversion of PD photocurrent into a convenient output voltage. Normally each preamplifier is adjusted for the particular PD and specifications issued by a customer (e.g. taking into account the Ro value and frequency range).

Spectral sensitivity, current-voltage curve and angle of view







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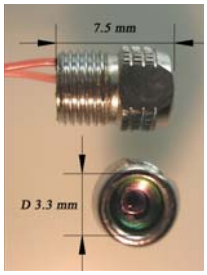
Optically Immersed 4.5 μm photodiode — PD45Sc

Peak wavelength	λ	μm	4.55±0.1
Cutoff wavelength (10 %)	λ_{co}	μm	5.1
Detectivity	$D^*_{\lambda max}$	$cmHz^{1/2}W^{-1}$	$\geq 5\times10^9$
Current sensitivity	S_I	A/W	≥0.6
Voltage sensitivity	S_U	V/W	≥6
Resistance at zero bias	R_0	Ohm	≥10
Switching time	τ	ns	≤20

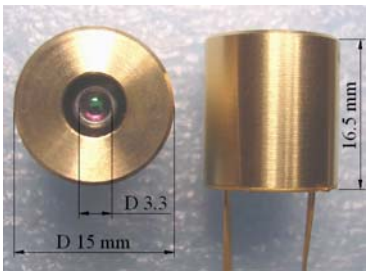
Code	Thread	Sensitive area, mm	Lens material	Angle of view FWHM, deg.	Operation (storage) conditions, °C	Polarity
PD45Sc	M5×0.5	∅ 3.3	Si	≤20	-25÷+60 (+80)	short wire or black point is negative
PD45TO8TEC			Si lens and quartz window			See fig. below

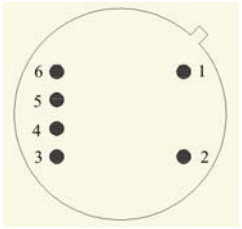
Product view

PD45Sc



PD45TO8TEC





1 TEC −
2 TEC +
3 PD +
4 thermosensor
5 thermosensor
6 PD −

TEC and thermosensor specifications are available on request.

- ✓ All devices are stressed at 80ºC for 10 hrs before final test and shipping to a customer.
- ✓ Angle of view of the PD is small and thus we recommend adjusting PD position before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22ºC).
- ✓ PD could be equipped with preamplifier. Preamplifier has been designed for conversion of PD photocurrent into a convenient output voltage. Normally each preamplifier is adjusted for the particular PD and specifications issued by a customer (e.g. taking into account the Ro value and frequency range).

Spectral sensitivity, current-voltage curve and angle of view