

Lms43PD-03-CG



Device parameters	Symbol	Value	Units
PD chip sensitive area size	d	0.3	mm
Operating temperature	T_{opr}	0..+50	$^{\circ}\text{C}$
Storage temperature	T_{stg}	0..+40	$^{\circ}\text{C}$
Soldering temperature (time < 3 seconds, 3 mm from the case)	T_{sol}	+180	$^{\circ}\text{C}$
Reverse voltage	V_r	0.1	V

All parameters refer to photodiode operation at ambient temperature 25 $^{\circ}\text{C}$ unless otherwise stated.

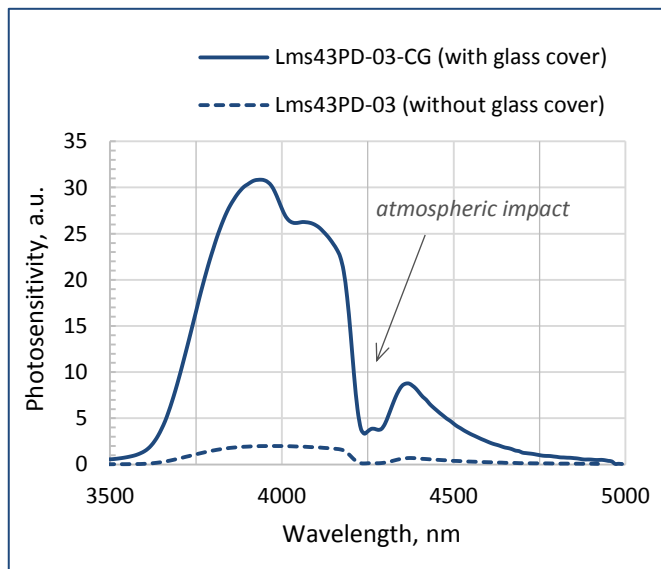
Photodiode parameters	Conditions	Symbol	Value	Units
Cut-off wavelength (at 10% level) ¹	-	λ_{cut}	4.6 - 4.7	μm
Max. sensitivity range (at 80% level) ¹	-	λ_p	3.8 - 4.2	μm
Dark current (typical/ maximal) ²	$V_r = 0.1 \text{ V}$	I_d	typ 4 / max 6	mA
Shunt resistance (minimal/ typical) ²	$V_r = 10 \text{ mV}$	R_{sh}	min 10 / typ 20	Ω
Capacitance (typical/ maximal) ¹	$V_r = 10 \text{ mV}$	C	N/A	pF
Noise equivalent power (typical/ maximal) ^{2,3}	$\lambda = 4.1 \mu\text{m}$	NEP	typ $1.1 \cdot 10^{-12}$ / max $3.4 \cdot 10^{-12}$	$\text{W}/\text{Hz}^{1/2}$
Detectivity (minimal/ typical) ^{2,3}	$\lambda = 4.1 \mu\text{m}$	D^*	min $9.0 \cdot 10^9$ / typ $2.7 \cdot 10^{10}$	$\text{cm}^2 \cdot \text{Hz}^{1/2} \cdot \text{W}^{-1}$

¹ Parameter tested for representative sampling.

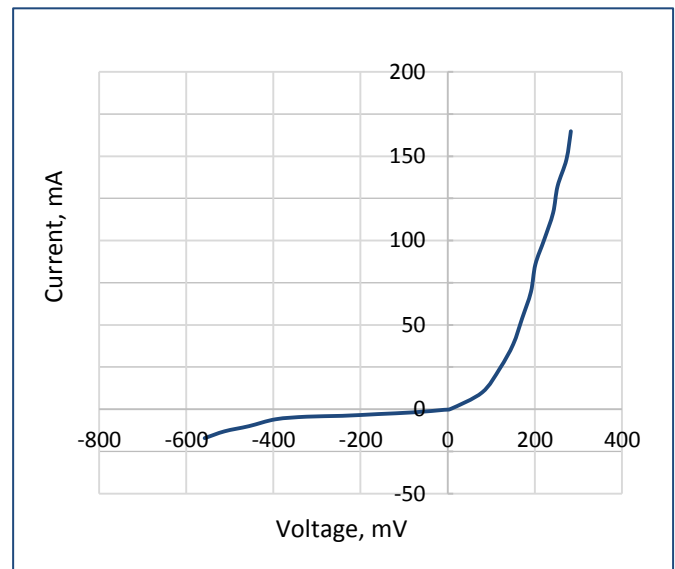
² Parameter tested for each device.

³ Parameters are calculated using photosensitivity value [A/W] obtained for the same photodiode prior to glass covering multiplied by the coefficient equal to the ratio of response of PD with and without glass covering (measured at $\lambda = 4.1 \mu\text{m}$).

Typical spectral response



Typical current-voltage characteristic

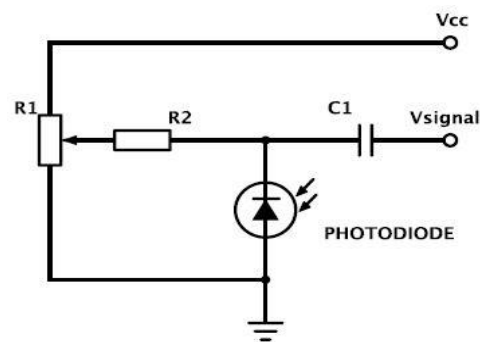
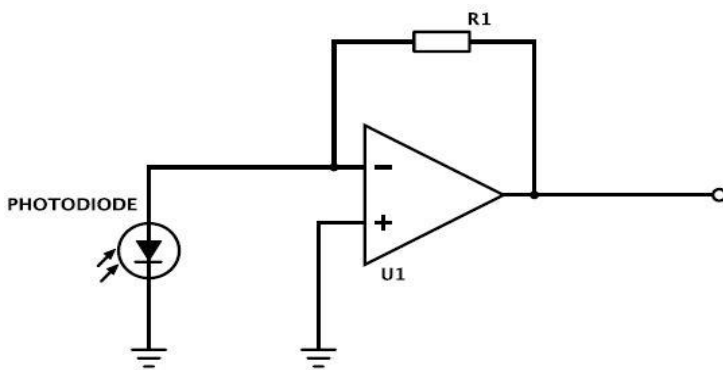


Packages	Model
TO-18 with a glass cover	Lms43PD-03-CG
PD with a built-in preamplifier; TO-18 with a glass cover and a parabolic reflector without a window in an aluminium tube	Lms43PD-03-CG-R-PA

Recommended modes of PD operation

PD used as a current source (photovoltaic mode)

PD used in a photoconductive mode (under reverse bias)



We recommend using **photovoltaic mode**, when PD is used under no reverse bias. Use photoconductive mode (mode with reverse bias) with caution.

IMPORTANT CAUTIONS:

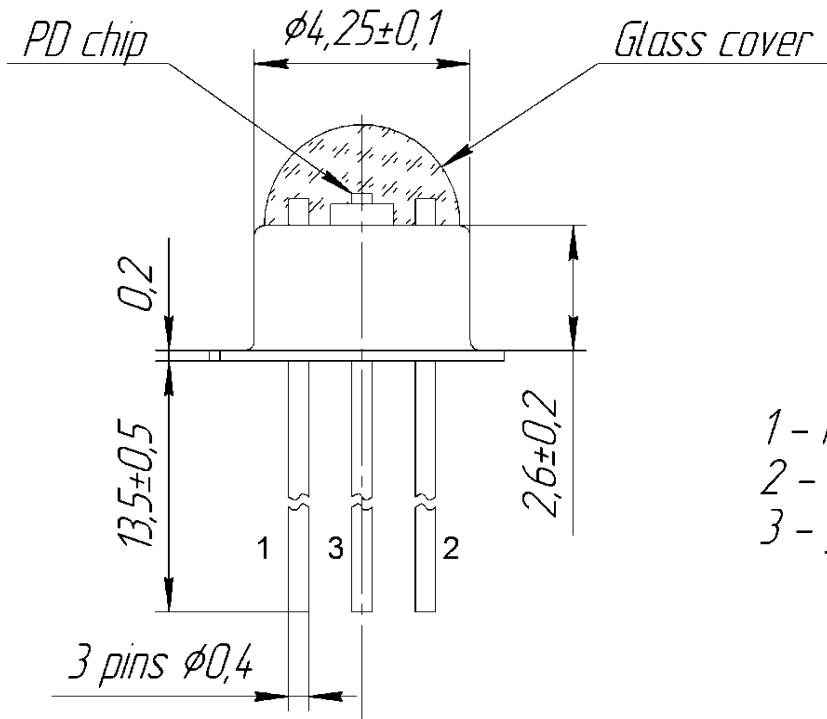
- check your connection circuit before turning on the PD;
- mind the PD polarity: PD anode is marked with a RED dot;
- do not connect the PD to the multimeter;
- do not touch the glass covering and do not apply any force to it;
- observe the allowable operating temperature range, exceeding this range may cause irreparable damage of the glass cover

Related products:

- **Light emitting diodes (LEDs)** - sources of IR radiation;
- **PAb preamplifier** - amplifies photocurrent generated by a PD and converts it into a voltage signal;
- **SDM synchronous detector** - enables synchronous operation of a PD coupled with a preamplifier and an LED coupled with a driver; performs conversion of an output PD preamplifier signal into DC voltage signal.

Technical Drawing

Lms43PD-03-CG



- 1 - PD cathode
- 2 - PD anode
- 3 - ground pin

TOP VIEW

BOTTOM VIEW

