

Pyroelectric Detectors

Ideally Suited for Human Body Sensing and Simplified Analytical Instruments

- Broad Spectral Response
- Operates at room temperature
- Low cost

Thermally-Compensated Types (Single Element)

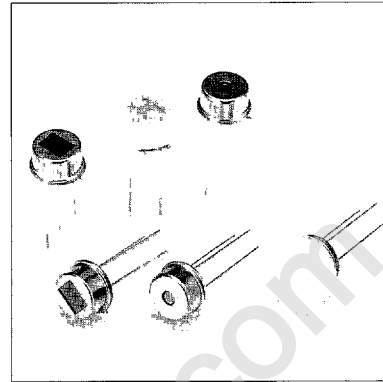
Including a thermal compensation element in the same package, these types can minimize noise fluctuation caused by changes in the ambient temperature. Suited for simplified analytical instruments.

Dual Element Types

Optimized specifically for human body sensing. Two families are available: the P2288 series with wide fields of view and the P3514 series with a lens cap that provides limited fields of view.

Single Element Types

A single pyroelectric element is used, being suitable for general-purpose infrared detection.

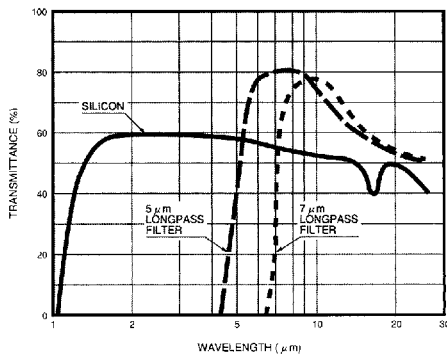


(Typical data unless otherwise specified, Ta=25°C)

Type No.	Window Material	Active Area (mm)	Spectral Response Range λ_p (°C)	Photo sensitivity S (500, 1) (μm)	Noise Max. ($\mu\text{V}/\text{Hz}^{1/2}$)	D* (500, 1, 1) ($\text{W}/\text{Hz}^{1/2}$)	NEP (500, 1, 1) ($\text{cm}\cdot\text{Hz}^{1/2}/\text{W}$)	Rise Time t_r 0 to 63% (ms)	Temp. Coefficient of Responsivity Max. (%/°C)	Supply Voltage (V)	Offset Voltage $R_L=22\text{k}\Omega$ (V)	Operating Temperature T_{opr} (°C)	Storage Temperature T_{stg} (°C)						
Thermally-Compensated Types (Single Element)																			
P3782	Silicon	2 dia.	2 to 20	1500	15	1.7×10^8	8.5×10^{-10}	100	0.2	3 to 15	0.2 to 1.0	-20 to +60	-30 to +85						
P3782-01	7 μm longpass filter	2 dia.	7 to 20	1300	15	1.5×10^8	1.0×10^{-9}												
P3782-02	4.3 μm bandpass filter	2 dia.	4.3(HW=80nm)	3900(A)	15	3.0×10^8	5.0×10^{-10}												
P3782-03	8-14 μm bandpass filter	2 dia.	8 to 14	900	15	2.0×10^8	1.0×10^{-9}												
P3782-05	5 μm longpass filter	2 dia.	5 to 20	1500	15	1.7×10^8	8.5×10^{-10}												
P3782-12	4.4 μm bandpass filter	2 dia.	4.4(HW=650nm)	4100(A)	15	3.0×10^8	5.0×10^{-10}												
P4736	Silicon	2 dia.	2 to 20	1500	15	1.7×10^8	8.5×10^{-10}												
P4736-01	7 μm longpass filter	2 dia.	7 to 20	1300	15	1.5×10^8	1.0×10^{-9}												
P4736-05	5 μm longpass filter	2 dia.	5 to 20	1500	15	1.7×10^8	8.5×10^{-10}												
P4736-12	4.4 μm bandpass filter	2 dia.	4.4(HW=650nm)	4100(A)	15	3.0×10^8	5.0×10^{-10}												
Dual Element Types																			
P2288	7 μm longpass filter	2 \times 1 (\times 2)	2 to 20	1300	15	1.5×10^8	1.0×10^{-9}							100	0.2	3 to 15	0.2 to 1.0	-20 to +60	-30 to +85
P2288-02	5 μm longpass filter		5 to 20	1500	15	1.7×10^8	8.5×10^{-10}												
P2288-09	7 μm longpass filter		7 to 20	1300	15	1.5×10^8	1.0×10^{-9}												
P2288-10	5 μm longpass filter		5 to 20	1500	15	1.7×10^8	8.5×10^{-10}												
Dual Element Types with Lens Cap																			
P3514	7 μm longpass filter	2 \times 1 (\times 2)	7 to 20	450	15	1.0×10^8	1.5×10^{-9}	100	0.2	3 to 15	0.2 to 1.0	-20 to +60	-30 to +85						
P3514-01																			
Single Element Types																			
P2613	Silicon	2 dia.	2 to 20	1800	15	2.0×10^8	1.0×10^{-9}	100	0.2	3 to 15	0.2 to 1.0	-20 to +60	-30 to +85						
P2613-01	7 μm longpass filter	2 dia.	7 to 20	1500	15	2.0×10^8	1.0×10^{-9}												
P2613-02	4.3 μm bandpass filter	2 dia.	4.3(HW=80nm)	3900(A)	15	3.0×10^8	5.0×10^{-10}												
P2613-03	8-14 μm bandpass filter	2 dia.	8 to 14	900	15	2.0×10^8	1.0×10^{-9}												
P2613-12	4.4 μm bandpass filter	2 dia.	4.4(HW=650nm)	4100(A)	15	3.0×10^8	5.0×10^{-10}												

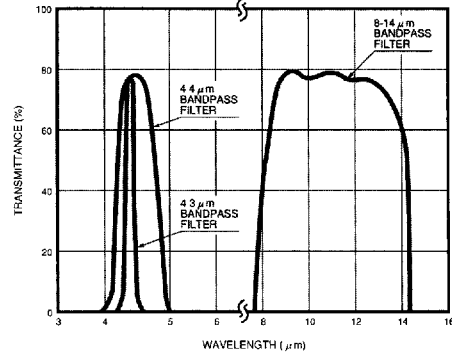
(A) Measured at 4.3 μm or 4.4 μm .

● Transmittance of Window Materials (1)



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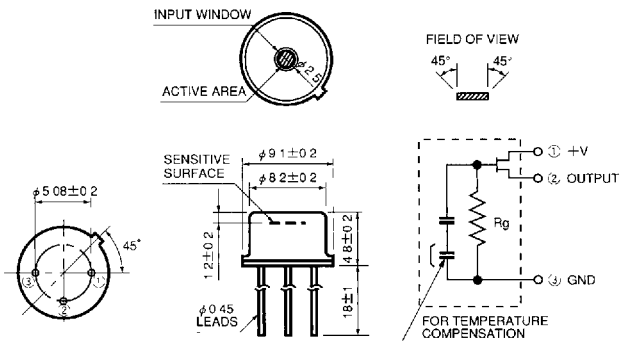
● Transmittance of Window Materials (2)



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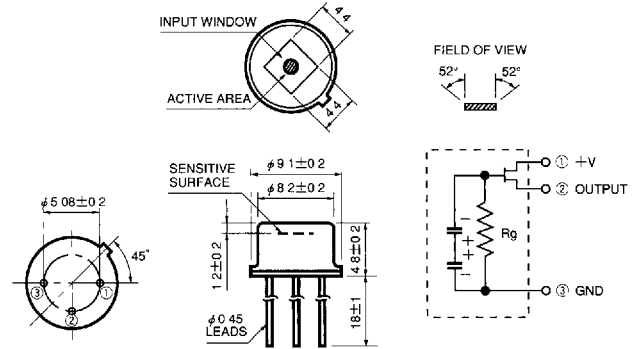
● Dimensional Outlines (Unit: mm)

P3782 Series



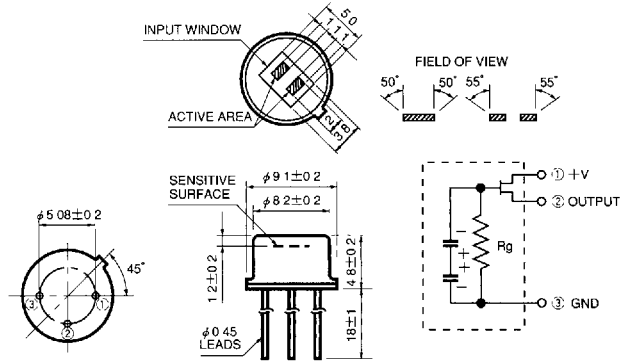
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P4736 Series



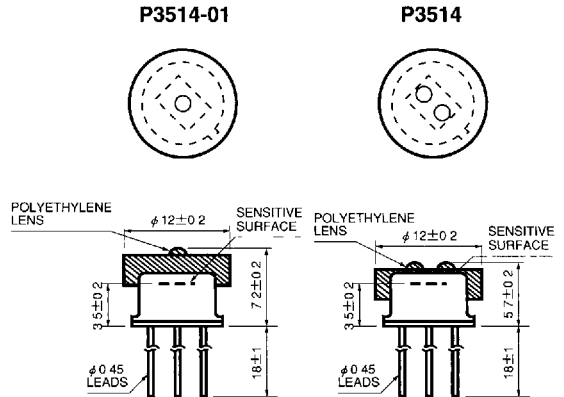
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P2288 Series



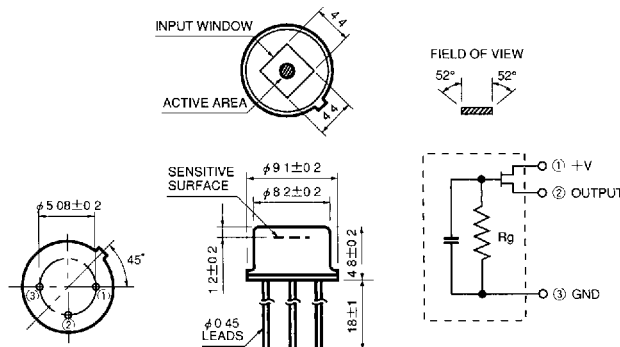
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P3514 Series



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P2613 Series



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