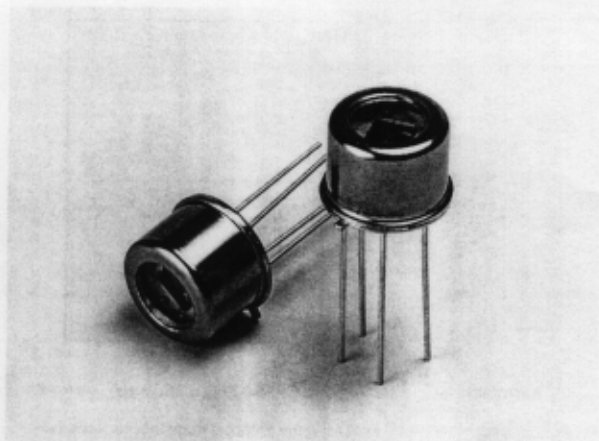


Two-color Detectors

Spectral Response Range: 0.19 to 1.8 μm

Broad spectral response range from UV to infrared



Two-color detectors have a sandwich structure in which an infrared-transmitting silicon photodiode is mounted over an infrared detector. This structure makes it possible to design instruments using the same optical path from UV to infrared range.

■Broad spectral response range

Two-color detectors cover a broad spectral response range, and are effectively used in such applications as spectrophotometers, etc.

Non-cooled Types

These types operate at room temperature, making them easy to use in a variety of applications.

One-stage TE-cooled Types

Thermoelectrically-cooled types maintain the built-in infrared detector at a constant temperature, enabling stable measurement with high accuracy.

■ACCESSORIES (Optional)

Heatsink for One-stage TE-cooled types	A3179-03
Temperature controller for TE-cooled types	C1103-04
Preamplifier for Ge photodiodes	C4159
Preamplifier for InGaAs PIN photodiodes	C4159-02
	C4159-03
Preamplifier for Si photodiodes	C2719

■SPECIFICATIONS (Common)

Package	TO-5 (non-cooled types)
	TO-8 (one-stage TE-cooled types)
Window Material	Borosilicate glass
Thermistor Allowable Dissipation	0.2 mW
Peltier Element Allowable Current	1.5 A
Operating Temperature	-30 to +50 °C
Storage Temperature	-55 to +50 °C

(Unless otherwise noted, Typ.)

Type No.	Outline No. (P. 36)	Detector Element	Active Area (mm)	Element Temperature (°C)	Peak Sensitivity Wavelength λ_p (μm)	Photo Sensitivity S $\lambda=\lambda_p$ (A/W)	Shunt Resistance or Dark Resistance (M Ω)	D* $\lambda=\lambda_p$ ($\text{cm} \cdot \text{Hz}^{1/2}/\text{W}$)	NEP $\lambda=\lambda_p$ (W/Hz ^{1/2})	Rise Time tr V _R =0 V R _L =1 k Ω 10 to 90 % (μs)	Maximum Reverse Voltage V _R Max. (V)
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■Non-cooled Types

K1713-03	⑤	Si	2.4 × 2.4	25	0.94	0.45	300	1.4 × 10 ¹³	1.7 × 10 ⁻¹⁴	0.2 *1	5
		Ge	φ2		1.55	0.5	6 × 10 ⁻³	5 × 10 ¹⁰	2 × 10 ⁻¹²	5	10
K1713-05		Si	2.4 × 2.4	25	0.94	0.45	300	1.4 × 10 ¹³	1.7 × 10 ⁻¹⁴	0.2 *1	5
		InGaAs	φ0.5		1.55	0.55	300	3.5 × 10 ¹²	1.4 × 10 ⁻¹⁴	1.5 × 10 ⁻³ *2	20
K1713-09		Si	2.4 × 2.4	25	0.94	0.45	300	1.4 × 10 ¹³	1.7 × 10 ⁻¹⁴	0.2 *1	5
		InGaAs	φ1		1.55	0.55	100	3.5 × 10 ¹²	2.4 × 10 ⁻¹⁴	7 × 10 ⁻³ *2	10

■One-stage TE-cooled Types

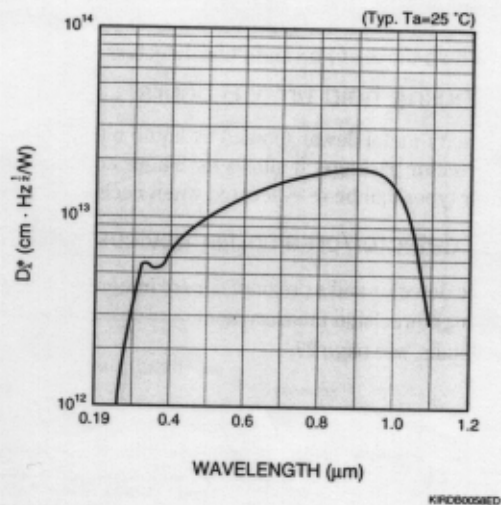
K3413-03	⑤	Si	2.4 × 2.4	25	0.94	0.45	300	1.4 × 10 ¹³	1.7 × 10 ⁻¹⁴	0.2 *1	5
		Ge	φ2	-10	1.55	0.5	0.2	5 × 10 ¹¹	4 × 10 ⁻¹³	5	10
K3413-05		Si	2.4 × 2.4	25	0.94	0.45	300	1.4 × 10 ¹³	1.7 × 10 ⁻¹⁴	0.2 *1	5
		InGaAs	φ0.5	-10	1.55	0.55	3 × 10 ³	1.2 × 10 ¹³	4.3 × 10 ⁻¹⁵	1.5 × 10 ⁻³ *2	20
K3413-09		Si	2.4 × 2.4	25	0.94	0.45	300	1.4 × 10 ¹³	1.7 × 10 ⁻¹⁴	0.2 *1	5
		InGaAs	φ1	-10	1.55	0.55	1500	1.2 × 10 ¹³	7.3 × 10 ⁻¹⁵	7 × 10 ⁻³ *2	10

*1: $\lambda=655 \text{ nm}$

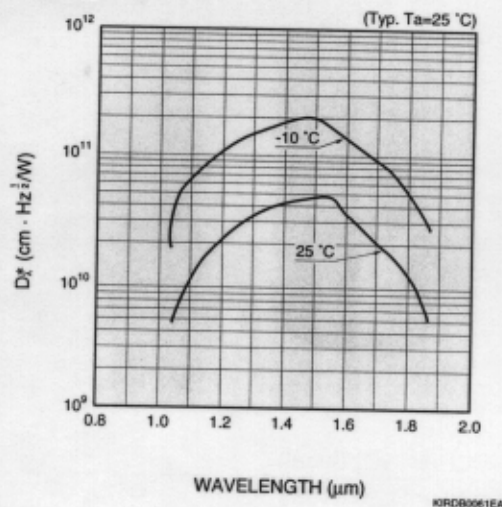
*2: V_R=5 V, R_L=50 Ω

■ Spectral Response

Si Photodiode



Ge Photodiode



InGaAs PIN Photodiode

