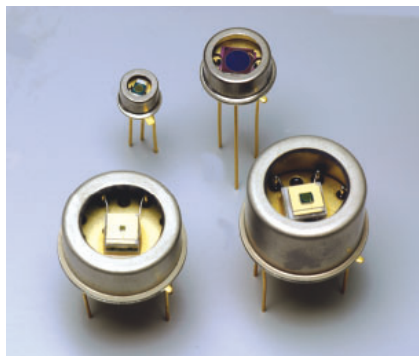


InGaAs PIN photodiodes



G8423/G8373/G5853 series

Long wavelength type (Cut-off wavelength: 2.55 to 2.6 μm)

Features

- Cut-off wavelength: 2.55 to 2.6 μm
- 3-pin TO-18 package: low price
Thermoelectrically cooled TO-8 package: low dark current
- Active area: φ0.3 to φ3 mm

Applications

- Gas analysis
- Spectrophotometer
- NIR (near infrared) photometry

Accessories (Optional)

- Preamp for InGaAs PIN photodiode **C4159-03**
- Heatsink for one-stage TE-cooled type **A3179**
- Heatsink for two-stage TE-cooled type **A3179-01**
- Temperature controller for TE-cooled type **C1103-04**

Specifications / Absolute maximum ratings

Type No.	Dimensional outline	Package	Cooling	Active area (mm)	Absolute maximum ratings				
					Thermistor power dissipation (mW)	TE-cooler allowable current (A)	Reverse voltage VR (V)	Operating temperature Topr (°C)	Storage temperature Tstg (°C)
G8423-03	①	TO-18	Non-cooled	φ0.3	-	-	-	-40 to +85	-55 to +125
G8423-05				φ0.5					
G8373-01				φ1					
G8373-03				φ3					
G5853-103	③	TO-8	One-stage TE-cooled	φ0.3	0.2	1.5	2	-40 to +70	-55 to +85
G5853-11				φ1					
G5853-13				φ3					
G5853-203	④	TO-8	Two-stage TE-cooled	φ0.3	0.2	1.0	2	-40 to +70	-55 to +85
G5853-21				φ1					
G5853-23				φ3					

Electrical and optical characteristics (Typ. unless otherwise noted)

Type No.	Measurement Condition	Spectral response range λ (μm)	Peak sensitivity wavelength λp (μm)	Photo sensitivity S λ=λp (A/W)		Dark current Id VR=1 V (μA)		Cut-off frequency fc VR=1 V RL=50 Ω -3 dB (MHz)	Terminal capacitance Ct VR=1 V f=1 MHz (pF)	Shunt resistance Rsh VR=10 mV (kΩ)	D* λ=λp (cm·Hz ^{1/2} /W)	NEP λ=λp (W/Hz ^{1/2})
	Element temperature (°C)			Min. (A/W)	Typ. (A/W)	Typ. (μA)	Max. (μA)					
G8423-03	25	1.2 to 2.6	2.3	0.9	1.3	2	20	60	40	30	5 × 10 ¹⁰	7 × 10 ⁻¹³
G8423-05						5	50	50	60	15		1 × 10 ⁻¹²
G8373-01						15	75	15	200	3		2 × 10 ⁻¹²
G8373-03						150	1500	1.5	1800	0.3		8 × 10 ⁻¹²
G5853-103	-10	1.2 to 2.57	2.3	0.9	1.3	0.2	2	60	40	300	1 × 10 ¹¹	3 × 10 ⁻¹³
G5853-11						1.5	7.5	15	200	30		7 × 10 ⁻¹³
G5853-13						15	150	1.5	1800	3		2 × 10 ⁻¹²
G5853-203	-20	1.2 to 2.55	2.3	0.9	1.3	0.1	1	60	40	600	2 × 10 ¹¹	2 × 10 ⁻¹³
G5853-21						0.8	4	15	200	60		5 × 10 ⁻¹³
G5853-23						7.5	75	1.5	1800	6		1.8 × 10 ⁻¹²

The G8423/G8373/G5853 series may be damaged by electrostatic discharge, etc. Be carefull when using the G8423/G8373/G5853 series.

Spectral response

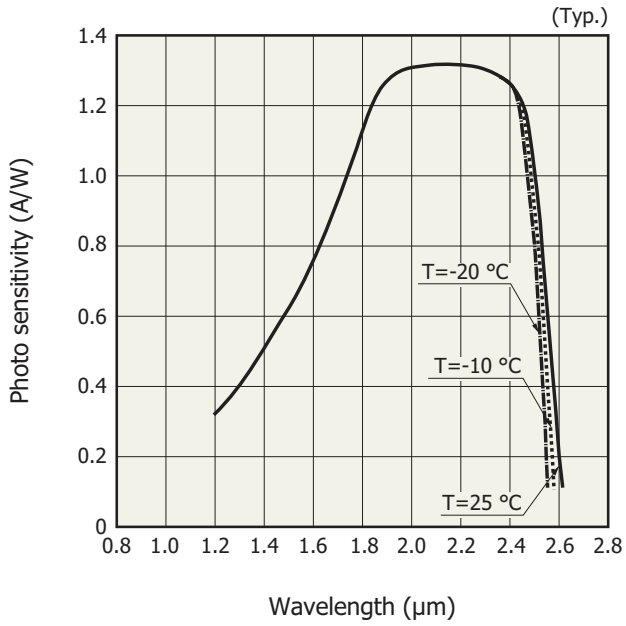
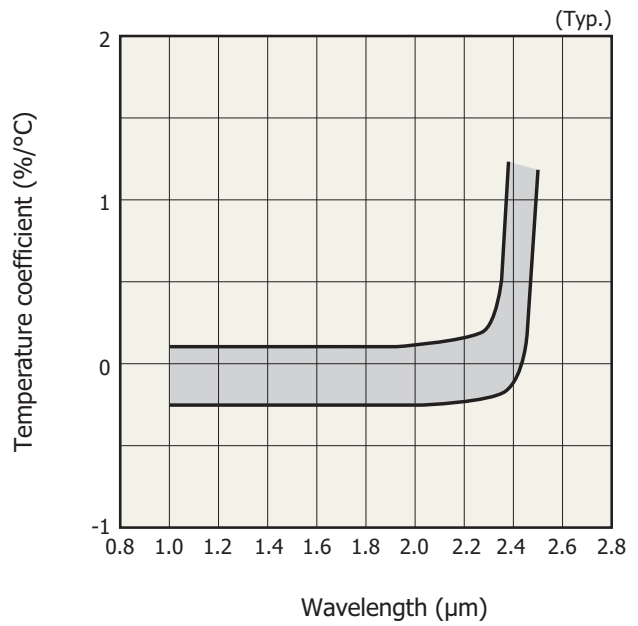
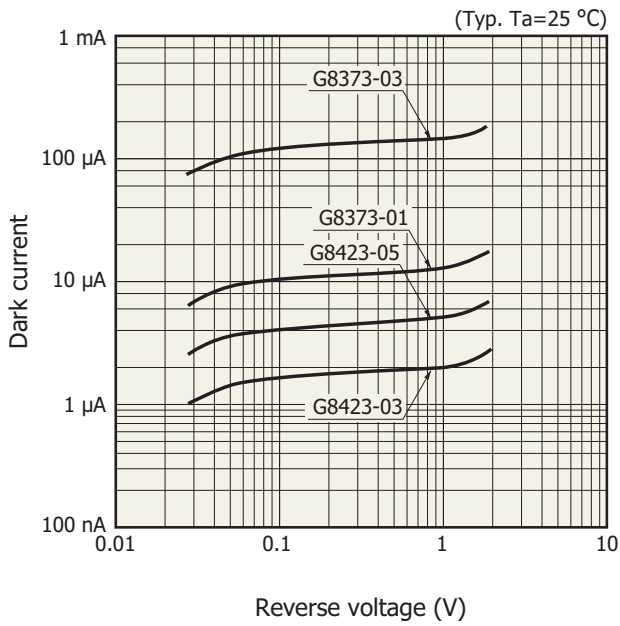


Photo sensitivity temperature characteristic

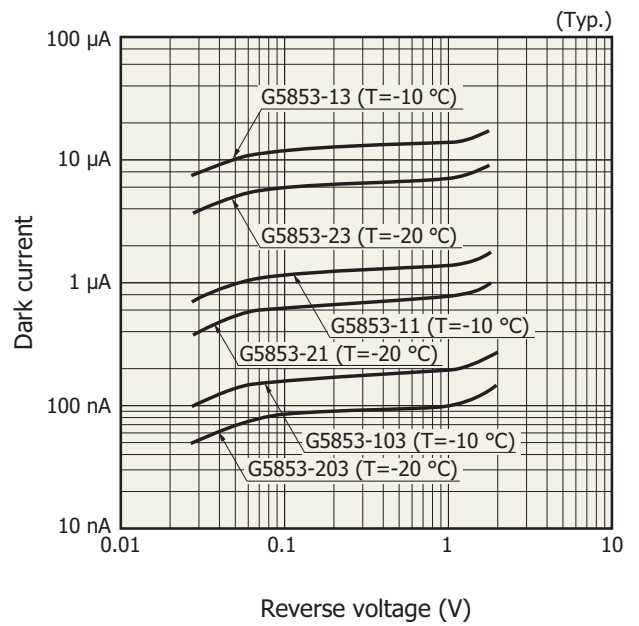


Dark current vs. reverse voltage

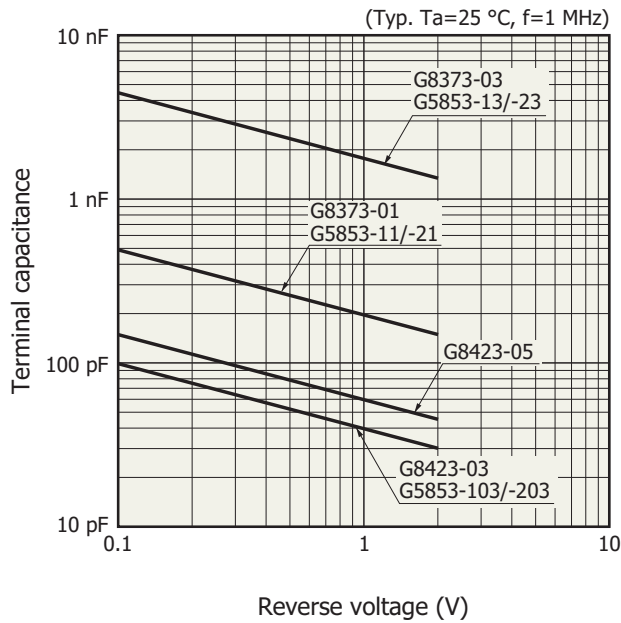
Non-cooled type



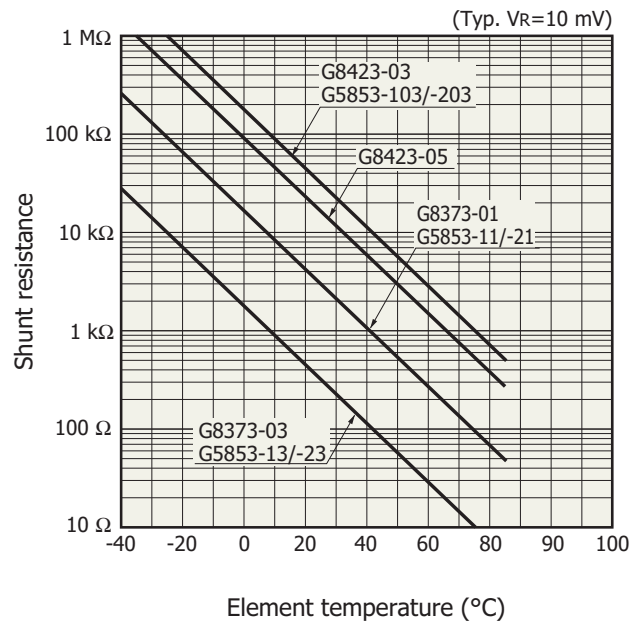
TE-cooled type



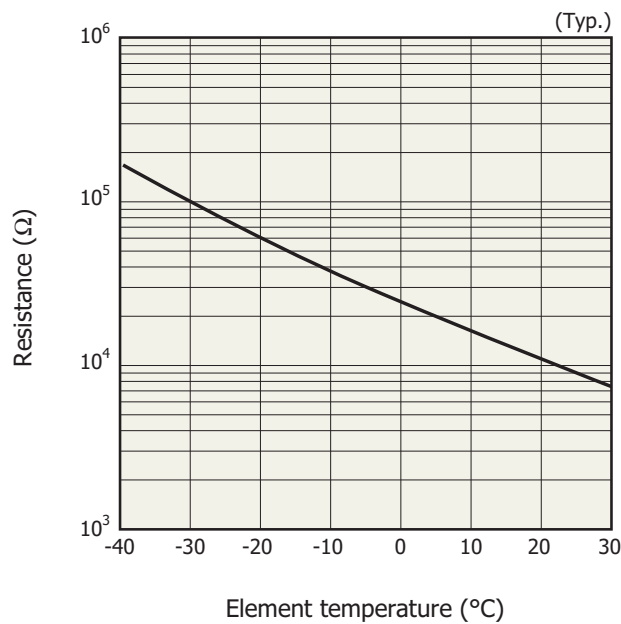
Terminal capacitance vs. reverse voltage



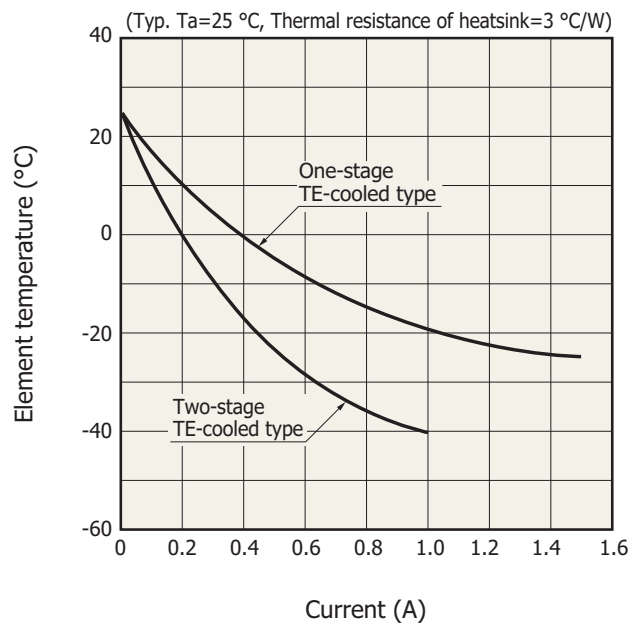
Shunt resistance vs. element temperature



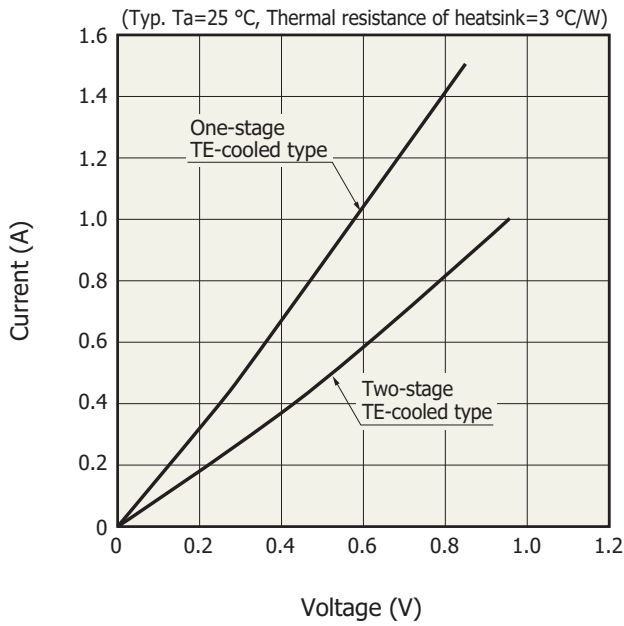
Thermistor temperature characteristic



Cooling characteristics of TE-cooler



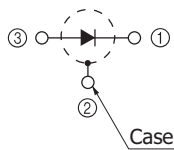
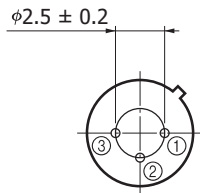
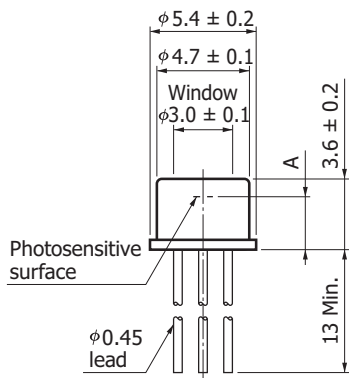
Current vs. voltage (TE-cooler)



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Dimensional outlines (unit: mm)

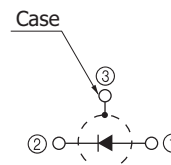
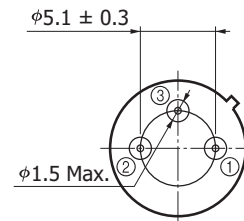
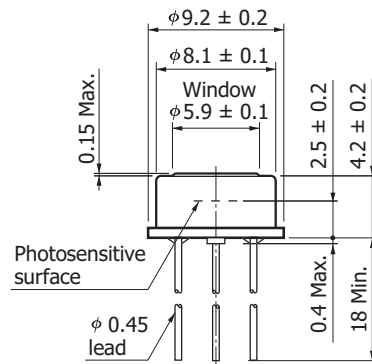
① G8423-03/-05, G8373-01



	G8423-03/-05	G8373-01
A	2.6 ± 0.2	2.7 ± 0.2

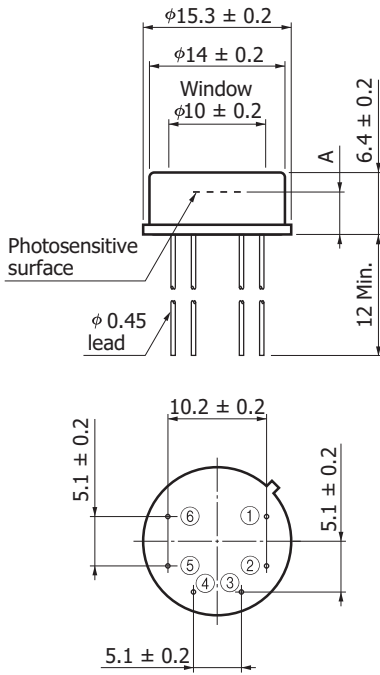
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② G8373-03



KIRDA0151EA

③ G5853-103/-11/-13

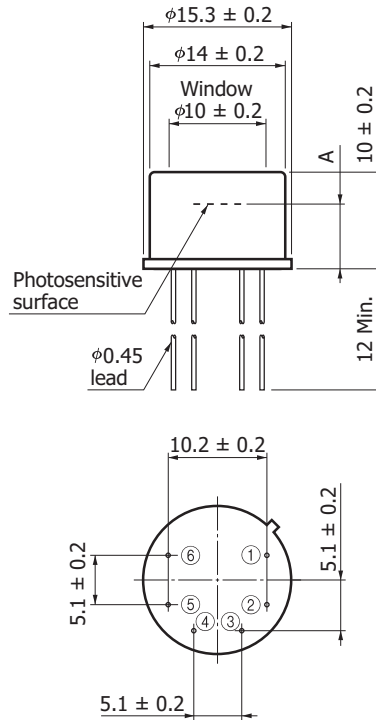


- ① Detector (anode)
- ② Detector (cathode)
- ③ TE-cooler (-)
- ④ TE-cooler (+)
- ⑤⑥ Thermistor

	G5853-103	G5853-11/-13
A	4.3 ± 0.2	4.4 ± 0.2

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④ G5853-203/-21/-23



- ① Detector (anode)
- ② Detector (cathode)
- ③ TE-cooler (-)
- ④ TE-cooler (+)
- ⑤⑥ Thermistor

	G5853-203	G5853-21/-23
A	6.6 ± 0.2	6.7 ± 0.2

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Information described in this material is current as of June, 2011. Product specifications are subject to change without prior notice due to improvements or other reasons. Before assembly into final products, please contact us for the delivery specification sheet to check the latest information.

Type numbers of products listed in the delivery specification sheets or supplied as samples may have a suffix "(X)" which means preliminary specifications or a suffix "(Z)" which means developmental specifications.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use.

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