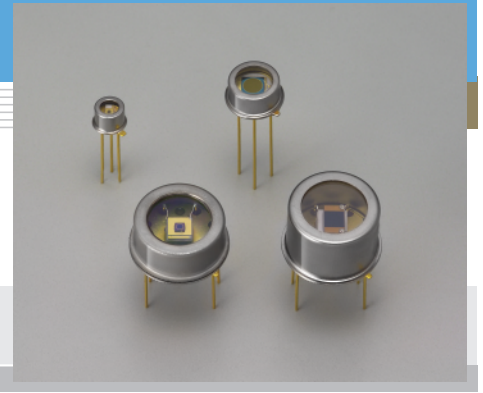


InGaAs PIN photodiode G8423/G8373/G5853 series

Long wavelength type (up to 2.6 μm)



Features

- Long cut-off wavelength: 2.6 μm
- 3-pin TO-18 package: low price
- Thermoelectrically cooled TO-8 package: low dark current
- Active area: $\phi 0.3$ to $\phi 3$ mm

Applications

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

Accessories (Optional)

- 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 V_R (V)	Operating temperature T_{opr} ($^{\circ}\text{C}$)	Storage temperature T_{stg} ($^{\circ}\text{C}$)
G8423-03	①	TO-18	Non-cooled	$\phi 0.3$	-	-	2	-40 to +85	-55 to +125
G8423-05				$\phi 0.5$					
G8373-01				$\phi 1$					
G8373-03	②	TO-5	One-stage TE-cooled	$\phi 3$	0.2	1.5	2	-40 to +70	-55 to +85
G5853-103	③	TO-8		$\phi 0.3$					
G5853-11				$\phi 1$					
G5853-13	④	TO-8	Two-stage TE-cooled	$\phi 3$	1.0	1.0	2	-40 to +70	-55 to +85
G5853-203				$\phi 0.3$					
G5853-21				$\phi 1$					
G5853-23				$\phi 3$					

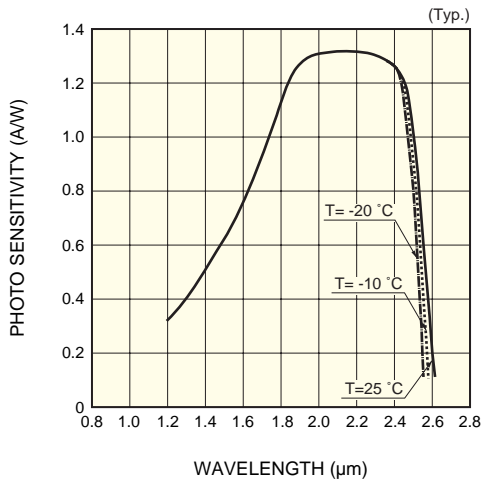
Electrical and optical characteristics (Typ. unless otherwise noted)

Type No.	Measurement condition	Spectral response range λ (μm)	Peak sensitivity wavelength λ_p (μm)	Photo sensitivity S ($\lambda = \lambda_p$) (A/W)		Dark current I_D ($V_R = 1$ V) (μA)		Cut-off frequency f_c ($V_R = 1$ V, $R_L = 50 \Omega$, -3 dB) (MHz)	Terminal capacitance C_t ($V_R = 1$ V, $f = 1$ MHz) (pF)	Shunt resistance R_{sh} ($V_R = 10$ mV) (k Ω)	D^* ($\lambda = \lambda_p$) (cm \cdot Hz $^{1/2}$ /W)	NEP ($\lambda = \lambda_p$) (W/Hz $^{1/2}$)
	Element temperature ($^{\circ}\text{C}$)			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}

G8423/G8373/G5853 series may be damaged by Electro Static Discharge, etc. Be carefull when using G8423/G8373/G5853 series.

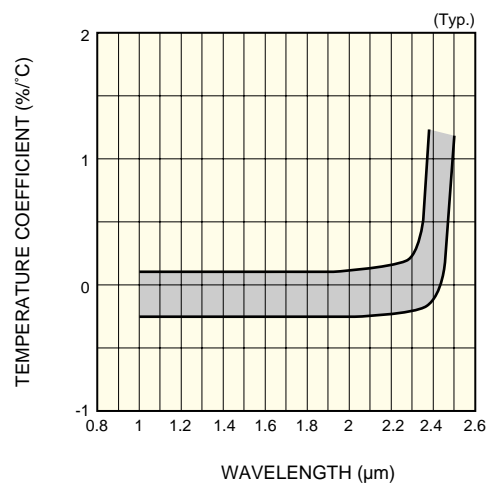
SOLID STATE DIVISION

■ Spectral response



KIRDB0216EB

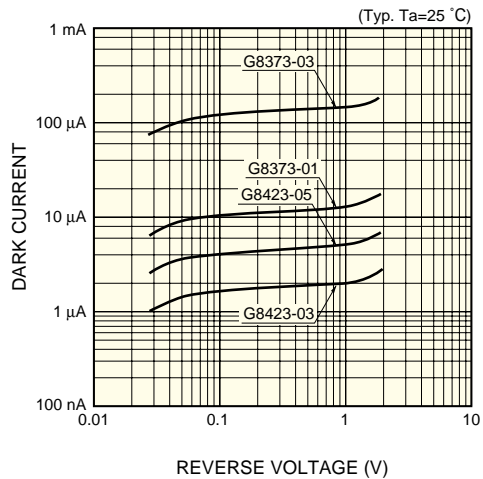
■ Photo sensitivity temperature characteristic



KIRDB0206EA

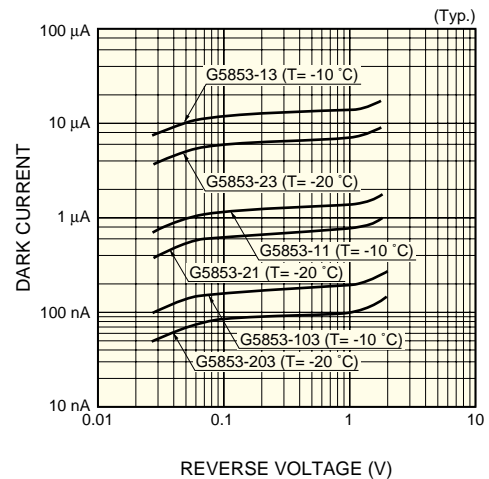
■ Dark current vs. reverse voltage

Non-cooled type



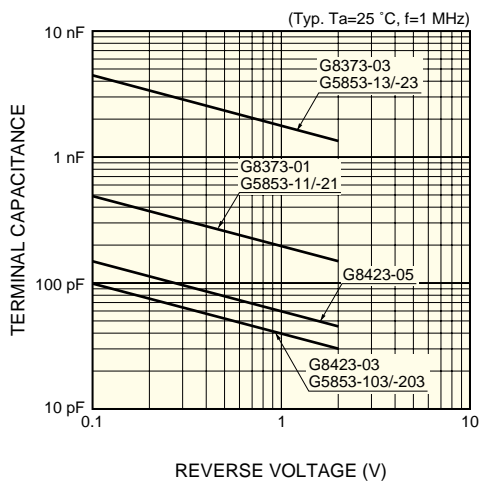
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TE-cooled type



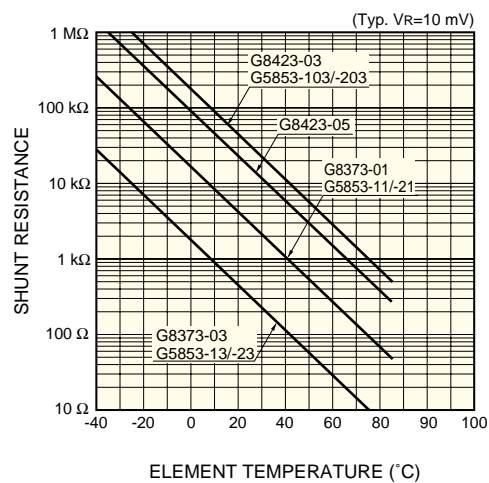
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■ Terminal capacitance vs. reverse voltage



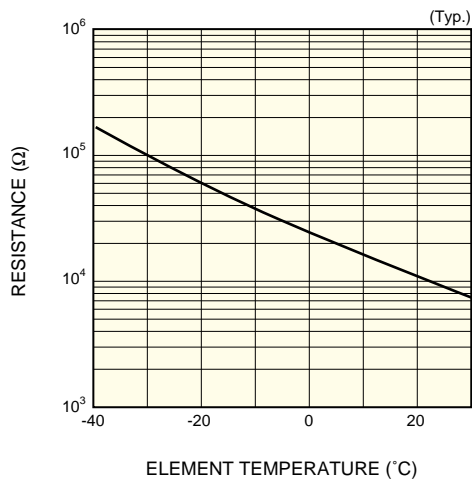
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■ Shunt resistance vs. element temperature



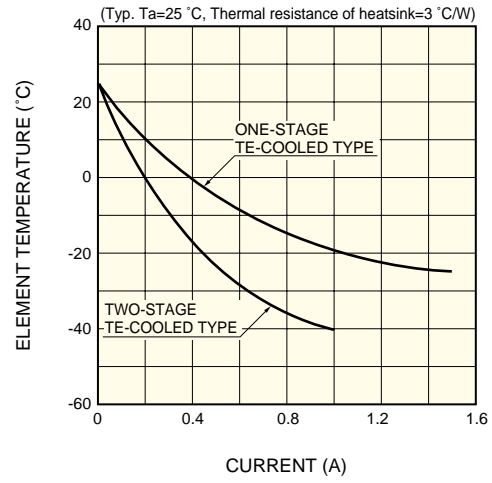
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■ Thermistor temperature characteristic



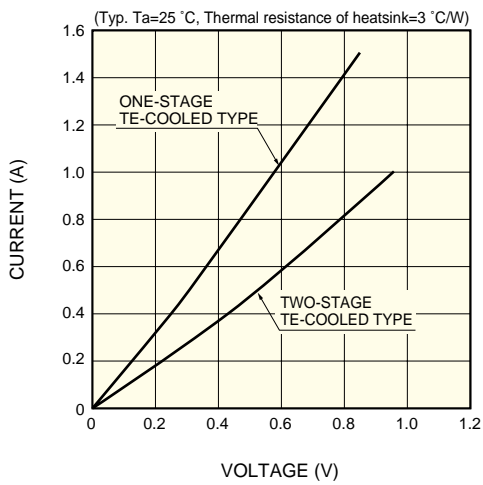
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■ Cooling characteristics of TE-cooler



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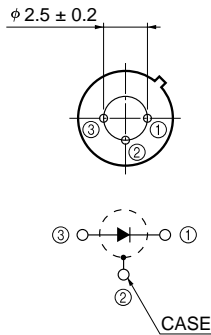
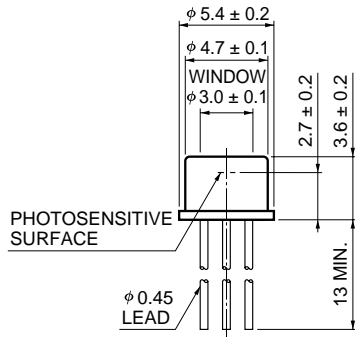
■ Current vs. voltage characteristics of TE-cooler



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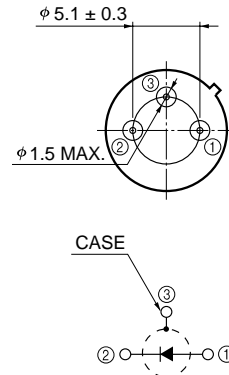
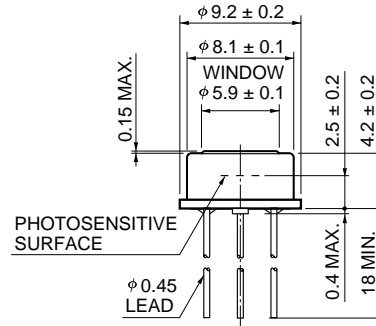
Dimensional outlines (unit: mm)

① G8423-03/-05, G8373-01



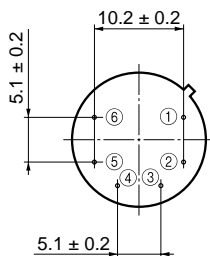
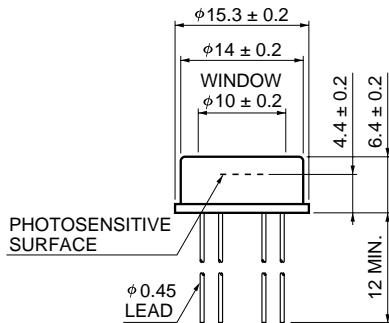
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② G8373-03



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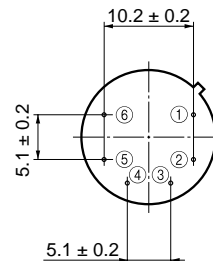
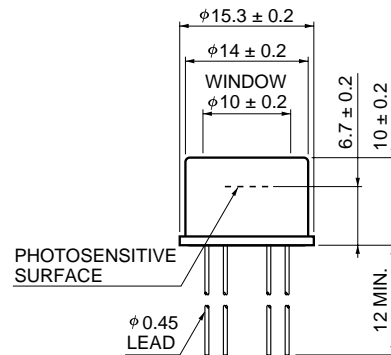
③ G5853-103/-11/-13



- ① DETECTOR (ANODE)
- ② DETECTOR (CATHODE)
- ③ TE-COOLER (-)
- ④ TE-COOLER (+)
- ⑤⑥ THERMISTOR

KIRDA0029EB

④ G5853-203



- ① DETECTOR (ANODE)
- ② DETECTOR (CATHODE)
- ③ TE-COOLER (-)
- ④ TE-COOLER (+)
- ⑤⑥ THERMISTOR

KIRDA0031EB

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