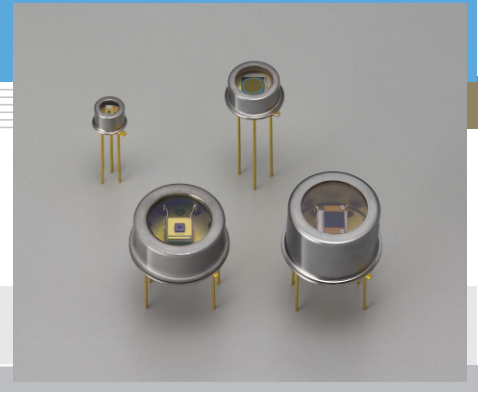


InGaAs PIN photodiode G8423/G8373/G5853 series

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		$\phi 3$					
G5853-103	③	TO-8	One-stage TE-cooled	$\phi 0.3$	0.2	1.5	2	-40 to +70	-55 to +85
G5853-11				$\phi 1$					
G5853-13				$\phi 3$					
G5853-203	④	TO-8	Two-stage TE-cooled	$\phi 0.3$	0.2	1.0	2	-40 to +70	-55 to +85
G5853-21				$\phi 1$					
G5853-23				$\phi 3$					

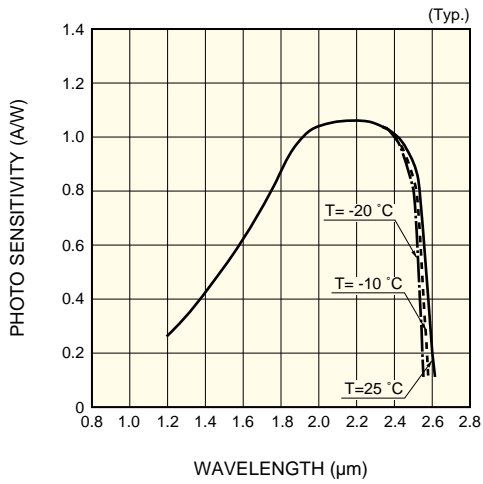
Electrical and optical characteristics (Typ. unless otherwise noted)

Type No.	Measurement condition	Spectral response range λ	Peak sensitivity wavelength λ_p	Photo sensitivity $S_{\lambda=\lambda_p}$	Dark current I_D $V_R=1$ V		Cut-off frequency f_c $V_R=1$ V $R_L=50$ Ω -3 dB (MHz)	Terminal capacitance C_t $V_R=1$ V $f=1$ MHz	Shunt resistance R_{sh} $V_R=10$ mV	D^* $\lambda=\lambda_p$	NEP $\lambda=\lambda_p$
	Element temperature ($^{\circ}\text{C}$)				(μA)	(μA)					
G8423-03	25	1.2 to 2.6	2.3	1.1	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	1.1	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	1.1	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.

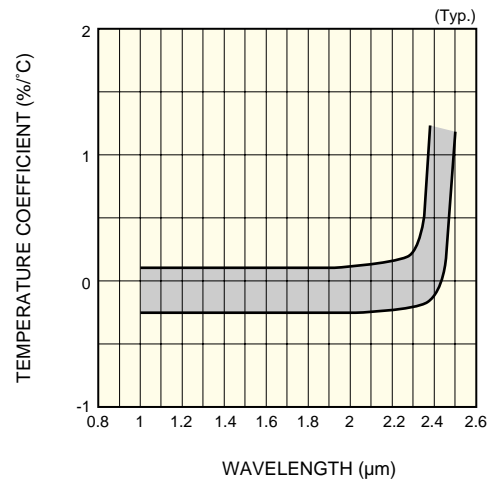
SOLID STATE DIVISION

■ Spectral response



KIRDB0216EA

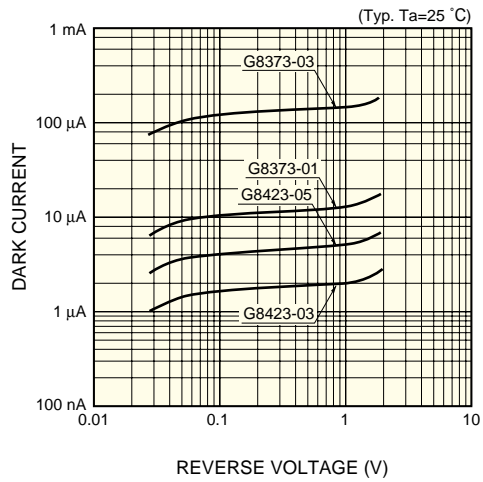
■ Photo sensitivity temperature characteristic



KIRDB0206EA

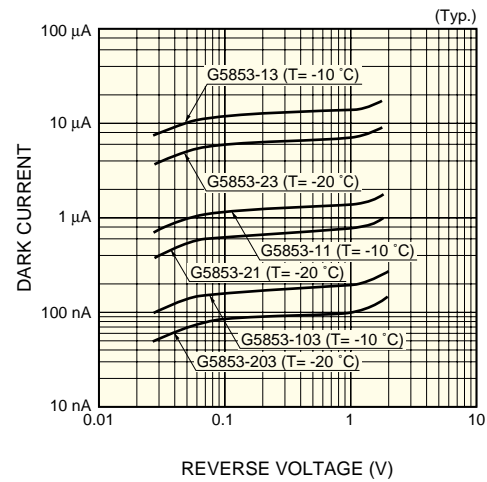
■ Dark current vs. reverse voltage

Non-cooled type



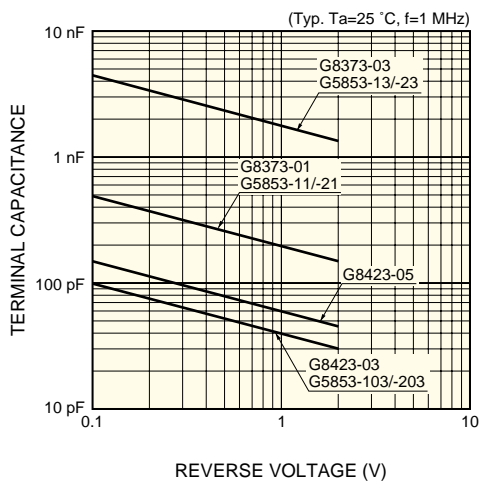
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TE-cooled type



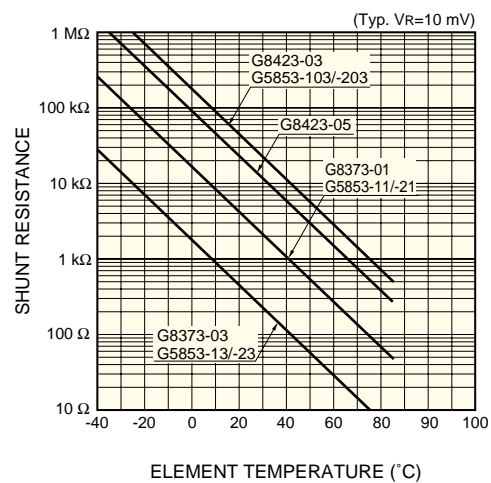
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■ Terminal capacitance vs. reverse voltage



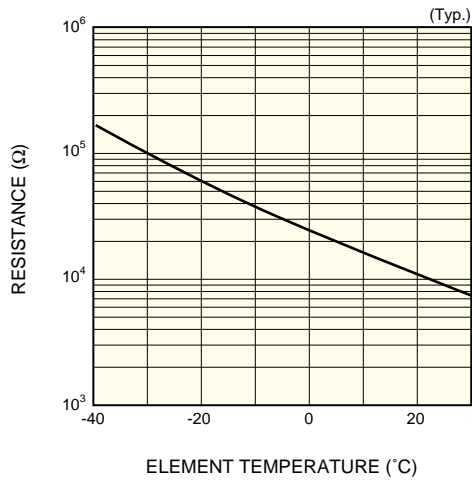
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■ Shunt resistance vs. element temperature



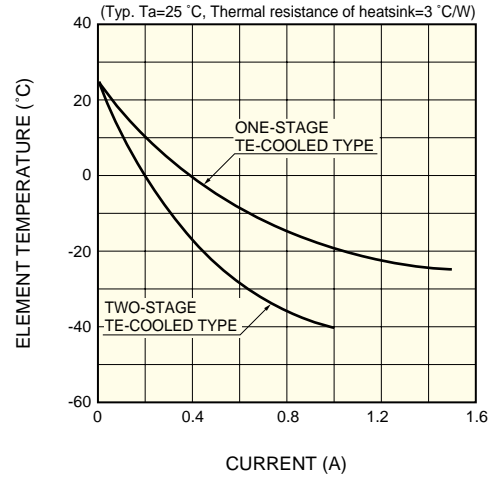
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■ Thermistor temperature characteristic



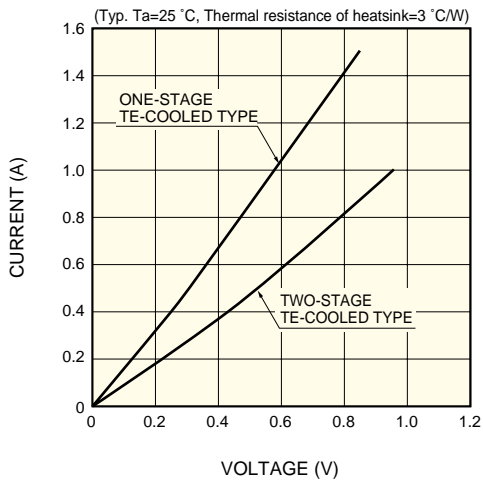
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■ Cooling characteristics of TE-cooler



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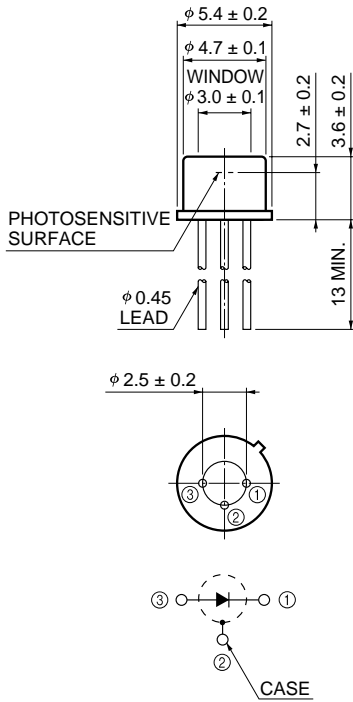
■ Current vs. voltage characteristics of TE-cooler



KIRDB0115EB

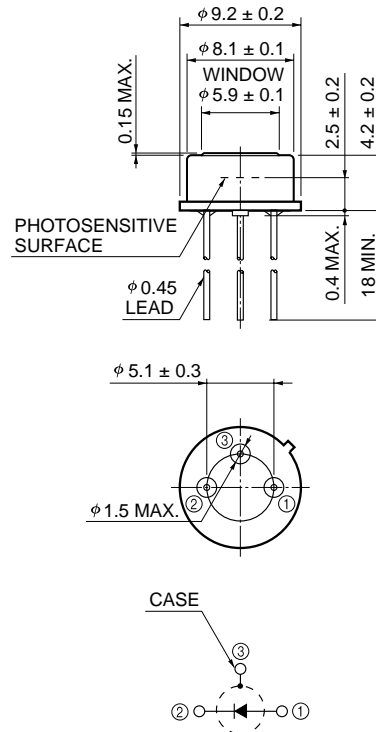
Dimensional outlines (unit: mm)

① G8423-03/-05, G8373-01



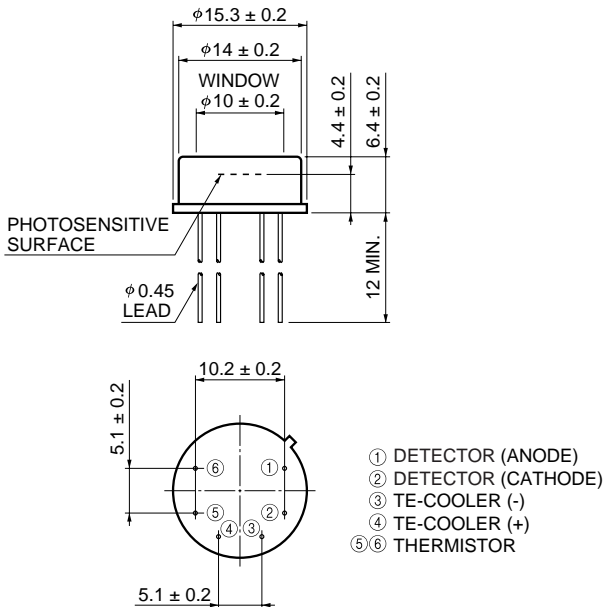
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② G8373-03



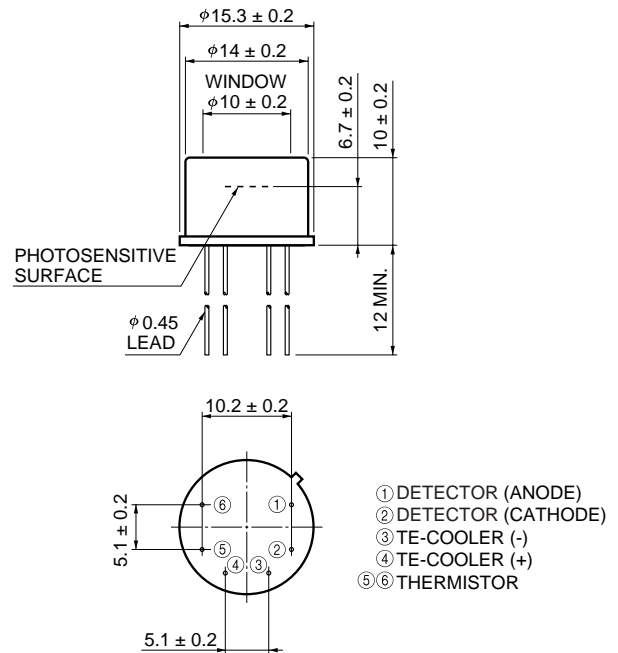
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③ G5853-103/-11/-13



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④ G5853-203



KIRDA0031EB

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HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidsesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741