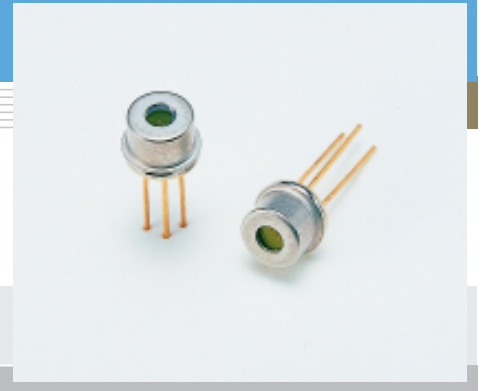


InGaAs PIN photodiode

G8198 series

High-speed response at low reverse voltage



Features

- High-speed response at low reverse voltage
G8198-01: 3 GHz ($V_R=2$ V)
G8198-02: 2 GHz ($V_R=2$ V)
- Low noise, low dark current
- Low terminal capacitance
- Small package

Applications

- Optical fiber communications
- Fiber channel
- Gigabit Ethernet

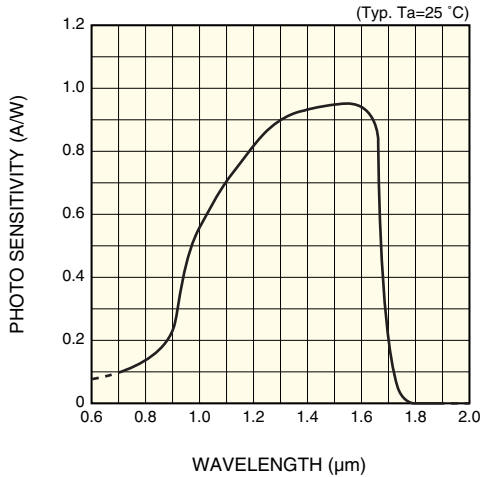
■ Absolute maximum ratings ($T_a=25$ °C)

Parameter	Symbol	Value	Unit
Reverse voltage	V_R Max.	20	V
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-55 to +125	°C

■ Specifications ($T_a=25$ °C)

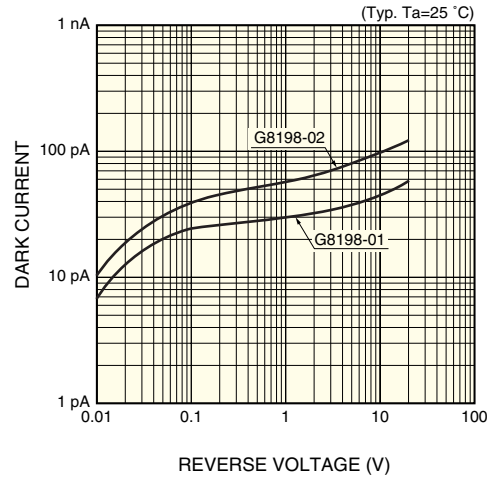
Parameter	Symbol	Condition	G8198-01			G8198-02			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Active area	-		-	$\phi 0.04$	-	-	$\phi 0.08$	-	mm
Spectral response range	λ		-	0.9 to 1.7	-	-	0.9 to 1.7	-	μm
Peak sensitivity wavelength	λ_p		-	1.55	-	-	1.55	-	μm
Photo sensitivity	S	$\lambda=1.3$ μm	0.8	0.9	-	0.8	0.9	-	A/W
		$\lambda=1.55$ μm	0.85	0.95	-	0.85	0.95	-	
Dark current	I_D	$V_R=5$ V	-	0.06	0.3	-	0.08	0.4	nA
Cut-off frequency	f_c	$V_R=2$ V, $R_L=50$ Ω $\lambda=1.3$ μm	-	3	-	-	2	-	GHz
Terminal capacitance	C_t	$V_R=2$ V $f=1$ MHz	-	0.6	-	-	0.9	-	pF

■ Spectral response



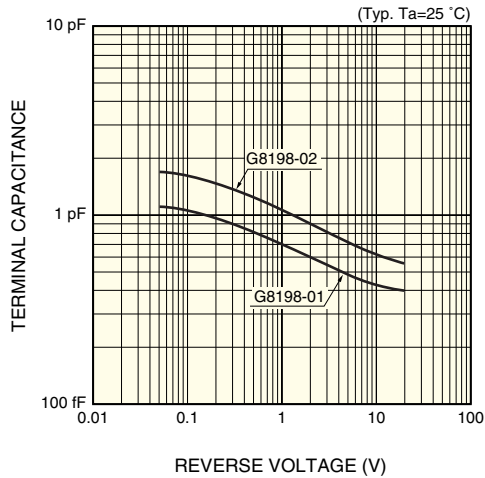
KIRDB0160EA

■ Dark current vs. reverse voltage



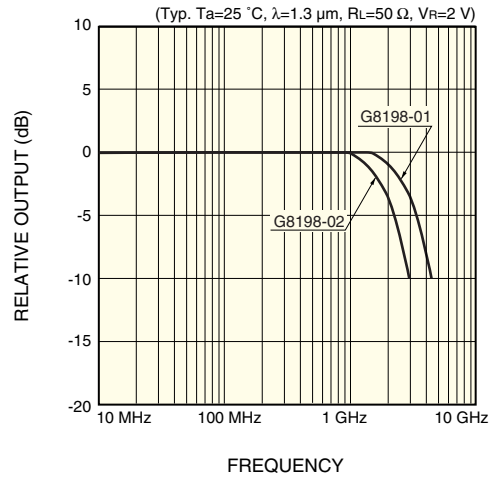
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■ Terminal capacitance vs. reverse voltage



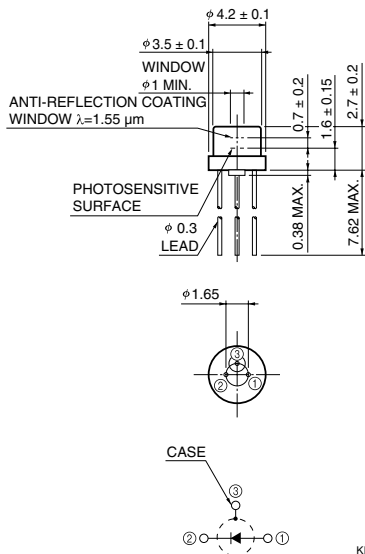
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■ Frequency response



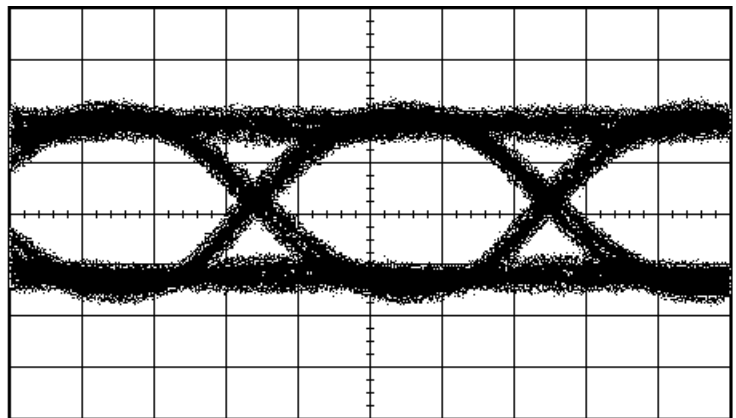
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■ Dimensional outline (unit: mm)



■ Eye diagram (photodiode output)

2.48832 Gbps
 Pin= -3 dBm
 $V_R=2.0$ V
 100 ps/div.



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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: Smidesvägen 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