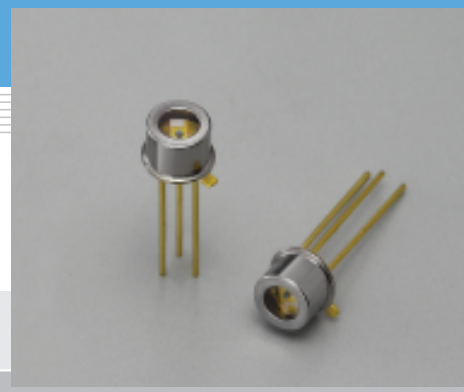


GaAs PIN photodiode G8522 series

High-speed response at low reverse voltage



G8522 series are high-speed PIN photodiodes developed for optical communications and are capable of GHz (gigahertz) operation even at a low reverse voltage (2 V or less). Please contact our sales office with your specific needs.

Features

- High-speed response at low reverse voltage
G8522-01: 3 GHz Min. ($V_R=2$ V)
G8522-02: 1.9 GHz Min. ($V_R=2$ V)
G8522-03: 1.5 GHz Min. ($V_R=2$ V)
- Low noise, low dark current
- Low terminal capacitance

Applications

- Optical fiber communications
- Fiber channels
- Gigabit Ethernet

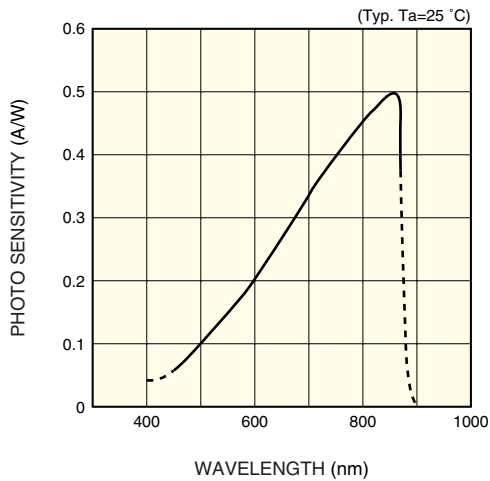
■ Absolute maximum ratings ($T_a=25$ °C)

Parameter	Symbol	Value	Unit
Reverse voltage	V_R Max.	30	V
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-55 to +125	°C

■ Electrical and optical characteristics ($T_a=25$ °C)

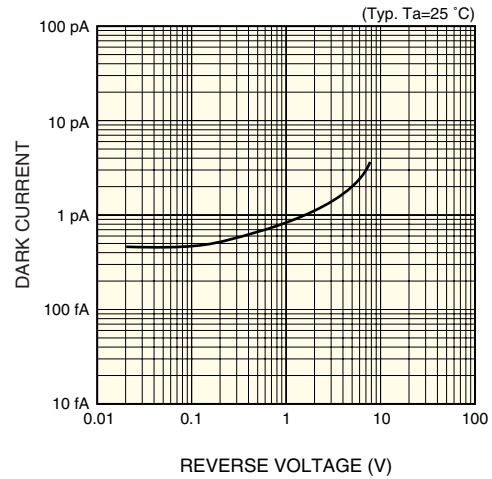
Parameter	Symbol	Condition	G8522-01			G8522-02			G8522-03			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Active area size	-		-	φ40	-	-	φ80	-	-	φ120	-	μm
Spectral response range	λ		-	470 to 870	-	-	470 to 870	-	-	470 to 870	-	nm
Peak sensitivity wavelength	λ_p		-	850	-	-	850	-	-	850	-	nm
Photo sensitivity	S	$\lambda=850$ nm	0.45	0.5	-	0.45	0.5	-	0.45	0.5	-	A/W
Dark current	I_D	$V_R=5$ V	-	2	50	-	8	200	-	20	500	pA
Terminal capacitance	C_t	$V_R=2$ V, $f=1$ MHz	-	0.3	0.45	-	0.45	0.65	-	0.8	1.2	pF
Cut-off frequency	f_c	$V_R=2$ V, $R_L=50$ Ω $\lambda=850$ nm, -3 dB	3	-	-	1.9	-	-	1.5	-	-	GHz

■ Spectral response



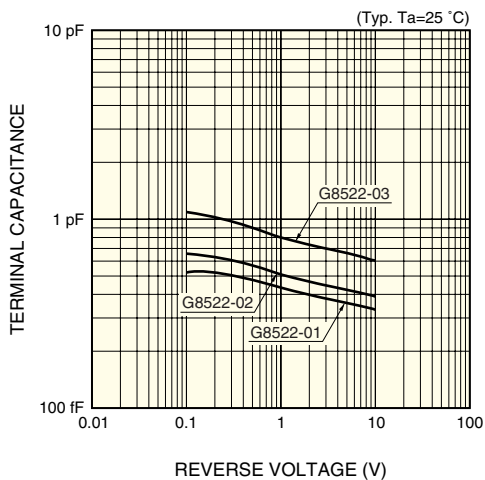
KGPDB0044EA

■ Dark current vs. reverse voltage



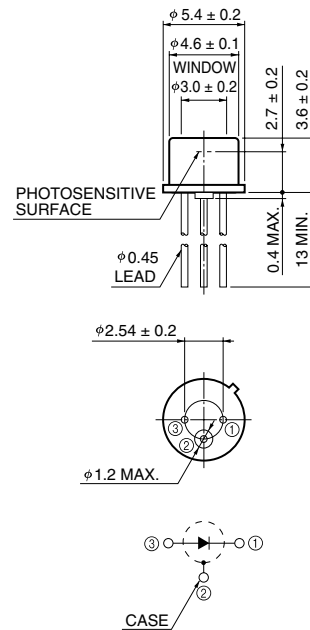
KGPDB0045EA

■ Terminal capacitance vs. reverse voltage



KGPDB0046EA

■ Dimensional outline (unit: mm)



KGPD40015EA

HAMAMATSU

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 Trappu, 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

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2002 Hamamatsu Photonics K.K.