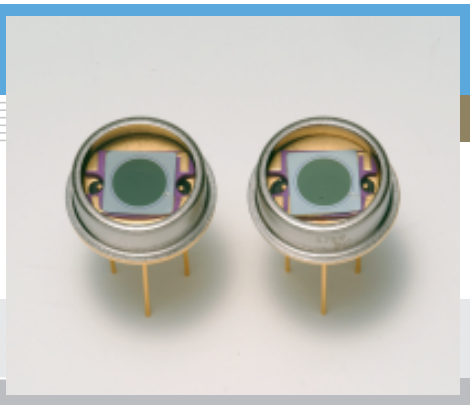
Si PIN photodiode
S3759



Si PIN photodiode for visible to infrared photometry

S3759 is a Si PIN photodiode developed to detect and measure infrared energy emitted from YAG lasers (1.06 µm). Compared to standard Si photodiodes, S3759 delivers exceptionally high sensitivity of 0.38 A/W at 1.06 µm. The PIN structure allows high-speed response and low capacitance. The active area is as large as ϕ5 mm, making optical axis alignment easier.

Features

- High sensitivity in infrared region: 0.38 A/W (λ=1.06 µm)
- High-speed response: tr=12.5 ns (V_R=100 V)
- Low capacitance: Ct=10 pF (V_R=100 V)
- Large active area: ϕ5 mm
- High reliability: TO-8 metal package

Applications

- YAG laser detection
- Analytical equipment, etc

■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Maximum reverse voltage	V_R Max.	150	V
Operating temperature	Topr	-40 to +100	°C
Storage temperature	Tstg	-55 to +125	°C

■ Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	360 to 1120	-	nm
Peak sensitivity wavelength	λp		-	980	-	nm
Photo sensitivity	S	λ=1060 nm	0.3	0.38	-	A/W
Short circuit current	Isc	2856 K, 1000 *lx*	14	19	-	µA
Dark current	I_D	V_R=100 V	-	1	10	nA
Rise time	tr	λ=1060 nm, V_R=100 V, R_L=50 Ω	-	12.5	-	ns
Terminal capacitance	Ct	V_R=100 V, f=1 MHz	-	10	-	pF

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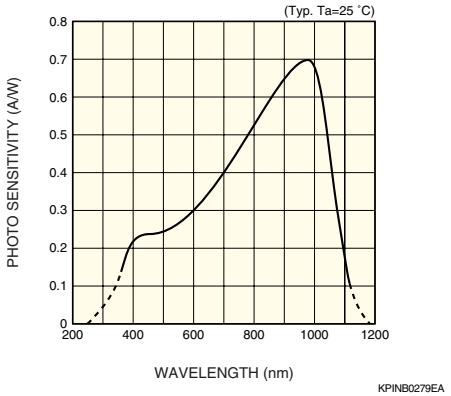
■ Spectral response



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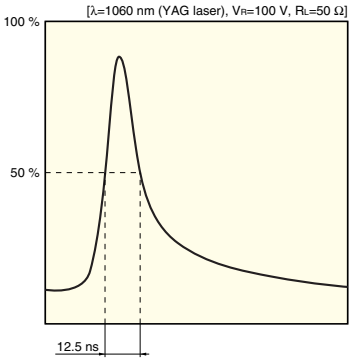
■ Response waveform



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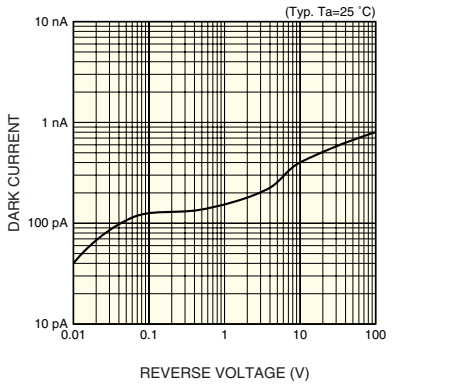
■ Dark current vs. reverse voltage



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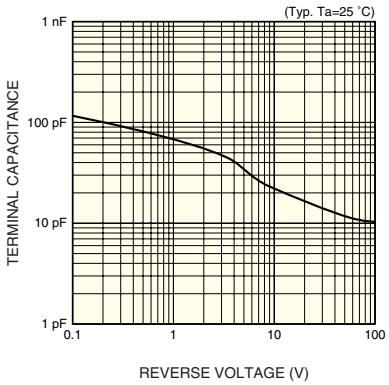
■ Terminal capacitance vs. reverse voltage



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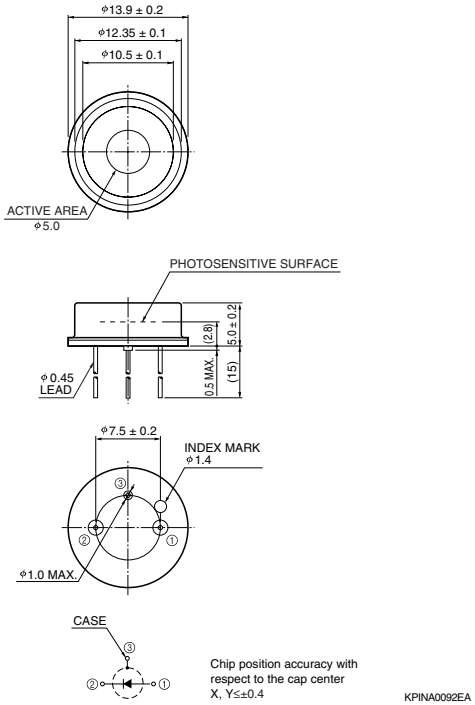
■ Dimensional outline (unit: mm)



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