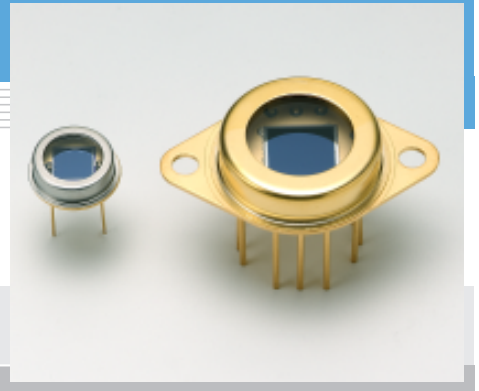


Si photodiode S9682, S9683

Highly reliable photodiode for VUV detection



S9682 and S9683 are Si photodiodes specifically designed to detect VUV (vacuum ultraviolet) radiation with high reliability. These photodiodes are hermetically sealed in a metal package with a quartz window. There is no outgassing from the inside of the package, eliminating the cause of decrease in VUV sensitivity.

Features

- Highly stable sensitivity and dark current against ArF excimer laser radiation ($\lambda=193$ nm)
- Hermetically sealed metal package with quartz window
- Large active area:
S9682: 5.8 × 5.8 mm (TO-8 metal package)
S9683: 10 × 10 mm (1 inch metal package)

Applications

- ArF excimer laser detection
- UV detection

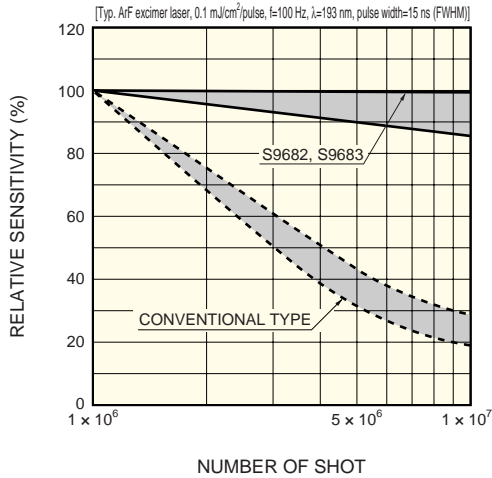
■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Reverse voltage	VR Max.	5	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	S9682			S9683			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Spectral response range	λ		-	193 to 1000	-	-	193 to 1000	-	nm
Peak sensitivity wavelength	λ_p		-	760	-	-	760	-	nm
Photo sensitivity	S	$\lambda=193$ nm	45	60	-	45	60	-	mA/W
Dark current	ID	VR=10 mV	-	0.02	0.5	-	0.05	1.0	nA
Terminal capacitance	Ct	VR=0 V, f=10 kHz	-	1.0	-	-	4.0	-	nF
Rise time	tr	VR=0 V, RL=1 k Ω 10 to 90 %	-	2	-	-	9	-	μ s

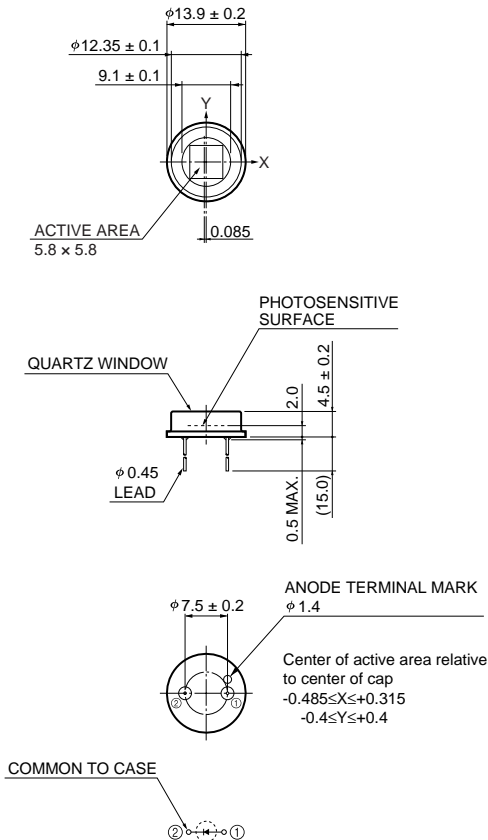
■ Variation in sensitivity due to VUV exposure



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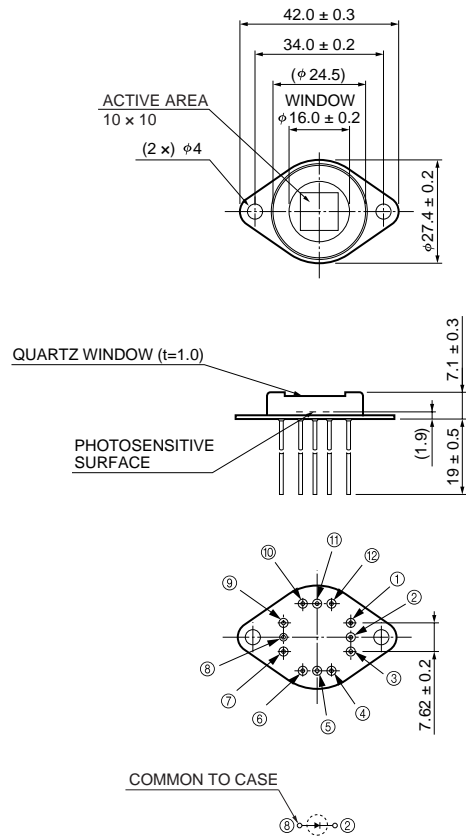
■ Dimensional outlines (unit: mm)

S9682



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S9683



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