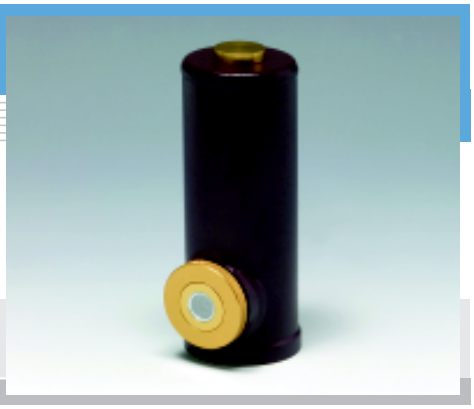
MCT photovoltaic detector
P9697 series

Photovoltaic detector with high-speed response and low noise



Features

- Excellent output linearity
- High-speed response

Applications

- FTIR
- Thermal camera
- Radiation thermometer
- Infrared spectrophotometer
- Environmental measurement
- Astronomy and space observation

■ General ratings

Parameter	P9697-01	P9697-02	Unit
Window material	ZnS		-
Package	Metal dewar		-
Cooling type	Liquid nitrogen		-
Active area	φ0.5	φ 1	mm

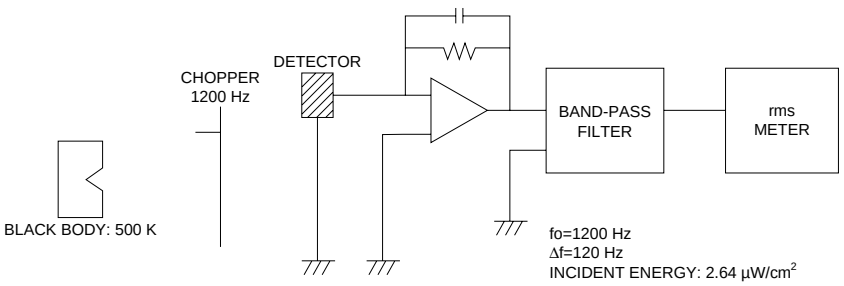
■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Reverse voltage	V_R	0.5	V
Operating temperature	Topr	-40 to +60	°C
Storage temperature	Tstg	-55 to +60	°C

■ Electrical and optical characteristics (T= -196 °C)

Parameter	Symbol	Condition	P9697-01			P9697-02			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Peak sensitivity wavelength	λp		-	11	-	-	11	-	μm
Cut-off wavelength	λc		-	13	-	-	13	-	μm
Photo sensitivity	S		-	3	-	-	3	-	A/W
Shunt resistance	Rsh		-	500	-	-	200	-	Ω
Detectivity	D*	(500 K, 1200, 1)	7.5×10^9	1.5×10^{10}	-	7.5×10^9	1.5×10^{10}	-	cm·Hz$^{1/2}$/W
		(λp, 1200, 1)	1.5×10^{10}	3.0×10^{10}	-	1.5×10^{10}	3.0×10^{10}	-	
Noise Equivalent Power	NEP	λ=λp	-	1.5×10^{-12}	3.0×10^{-12}	-	3.0×10^{-12}	5.9×10^{-12}	W/Hz$^{1/2}$
Rise time	tr		-	150	-	-	200	-	ns

■ Measurement circuit



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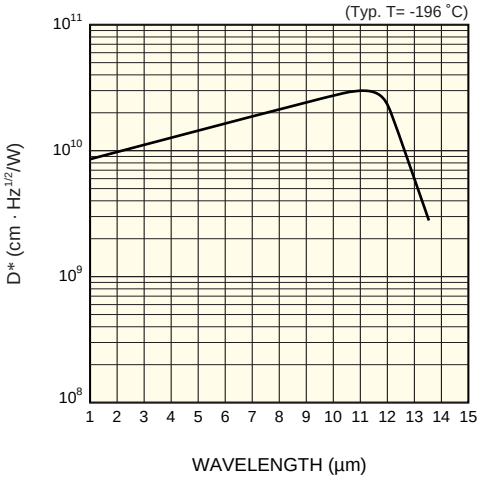
■ Spectral response



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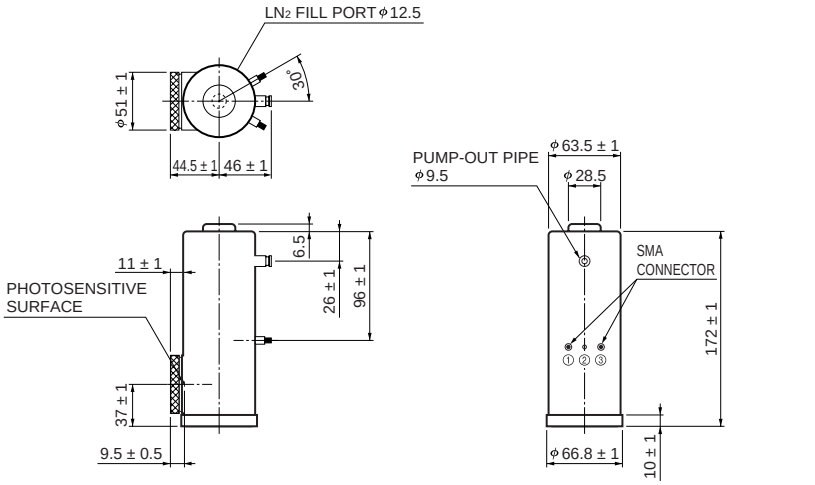
■ Dimensional outline (unit: mm)



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