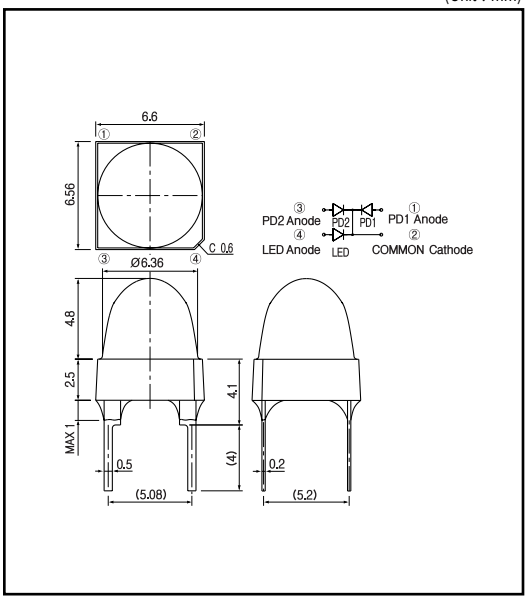
SG - 302

The SG - 302 reflective sensor for paper sensing combine high - output GaAs IRED with high sensitivity photodiode. It is most applicable to tilt sensor.

DIMENSIONS (Unit : mm)



FEATURES
- High performance
- High - speed response

APPLICATIONS
- Tilt sensor
- LD player

MAXIMUM RATINGS (Ta=25℃)

	Item	Symbol	Rating	Unit
Emitter	Forward current	I_F	30	mA
	Reverse voltage	V_R	5	V
	Power dissipation	P_D	45	mW
Detector	Reverse voltage	V_R	20	V
	Power dissipation	P_D	30	mW
	Operating temp.	Topr.	- 10 ~ + 70	℃
Storage temp.		Tstg.	- 30 ~ + 80	℃
Soldering temp.		Tsol.	260*1	℃

*1. For MAX. 5 seconds at the position of 1mm from the package

ELECTRO-OPTICAL CHARACTERISTICS (Ta=25℃)

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit.
Emitter	Forward voltage	V_F	I_F=10mA		1.17	1.45	V
	Peak wavelength	λp	I_F=10mA		940		nm
	Spectral bandwidth 50%	Δλ	I_F=10mA		50		nm
Detector	Sensitivity	S	λ=900nm, V_R=5V		0.5		μA
	Dark current	I_D	E_V=0lx, V_R=10V			0.2	μA
	Max.sens wavelenght	λp			900		nm
	Switching speed	tr	V_R=0V, R_L=10kΩ		0.6		μA

Tilt Sensor

SG - 302

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25℃)

Item			Symbol	Conditions		Min.	Typ.	Max.	Unit.
Combination characteristics	Zero offset		θoff	h=ho mm, Ψ=0		-2.5		2.5	deg.
	Offset change	Temperature	Δ θoff	h=ho mm, Ψ=0			±0.1		deg.
		Distance		h=ho±2mm, Ψ=0		-0.15		0.15	deg.
		Tangential inclination		h=ho mm, Ψ=±3[deg.]		-0.10		0.1	deg.
Combination characteristics	Absolute sensitivity		V(a-b)/θ	A Rank	h=ho mm, Ψ=0	0.41		0.64	V/deg.
				B Rank		0.60		0.95	V/deg.
				C Rank		0.89		1.42	V/deg.
	Sensitivity temperature characteristic		Vr	h=ho mm, Ψ=0			±30		%
	Sensitivity pifference		Vs	h=ho mm, Ψ=0		-15		15	%
	Total light		V(a+b)	h=ho mm, Ψ=0		0.8			V
			$V_{1Max.}$	h=ho mm				5.5	V
	Stray light(sun)		V_{C1}	No incident Light				140	mV
	Stray light(difference)		V_{C2}			-18		18	
	Sensitivity decrease angle			h=ho mm, Ψ=0		±4			deg.
	Error peak angle			h=ho mm, Ψ=0		±2			deg.

*ho = 9.2mm

*Measurement Circuit : Refer to Figure 1.

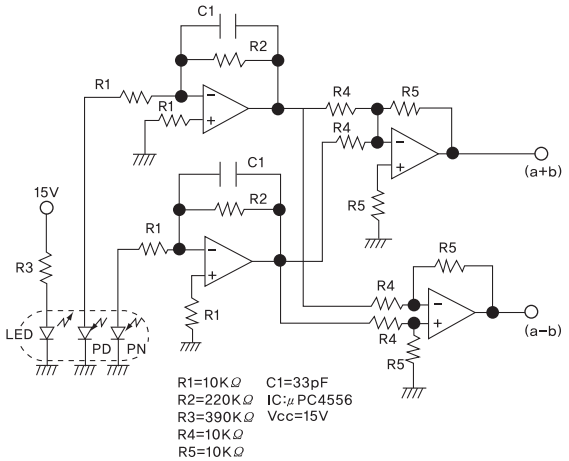


Figure 1