

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.

FEATURES

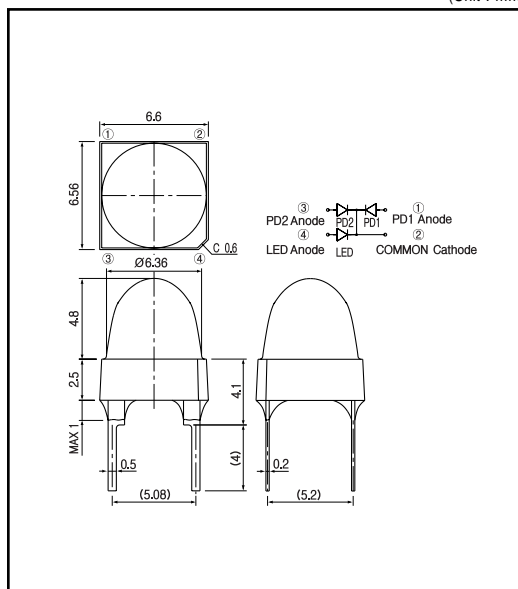
- High performance
- High - speed response

APPLICATIONS

- Tilt sensor
- LD player

DIMENSIONS

(Unit : mm)

**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
	Reverse voltage	V_R	20	V
Detector	Power dissipation	P_D	30	mW
	Operating temp.	$T_{opr.}$	- 10 ~ + 70	
	Storage temp.	$T_{stg.}$	- 30 ~ + 80	
	Soldering temp.	$T_{sol.}$	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	$I_F = 10\text{mA}$		1.17	1.45	V
	Peak wavelength	λ_p	$I_F = 10\text{mA}$		940		nm
	Spectral bandwidth 50%		$I_F = 10\text{mA}$		50		nm
Detector	Sensitivity	S	$\lambda = 900\text{nm}, V_R = 5\text{V}$		0.5		μA
	Dark current	I_D	$E_v = 0\text{k}, V_R = 10\text{V}$			0.2	μA
	Max. sens wavelength	λ_p			900		nm
	Switching speed	t_r	$V_R = 0\text{V}, R_L = 10\text{k}$		0.6		μA

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25)

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit.	
Combination characteristics	Zero offset	off	$h=h_{mm}, =0$	- 2.5		2.5	deg.	
	Offset change	off	Temperature	$h=h_{mm}, =0$		± 0.1	deg.	
			Distance	$h=h \pm 2mm, =0$	- 0.15		0.15	deg.
			Tangential inclination	$h=h_{mm}, = \pm 3[deg.]$	- 0.10		0.1	deg.
Combination characteristics	Absolute sensitivity	$V(a - b)/$	A Rank	$h=h_{mm}, =0$	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	V_r	$h=h_{mm}, =0$		± 30		%	
	Sensitivity pifferece	V_s	$h=h_{mm}, =0$	- 15		15	%	
	Total light	$V(a+b)$	$h=h_{mm}, =0$	0.8			V	
	Stray light(sun)	V_{C1}	$h=h_{mm}$			5.5	V	
	Stray light(difference)	V_{C2}	No incident Light	- 18		18	mV	
Sensitivity decrease angle		$h=h_{mm}, =0$	± 4			deg.		
Error peak angle		$h=h_{mm}, =0$	± 2			deg.		

* $h_o = 9.2mm$

*Measurement Circuit : Refer to Figure 1.

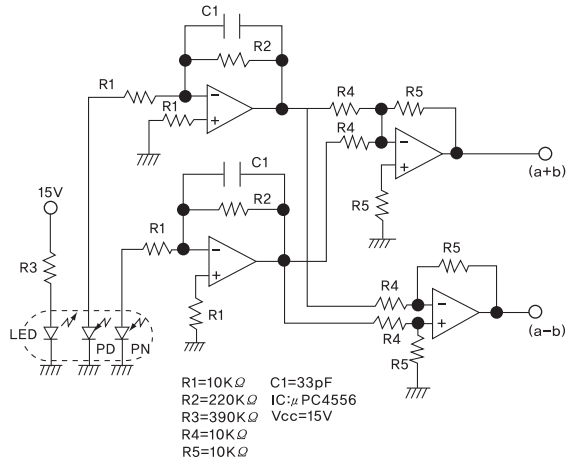


Figure 1