GP1S563/GP1S566

Long Case, Snap-in Mounting Type Photointerrupter

■ Features

1. Long case type
   Case height
   (**GP1S563** : 20.9mm)
   (**GP1S566** : 21.9mm)
2. Snap-in mounting type
3. Gap between light emitter and detector : 3.0mm
4. Case width : 5.0mm

■ Applications

1. VCR

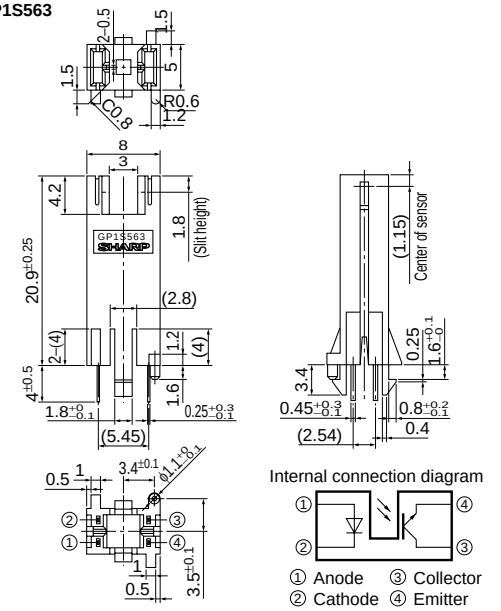
■ Absolute Maximum Ratings (Ta=25˚C)

	Parameter	Symbol	Rating	Unit
Input	*1 Forward current	I_F	50	mA
	*1,2 Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P	75	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitterr-collector voltage	V_{ECO}	6	V
	Collector current	I_C	20	mA
	*1 Collector power dissipation	P_C	75	mW
	Operating temperature	T_{opr}	–25 to +85	˚C
	Storage temperature	T_{stg}	–40 to +100	˚C
	*3 Soldering temperature	T_{sol}	260	˚C

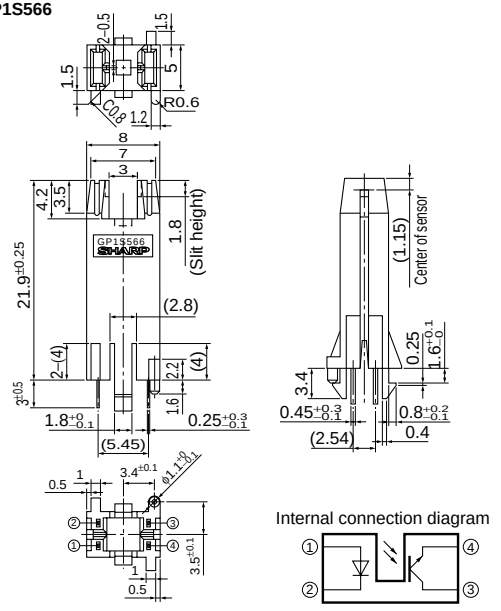
*1 The derating factors of absolute maximum ratings due to ambient temperature are shown in Fig.1 to 3
*2 Pulse width<=100μs, Duty ratio : 0.01
*3 For 5s

■ Outline Dimensions (Unit : mm)

GP1S563



GP1S566



❋ Unspecified tolerance : ±0.2mm
❋ ( ) : Reference dimensions

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Internet Internet address for Electronic Components Group http://www.sharp.co.jp/ecg/

■ Electro-optical Characteristics

(Ta=25˚C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V_F	I_F=20mA	–	1.25	1.4	V
	Peak forward voltage		V_{FM}	I_{FM}=0.5A	–	3	4	V
	Reverse current		I_R	V_R=3V	–	–	10	μA
Output	Collector dark current		I_{CEO}	V_{CE}=20V	–	1	100	nA
Transfer characteristics	Collector current	**GP1S563**	I_C	V_{CE}=5V, I_F=20mA	0.5	–	15	mA
		GP1S566	I_C	V_{CE}=5V, I_F=20mA	0.5	–	5.0	mA
	Collector-emitter saturation voltage		$V_{CE\ (sat)}$	I_F=40mA, I_C=0.5mA	–	–	0.4	V
	Response time	Rise time	t_r	V_{CE}=2V,I_C=2mA, R_L=100Ω	–	3	15	μs
		Fall time	t_f		–	4	20	μs

Fig.1 Forward Current vs. Ambient Temperature

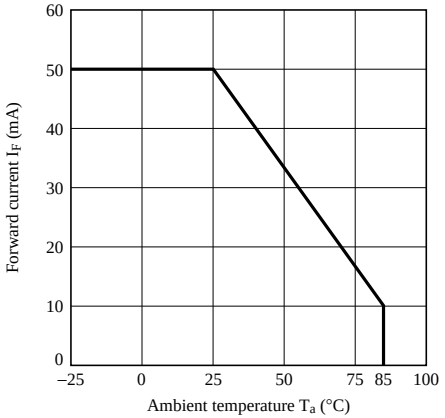


Fig.2 Collector Power Dissipation vs. Ambient Temperature

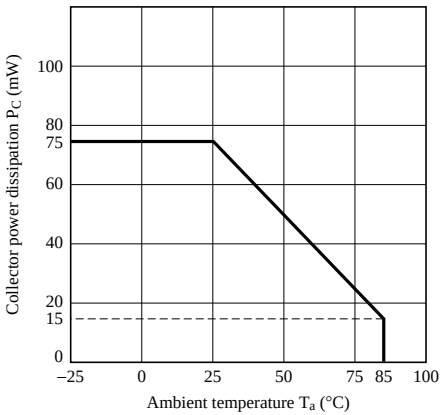


Fig.3 Peak Forward Current vs. Duty Ratio

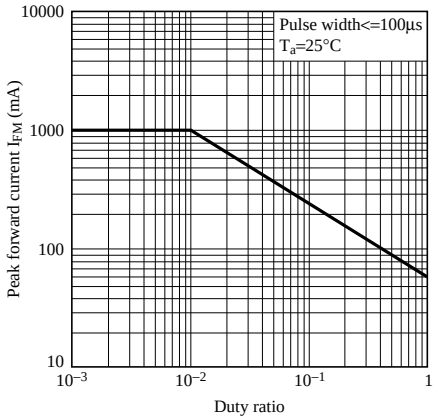


Fig.4 Forward Current vs. Forward Voltage

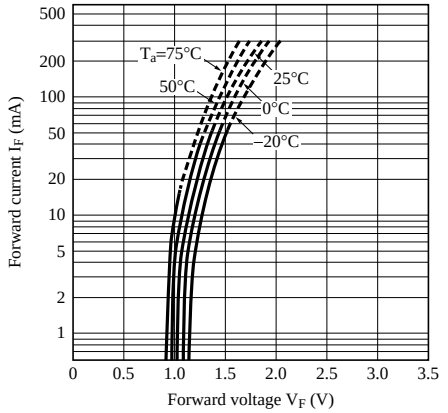


Fig.5 Collector Current vs. Forward Current

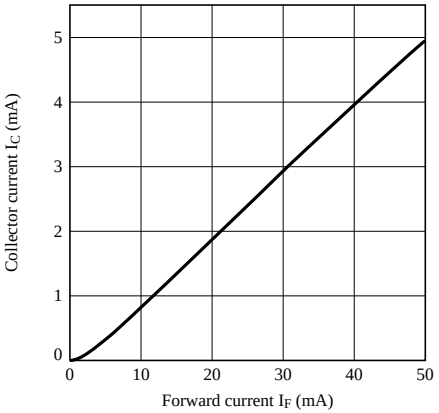


Fig.6 Collector Current vs. Collector-emitter Voltage

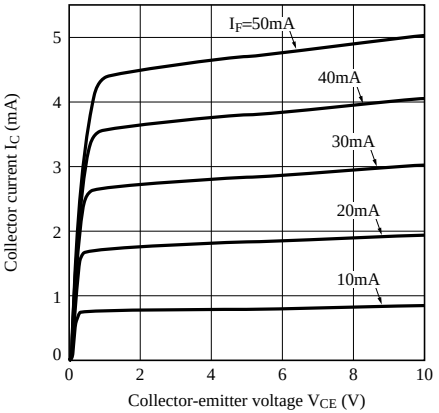


Fig.7 Collector Current vs. Ambient Temperature

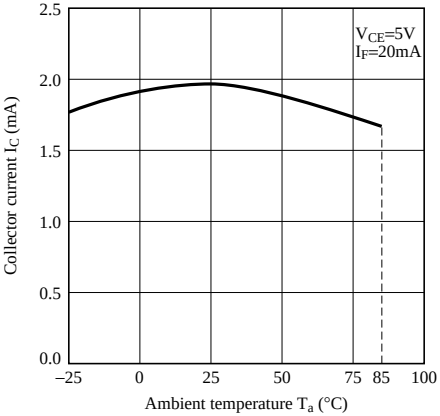


Fig.8 Collector - emitter Saturation Voltage vs. Ambient Temperature

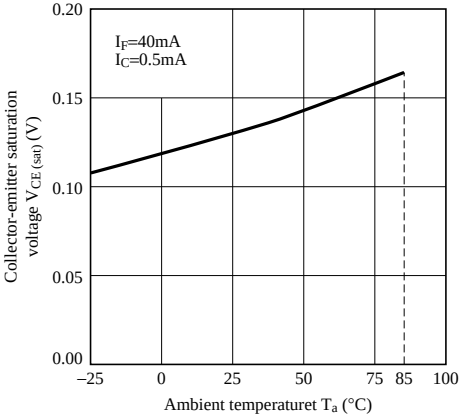


Fig.9 Collector Dark Current vs. Ambient Temperature

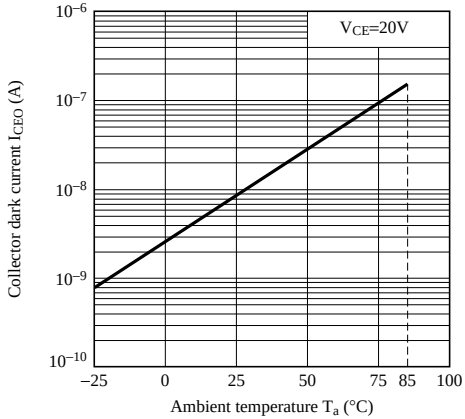


Fig.10 Response Time vs. Forward Current

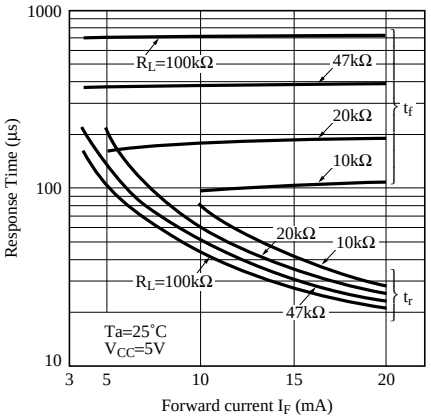


Fig.11 Response Time vs. Ambient Temperature

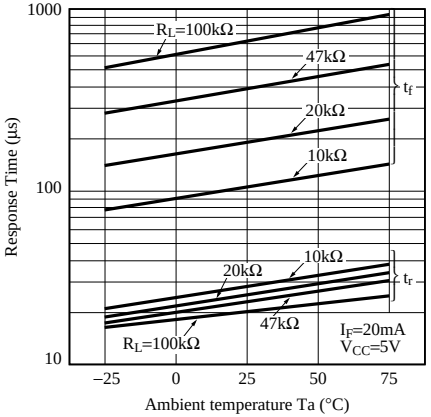


Fig.12 Test Circuit For Response Time

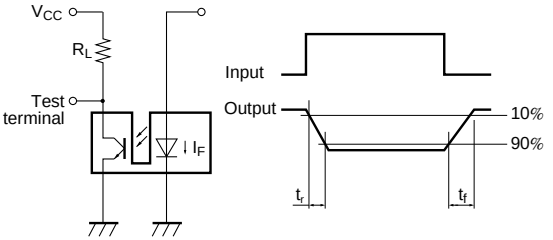


Fig.13 Relative Output Current vs. Moving Distance (Xdirection)

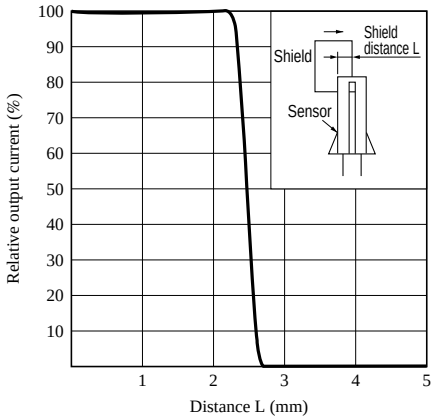
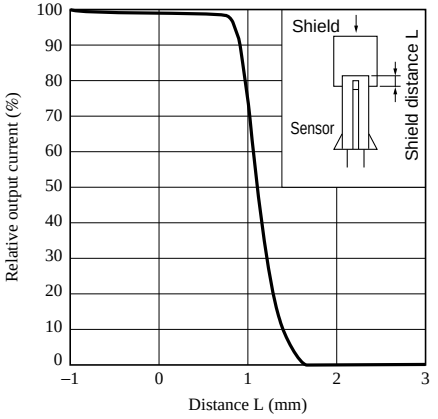


Fig.14 Relative Output Current vs. Moving Distance (Xdirection)



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