SHARP GP1S092HCPI

## GP1S092HCPI

### **■** Features

1. Subminiature, transmissive type (4.5×2.6×2.9mm)

2. Surface mount type

3. Wide gap (Gap width : 2mm)4. Slit width (Detector side) : 0.3mm

5. Tape-packaged product

#### ■ Applications

1. Cameras

2. CD-ROM drives

3. VCR

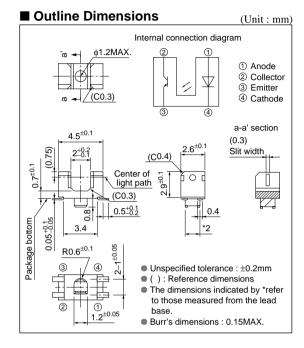
■ Absolute Maximum Ratings

(Ta=25°C)

	Parameter	Symbol	Rating	Unit	
Input	Forward current	IF	50	mA	
	Reverse voltage	VR	6	V	
	Power dissipation	P	75	mW	
Output	Collector-emitter voltage	Vceo	35	V	
	Emitter-collector voltage	VECO	6	V	
	Collector current	Ic	20	mA	
	Collector power dissipation	Pc	75	mW	
Total power dissipation		Ptot	100	mW	
Operating temperature		Topr	-25 to +85	°C	
	Storage temperature	Tstg	-40 to +100	°C	
*1 Soldering temperature		Tsol	260	°C	

<sup>\*1</sup> For MAX. 5s

# **Subminiature, Surface Mount Type Photointerrupter**



■ Electro-optical Characteristics (Ta=									
Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Input	Forward voltage		VF	I=20mA	_	1.2	1.4	V	
	Reverse current		IR	$V_R=3V$	_	-	10	μΑ	
Output	Collector dark current		Iceo	Vce=20V	-	_	100	nA	
Transfer characte- ristics	Collector current		Ic	Vce=5V, I <sub>F</sub> =5mA	100	_	400	μΑ	
	Collector-emitter saturation voltage		V <sub>CE(sat)</sub>	I <sub>F</sub> =10mA, I <sub>C</sub> =40μA	-	_	0.4	V	
	Response time	Rise time	tr	$V_{CE}=5V$ , $I_{C}=100\mu A$	_	50	150	μs	
		Fall time	tf	$R_L=1~000\Omega$	_	50	150	μs	

Fig.1 Forward Current vs. Ambient Temperature

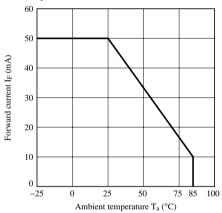


Fig.3 Forward Current vs. Forward Voltage

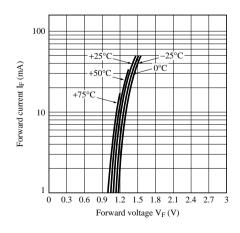


Fig.2 Power Dissipation vs. Ambient Temperature

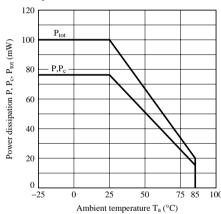
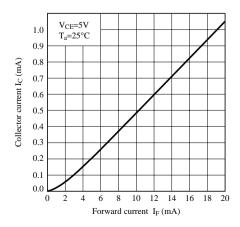


Fig.4 Collector Current vs. Forward Current



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Fig.5 Collector Current vs. Collector-emitter Voltage

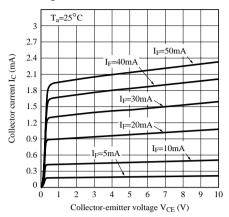


Fig.7 Collector - emitter Saturation Voltage vs. Ambient Temperature

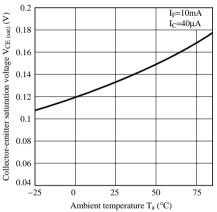


Fig.9 Response Time vs. Load Resistance

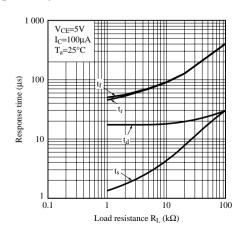


Fig.6 Relative Collector Current vs. Ambient Temperature

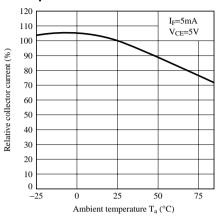


Fig.8 Collector Dark Current vs.
Ambient Temperature

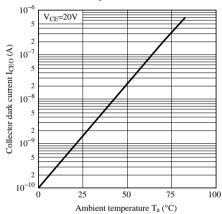
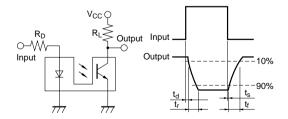


Fig.10 Test Circuit for Response Time



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Fig.11 Relative Collector Current vs. Shield Distance (1)

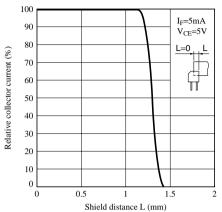
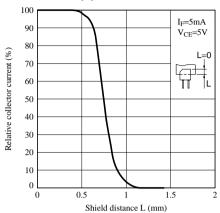


Fig.12 Relative Collector Current vs. Shield Distance (2)



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  - Traffic signals
  - Gas leakage sensor breakers
  - Alarm equipment
  - Various safety devices, etc.
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