GP2S03

Long Focal Distance Type Photointerrupter

■ Features

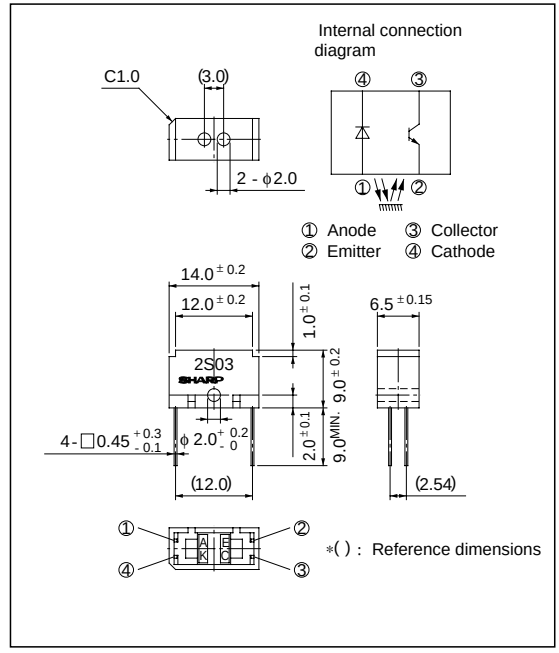
1. Long focal distance（4mm）
2. Visible light cut-off type

■ Applications

1. Analyzers, measuring instruments
2. Copiers, printers
3. Optoelectronic switches, optoelectronic cunters

■ Outline Dimensions

（Unit： mm）



■ Absolute Maximum Ratings

（Ta= 25˚C）

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	*1Peak 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
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	20	mA
	Collector power dissipation	P_C	75	mW
Operating temperature		T_{opr}	- 25 to + 85	˚C
Storage temperture		T_{stg}	- 40 to + 100	˚C
*2Soldering temperature		T_{sol}	260	˚C

∗1 Pulse width<= 100μs, Duty ratio = 0.01
∗2 For 5 seconds

■ Electro-optical Characteristics

(Ta = 25˚C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V_F	I_F = 20mA	-	1.2	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	-	10^{-9}	10^{-7}	A
Transfer-characteristics	*3Collector Current		Ic	I_F = 20mA, V_{CE} = 5V	0.16	-	-	mA
	Response time	Rise time	t_r	I_C = 200 μA, V_{CE} = 2V, R_L = 1kΩ d = 5mm	-	30	90	μs
		Fall time	t_f		-	40	120	
	*4Leak current		I_{LEAK}	I_F = 20mA, V_{CE} = 5V	-	-	10	μA

*3 Test method: A reflective object shall be an OMS test card (white) specified by Sharp, and be 5.0mm away from the sensor.
*4 Whithout reflective object.

Fig. 1 Forward Current vs. Ambient Temperature

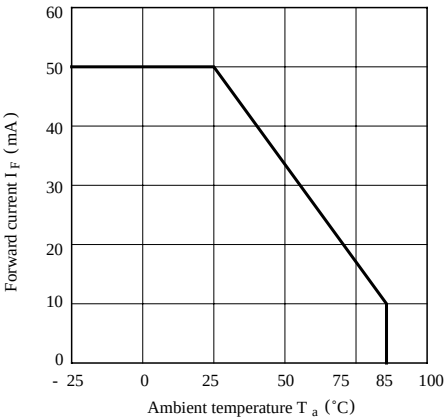


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

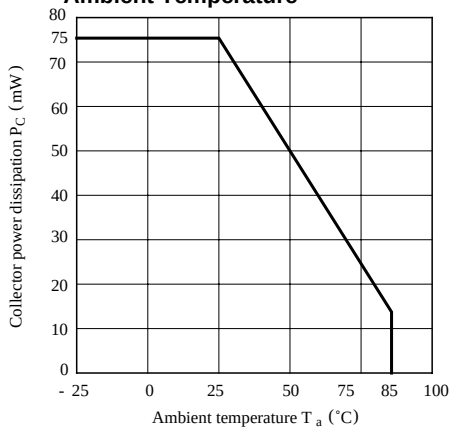


Fig. 3 Peak Forward Current vs. Duty Ratio

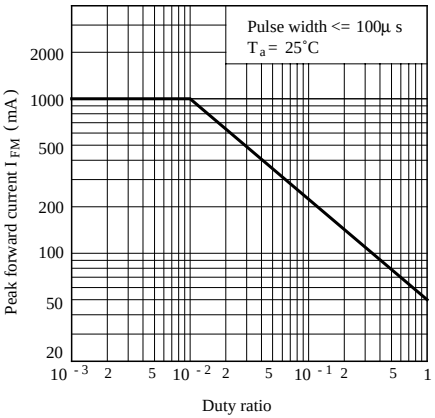


Fig. 4 Forward Current vs. Forward Voltage

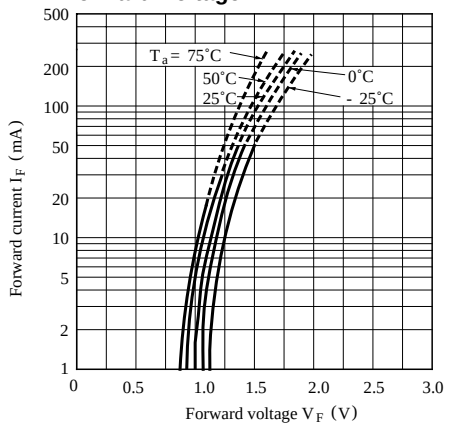


Fig. 5 Collector Current vs. Forward Current

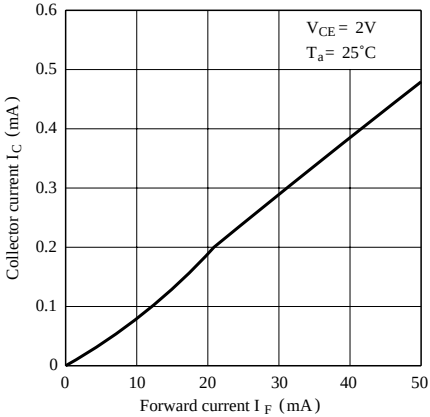


Fig. 6 Collector Current vs. Collector-emitter Voltage

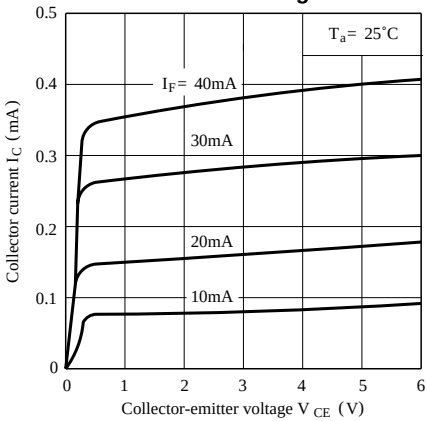
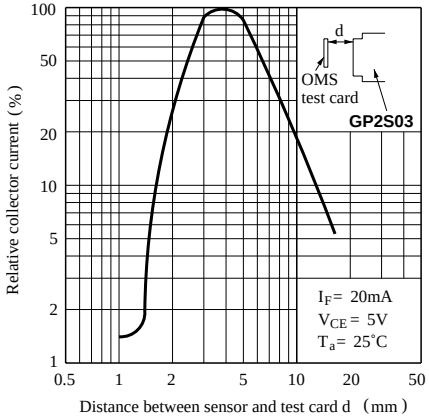


Fig. 7 Relative Collector Current vs. Distance between Sensor and Card



- Please refer to the chapter " Precautions for Use".