GP1S39

Features

- 1. Ultra-compact package
- 2. PWB mounting type
- 3. Double-phase phototransistor output type for detecting of rotation direction and count
- 4. Wide gap between light emitter and detector: 1.5mm
- 5. Slit width: 0.8mm
- 6. Detecting pitch: 0.6mm

Applications

- 1. Mouses
- 2. Cameras

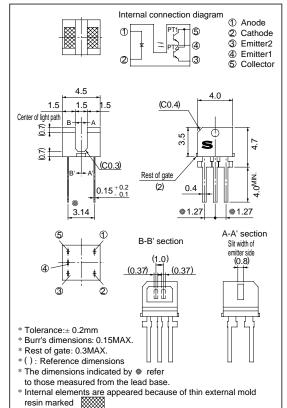
Ab	solute Maximum Rating	$(Ta = 25^{\circ}C)$			
	Parameter	Symbol	Rating	Unit	
Input	Forward current	IF	50	mA	
	Reverse voltage	V _R	6	V	
	Power dissipation	Р	75	mW	
	Collector-emitter voltage	V_{CE_1O}	35	v	
	concetor emitter voltage	V _{CE2} 0		-	
	Emitter-collector voltage	V_{E_1CO}	6	v	
Output		V_{E_2CO}	0	•	
	Collector current	Ic	20	mA	
	Collector power dissipation	Pc	75	mW	
	Total power dissipation	P tot	100	mW	
Operating temperature		Topr	- 25 to + 85	°C	
	Storage temperature	T _{stg}	- 40 to + 100	°C	
*1Soldering temperature		T _{sol}	260	°C	

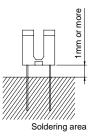
*1 For 5 seconds

Subminiature, Double-phase Output, Wide Gap Photointerrupter

Outline Dimensions

(Unit: mm)





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Electro-optical Characteristics

 $(Ta = 25^{\circ}C)$

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Input	Forward voltage		VF	$I_F = 20 m A$	-	1.2	1.4	V
	Reverse current		IR	$V_R = 3V$	-	-	10	μA
Output	Collector dark current		ICEO	$V_{CE} = 20V$	-	-	100	nA
Transfer charact- eristics	Collector current		Ic	$V_{CE} = 5V, I_F = 4mA$	130	-	520	μA
	Collector current ratio		I_{C1}/I_{C2}	$V_{CE} = 5V, I_F = 4mA$	0.67	-	1.5	-
	Collector-emitter saturation voltage		V CE(sat)	$I_F=8mA,$ I $_C=50~\mu$ A	-	-	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

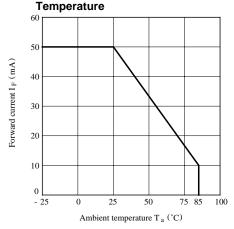


Fig. 3 Forward Current vs. Forward Voltage

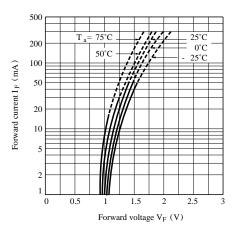


Fig. 2 Power Dissipation vs. Ambient Temperature

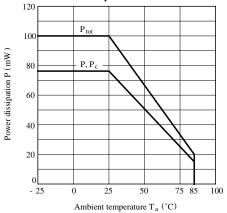
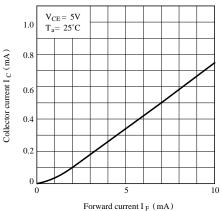
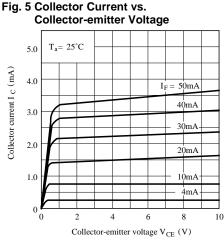


Fig. 4 Collector Current vs. Forward Current







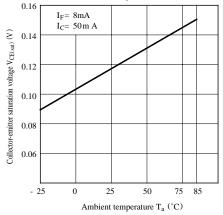
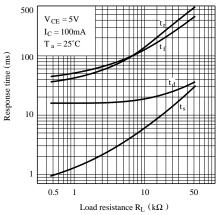
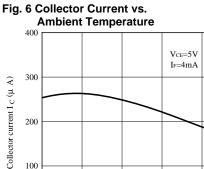


Fig. 9 Response Time vs. Load Resistance





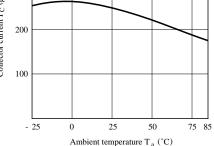
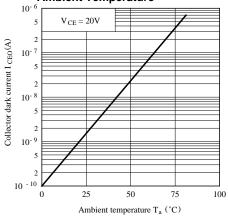
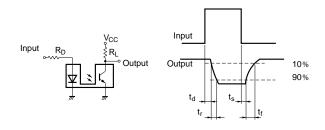


Fig. 8 Collector Dark Current vs. Ambient Temperature



Test Circuit for Response Time



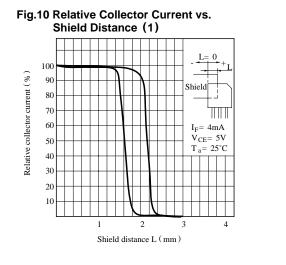
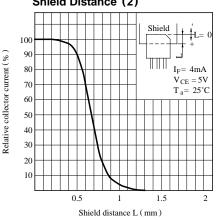


Fig.11 Relative Collector Current vs. Shield Distance (2)



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

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 - Test and measurement equipment
 - Industrial control
 - Audio visual equipment
 - Consumer electronics

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- Alarm equipment
- Various safety devices, etc.

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