GP1S097HCZ

Features

- 1. General purpose
- 2. With positioning hole
- 3. Wide gap(Gap width:2.0mm)
- 4. Slit width(Detector side):0.3mm

Applications

- 1. Cameras
- 2. CD-ROM drives
- 3. VCR

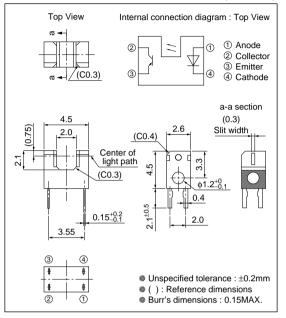
Absolute Maximum Ratings (Ta=25°C)								
Parameter	Symbol	Rating	Unit					
Forward current	IF	50	mA					
Reverse voltage	VR	6	V					
Power dissipation	Р	75	mW					
Collector-emitter voltage	VCEO	35	V					
Emitter-collector voltage	VECO	6	V					
Collector current	Ic	20	mA					
Collector power dissipation	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					
	Parameter Forward current Reverse voltage Power dissipation Collector-emitter voltage Emitter-collector voltage Collector current Collector power dissipation Total power dissipation Operating temperature Storage temperature	Parameter Symbol Forward current IF Reverse voltage VR Power dissipation P Collector-emitter voltage VCEO Emitter-collector voltage VECO Collector current IC Collector power dissipation PC Total power dissipation Ptot Operating temperature Topr Storage temperature Tstg	ParameterSymbolRatingForward currentIF50Reverse voltageVR6Power dissipationP75Collector-emitter voltageVCEO35Emitter-collector voltageVECO6Collector currentIc20Collector power dissipationPc75Total power dissipationPtot100Operating temperature T_{opr} -25 to +85Storage temperature T_{stg} -40 to +100					

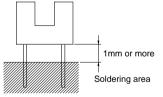
*1 For MAX. 5s

Subminiature, Transmissive Type Photointerrupter with Positioning Hole

Outline Dimensions

(Unit : mm)





Notice In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device. Internet address for Electronic Components Group http://www.sharp.co.jp/ecg/

■ Electro-optical Characteristics										
Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit			
Input	Forward voltage		$V_{\rm F}$	IF=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, IF=5mA	100	-	400	μA		
	Collector-emitter saturation voltage		V _{CE(sat)}	IF=10mA, Ic=40µA	-	-	0.4	V		
	Response time	Rise time	tr	Vce=5V, Ic=100µA	-	50	150	μs		
		Fall time	tr	Rl=1 000Ω	-	50	150	μs		

Fig.1 Forward Current vs. Ambient Temperature

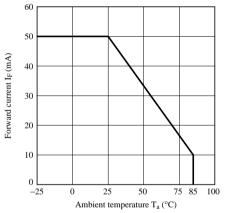


Fig.3 Forward Current vs. Forward Voltage

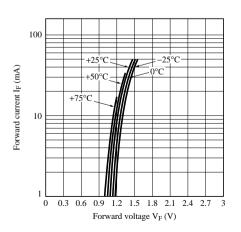


Fig.2 Power Dissipation vs. Ambient Temperature

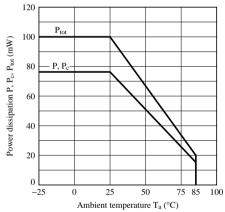


Fig.4 Collector Current vs. Forward Current

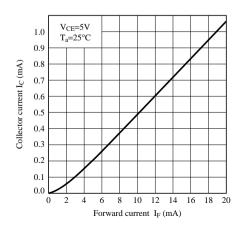


Fig.5 Collector Current vs. Collector-emitter Voltage

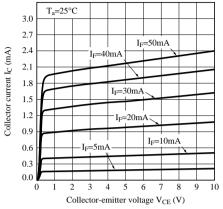


Fig.7 Collector - emitter Saturation Voltage vs. Ambient Temperature

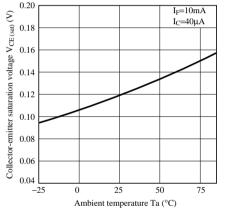


Fig.9 Response Time vs. Load Resistance

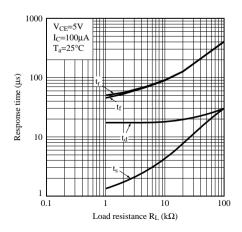


Fig.6 Relative Collector Current vs. Ambient Temperature

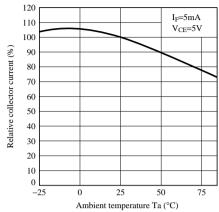


Fig.8 Collector Dark Current vs. Ambient Temperature

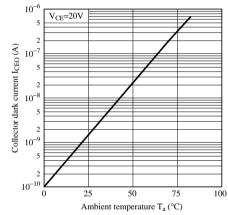


Fig.10 Test Circuit for Response Time

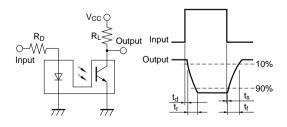


Fig.11 Relative Collector Current vs. Shield Distance (1)

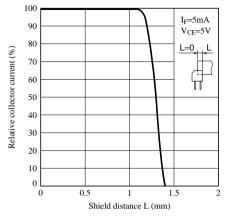
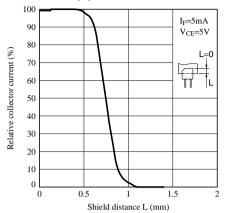


Fig.12 Relative Collector Current vs. Shield Distance (2)



NOTICE

- •The circuit application examples in this publication are provided to explain representative applications of SHARP devices and are not intended to guarantee any circuit design or license any intellectual property rights. SHARP takes no responsibility for any problems related to any intellectual property right of a third party resulting from the use of SHARP's devices.
- •Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device. SHARP reserves the right to make changes in the specifications, characteristics, data, materials, structure, and other contents described herein at any time without notice in order to improve design or reliability. Manufacturing locations are also subject to change without notice.
- •Observe the following points when using any devices in this publication. SHARP takes no responsibility for damage caused by improper use of the devices which does not meet the conditions and absolute maximum ratings to be used specified in the relevant specification sheet nor meet the following conditions:
 - (i) The devices in this publication are designed for use in general electronic equipment designs such as:
 - Personal computers
 - Office automation equipment
 - Telecommunication equipment [terminal]
 - Test and measurement equipment
 - Industrial control
 - Audio visual equipment
 - Consumer electronics

(ii)Measures such as fail-safe function and redundant design should be taken to ensure reliability and safety when SHARP devices are used for or in connection with equipment that requires higher reliability such as:

- Transportation control and safety equipment (i.e., aircraft, trains, automobiles, etc.)
- Traffic signals
- Gas leakage sensor breakers
- Alarm equipment
- Various safety devices, etc.

(iii)SHARP devices shall not be used for or in connection with equipment that requires an extremely high level of reliability and safety such as:

- Space applications
- Telecommunication equipment [trunk lines]
- Nuclear power control equipment
- Medical and other life support equipment (e.g., scuba).
- •Contact a SHARP representative in advance when intending to use SHARP devices for any "specific" applications other than those recommended by SHARP or when it is unclear which category mentioned above controls the intended use.
- •If the SHARP devices listed in this publication fall within the scope of strategic products described in the Foreign Exchange and Foreign Trade Control Law of Japan, it is necessary to obtain approval to export such SHARP devices.
- •This publication is the proprietary product of SHARP and is copyrighted, with all rights reserved. Under the copyright laws, no part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, in whole or in part, without the express written permission of SHARP. Express written permission is also required before any use of this publication may be made by a third party.
- •Contact and consult with a SHARP representative if there are any questions about the contents of this publication.