SHARP

Under development	
New product	●

PC3SG11YIZ/PC3SG21YIZ Phototriac Coupler

Reinforced Insulation Type Phototriac Coupler for Triggering

■ General Description

The **PC3SG11YIZ/PC3SG21YIZ** is a mini-flat, reinforced insulation type phototriac coupler which is ready for use in miniaturized equipment.

■ Features

(1) Mini-flat package
(2) Reinforced insulation type
(Isolation thickness: 0.4mm)
Conforms to the unified European standard EN60950 when used in an SSR.
(3) Model line-up

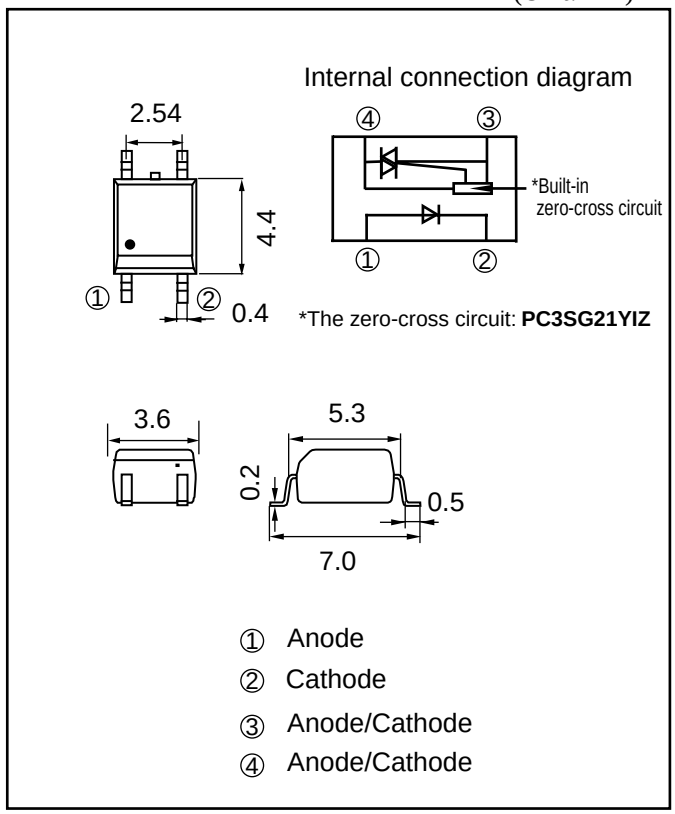
	For a 200V line
Without zero-cross circuit	**PC3SG11YIZ**
With zero-cross circuit	**PC3SG21YIZ**

■ Applications

(1) SSRs

■ Outline Dimensions

(Unit: mm)



■ Absolute Maximum Ratings

(Ta=25˚C)

Parameter		Symbol	Ratings	Unit
Input	Forward current	I_F	50	mA
	Reverse voltage	V_R	6	V
Output	RMS ON-state current	$I_{T(rms)}$	50	mA
	*1 Peak one cycle surge current	I_{surge}	0.6	A
	Repetitive peak OFF-state voltage	V_{DRM}	600	V
*2	Isolation voltage	$V_{iso(rms)}$	3 750	V
	Operating temperature	T_{opr}	–30 to +100	˚C
	Storage temperature	T_{stg}	–40 to +125	˚C
*3	Soldering temperature	T_{sol}	260	˚C

*1: 50Hz sine wave
*2: AC for 1 minute, RH=40 to 60%, f=60Hz
*3: For 10s

PC3SG11YIZ/PC3SG21YIZ Phototriac Coupler

■ Electrical Characteristics

(Ta=25˚C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V_F	I_F=20mA	–	1.2	1.4	V
	Reverse current		I_R	V_R=3V	–	–	10	μA
Output	Repetitive peak OFF-state current		I_{DRM}	V_D=V_{DRM}	–	–	1	μA
	ON-state voltage		V_T	I_T=0.05A	–	–	2.5	V
	Holding current		I_H	V_D=6V	0.1	–	3.5	mA
	Critical rate of rise of the OFF-state voltage		dv/dt	V_D= $(1/\sqrt{2}) \cdot V_{DRM}$	1 000	–	–	V/μs
	Zero-cross voltage (**PC3SG21YIZ**)		Vox	Resistance load,I_F=10mA	–	–	35	V
Transfer characteristics	Minimum trigger current		I_{FT}	V_D=6V, R_L=100Ω	–	–	10	mA
	Isolation resistance		R_{ISO}	DC500V, 40 to 60%RH	5×10^{10}	1×10^{11}	–	Ω
	Turn-on time	**PC3SG11YIZ**	t_{on}	V_D=6V, R_L=100Ω I_F=10mA	–	–	100	μs
		PC3SG21YIZ					50	

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.
-
- Contact and consult with a SHARP representative if there are any questions about the contents of this publication.