SHARP

Under development	
New product	●

PC4SE11NSZ// series Phototriac Coupler

Phototriac Coupler Conformable to European Safty Standard

■ General Description

Sharp's **PC4SE11NSZ// series** are phototriac couplers for triggering which are conformable to European safty standard.

They are suitable for driving of high surge equipment due to being approved by VDE standard and high value of repetitive peak OFF-state voltage(V_{DRM}: MIN. 800V)

■ Features

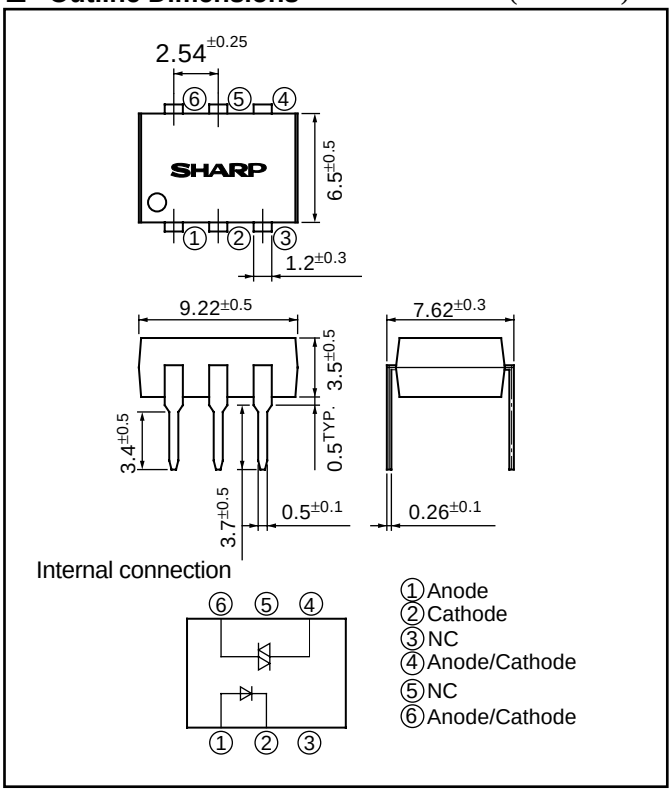
(1) Long focal distance(6.4mm or more)
(2) Internal isolation distance(0.5mm or more)
(3) Available VDE approved products
(**PC4SE11YSZ//**)
(4) High repetitive peak OFF-state voltage
(V_{DRM}: MIN. 800V)
(5) Isolation voltage(Viso: 5 000Vrms)

■ Applications

(1) Programmable controllers
(2) Automatic vending macines
(3) SSRs

■ Outline Dimensions

(Unit: mm)



■ Absolute Maxumum 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	$I_{T(rms)}$	0.1	A
	*1 Peak one cycle surge current	I_{surge}	1.2	A
	Repetitive peak OFF-state voltage	V_{DRM}	800	V
*2	Isolation voltage	$V_{iso(rms)}$	5.0	kV
	Operating temperature	T_{opr}	-30 to +100	˚C
	Storage temperature	T_{stg}	-55 to +125	˚C
*3	Soldering temperature	T_{sol}	260	˚C

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

PC4SE11NSZ// series Phototriac Coupler

■ 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
	Reverse current	I_R	V_R=3V	-	-	10^{-5}	A
Output	Repetitive peak OFF-state current	I_{DRM}	V_D=V_{DRM}	-	-	10^{-6}	A
	ON-state voltage	V_T	I_T=0.1A	-	1.6	3.0	V
	Holding current	I_H	V_D=6V	0.1	-	3.5	mA
	Critical rate of rise of OFF-state voltage	dv/dt	V_D=1/ $\sqrt{2}$ • Rated	50	-	-	V/μs
Transfer characteristics	Minimum trigger current	I_{FT}	V_D=6V, R_L=100Ω	-	-	10	mA
	Isolation resistance	R_{ISO}	DC500V, 40 to 60% RH	$5x10^{10}$	$1x10^{11}$	-	Ω
	Turn-on time	t_{on}	V_D=6V, R_L=100Ω, I_F=20mA	-	60	100	μs

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.
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(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).

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