

SHARP

Solid State Relay

PR21HD22NSZ series

Under development	
New product information	
Product information	●

Low Minimum Trigger Current Type Small Current SSR

General Description

Sharp's **PR21HD22NSZ series** is low minimum trigger current type small current SSR (16-pin DIP package).

Features

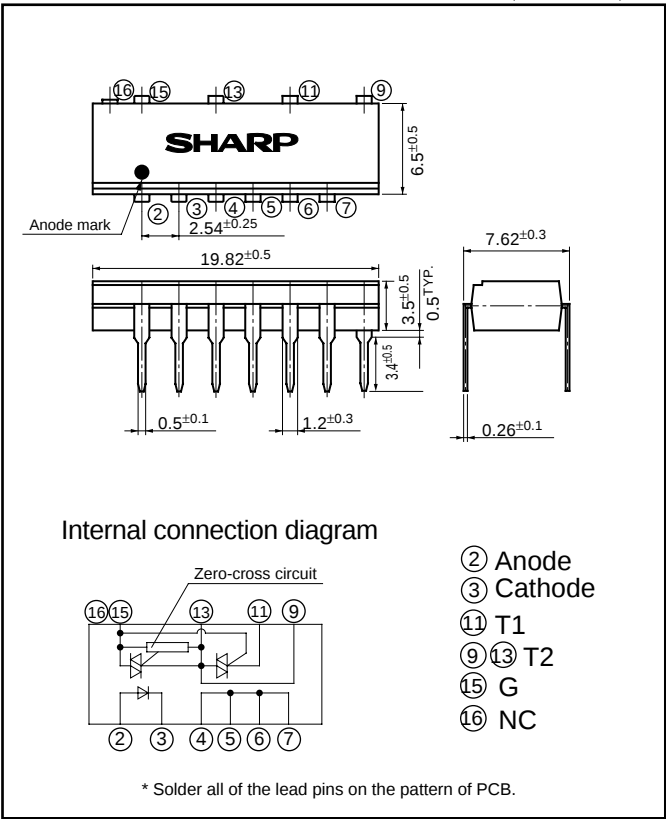
- (1) 16-pin DIP package
- (2) Low minimum trigger current($I_{FT}=5mA$)
- (3) RMS ON-state current ($I_T=1.5A_{rms}$)
- (4) With built-in zero-cross circuit
- (5) For 100 V lines (**PR21HD22NSZ**)
For 200 V lines (**PR31HD22NSZ**)
- (6) Isolation voltage (V_{iso} : 4 000Vrms)

Applications

- (1) TVs
- (2) VCRs
- (3) Various home appliances

Outline Dimensions

(Unit: mm)



Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Rating		Unit
		PR21HD22NSZ	PR31HD22NSZ	
Input	Forward current	I_F	50	mA
	Reverse voltage	V_R	6	V
Output	RMS ON-state current	I_T	1.5	A_{rms}
	*1 Peak one cycle surge current	I_{surge}	15	A
	Repetitive peak OFF-state voltage	V_{DRM}	400	600
	*2 Isolation voltage	V_{iso}	4 000	V_{rms}
Operating temperature		T_{opr}	-25 to +85	°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, 40 to 60% RH, f=60Hz

*3 For 10s

(Notice)

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• Specifications are subject to change without notice for improvement.

(Internet)

• Data for Sharp's optoelectronic/power devices is provided on internet. (Address <http://www.sharp.co.jp/ecg/>)

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Electrical Characteristics

(Ta=25°C)

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F=20\text{mA}$	-	1.2	1.4	V
	Reverse current	I_R	$V_R=3\text{V}$	-	-	10	μA
Output	Repetitive peak OFF-state current	I_{DRM}	$V_D=V_{DRM}$	-	-	100	μA
	ON-state voltage	V_T	$I_T=1.5\text{A}$	-	-	1.7	V
	Holding current	I_H	$V_D=6\text{V}$	-	-	25	mA
	Critical rate of rise of OFF-state voltage	dv/dt	$V_D = (1/\sqrt{2}) \cdot V_{DRM}$	100	-	-	V/ μs
	Zero-cross voltage	V_{OX}	Resistance load, $I_F=10\text{mA}$	-	-	35	V
Transfer characteristics	Minimum trigger current	I_{FT}	$V_D=6\text{V}$, $R_L=100\Omega$	-	-	5	mA
	Isolation resistance	R_{ISO}	DC500V, 40 to 60%RH	5×10^{10}	1×10^{11}	-	Ω
	Turn-on time	t_{on}	$V_D=6\text{V}$, $R_L=100\Omega$ $I_F=10\text{mA}$	-	-	100	μs

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Application Circuits

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 - 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:
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 - Traffic signals
 - Gas leakage sensor breakers
 - Alarm equipment
 - Various safety devices, etc.
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 - Nuclear power control equipment
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