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Under development	
New product	●

PR33MD22NSZ series Solid State Relay

Low Minimum Trigger Current Type Small Current SSR

■ General Description

Sharp's **PR33MD22NSZ series** is low minimum trigger current type small current SSR(8-pin DIP package).

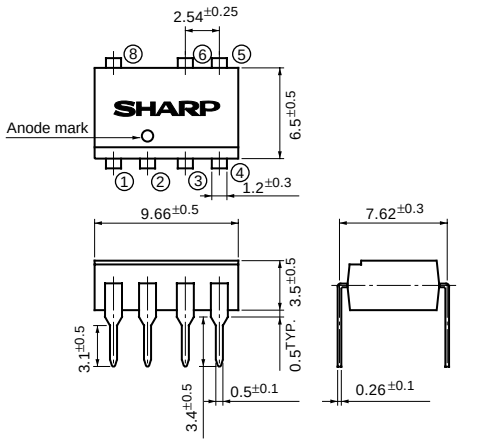
■ Features

(1) 8-pin DIP package
(2) Low minimum trigger current(I_{FT}=5mA)
(3) With built-in zero-cross circuit
(4) RMS ON-state current
I_T=0.3Arms: **PR33MD22NSZ**
I_T=0.6Arms: **PR36MD22NSZ**
I_T=0.9Arms: **PR29MD22NSZ**
I_T=0.9Arms: **PR39MD22NSZ**
(5) Isolation voltage(Viso: 4 000Vrms)

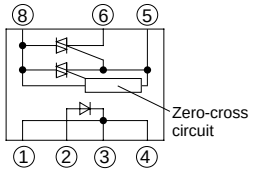
■ Applications

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

■ Outline Dimensions (Unit: mm)



Internal connection diagram



① Cathode ⑤ G
② Anode ⑥ T1
③ Cathode ⑧ T2
④ Cathode

■ Absolute Maximum Ratings

(Ta=25˚C)

Parameter			Symbol	Rating	Unit
Input		Forward current	I_F	50	mA
		Reverse voltage	V_R	6	V
Output		RMS ON-state current	I_T	※	A_{rms}
	*1	Peak one cycle surge current	I_{surge}	※※	A
		Repetitive peak OFF-state voltage	V_{DRM}	※※※	V
	*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

※ **PR33MD22NSZ** : 0.3Arms , **PR36MD22NSZ** : 0.6Arms , **PR29MD22NSZ** : 0.9Arms , **PR39MD22NSZ** : 0.9Arms
※※ **PR33MD22NSZ** : 3A , **PR36MD22NSZ** : 6A , **PR29MD22NSZ** , **PR39MD22NSZ** : 9A
※※※ **PR33MD22NSZ** , **PR36MD22NSZ** , **PR39MD22NSZ** : 600V, **PR29MD22NSZ** : 400V

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

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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/)

■ 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}	-	-	100	μA
	ON-state voltage	V_T	I_T=※※	-	-	3.0	V
	Holding current	I_H	V_D=6V	-	-	25	mA
	Critical rate of rise of OFF-state voltage	dv/dt	V_D= (1/ $\sqrt{2}$) • V_{DRM}	100	-	-	V/ μs
	Zero-cross voltage	Vox	Resistance load, I_F=10mA	-	-	35	V
Transfer characteristics	Minimum trigger current	I_{FT}	V_D=6V, R_L=100Ω	-	-	5	mA
	Isolation resistance	R_{ISO}	DC500V, 40 to 60%RH	5 x 10^{10}	1 x 10^{11}	-	Ω
	Turn-on time	t_{on}	V_D=6V, R_L=100Ω I_F=10mA	-	-	100	μs

※※ **PR33MD22NSZ** : 0.3A , **PR36MD22NSZ** : 0.6A , **PR29MD22NSZ , PR39MD22NSZ** : 0.9A

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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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— Telecommunication equipment [trunk lines]
— Nuclear power control equipment
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