

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

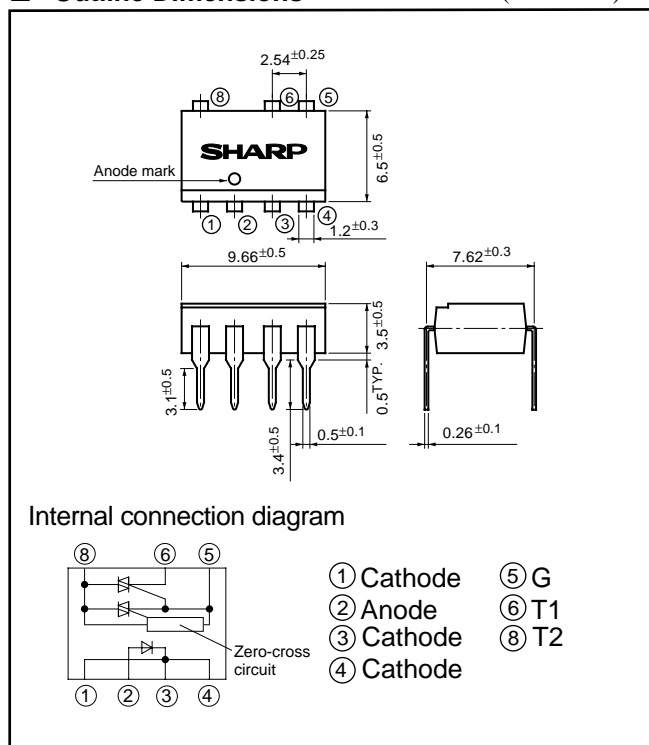
- (1) 8-pin DIP package
- (2) Low minimum trigger current($I_{FT}=5\text{mA}$)
- (3) With built-in zero-cross circuit
- (4) RMS ON-state current
 - $I_T=0.3\text{Arms}$: **PR33MD22NSZ**
 - $I_T=0.6\text{Arms}$: **PR36MD22NSZ**
 - $I_T=0.9\text{Arms}$: **PR29MD22NSZ**
 - $I_T=0.9\text{Arms}$: **PR39MD22NSZ**
- (5) Isolation voltage(Viso: 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
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 : 9A , 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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■ 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	$I_T=**$	-	-	3.0	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

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

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 - Consumer electronics
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