

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

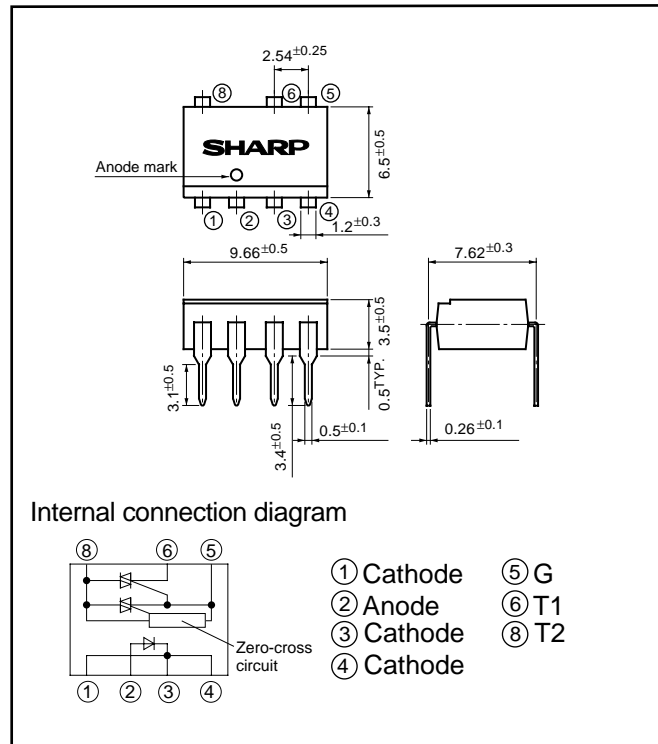
- (1) 8-pin DIP package
- (2) Low minimum trigger current($I_{T}=5\text{mA}$)
- (3) With built-in zero-cross circuit
- (4) RMS ON-state current
 - $I_T=0.3\text{Arms}$: **PR33MD22NSZ**
 - $I_T=0.6\text{Arms}$: **PR36MD22NSZ**
 - $I_T=0.9\text{Arms}$: **PR29MD22NSZ**
 - $I_T=0.9\text{Arms}$: **PR39MD22NSZ**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

Applications

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

Outline Dimensions

(Unit: mm)



Absolute Maximum Ratings

($T_a=25^\circ\text{C}$)

| | 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 | $^\circ\text{C}$ |
| | Storage temperature | T_{stg} | -40 to +125 | $^\circ\text{C}$ |
| | *3 Soldering temperature | T_{sol} | 260 | $^\circ\text{C}$ |

* 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, $f=60\text{Hz}$

*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 =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/√2)•V _{DRM} | 100 | - | - | V/μs |
| | Zero-cross voltage | V _{OX} | 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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 - Consumer electronics
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