

# PR23MF11NSZ/ PR33MF11NSZ

## ■ Features

1. Compact 8-pin dual-in-line package type
2. RMS ON-state current  $I_{T(rms)}$ :0.3A
3. High repetitive peak OFF-state voltage  
**PR23MF11NSZ**  $V_{DRM}$ :MIN. 400V  
**PR33MF11NSZ**  $V_{DRM}$ :MIN. 600V
4. Isolation voltage between input and output  
 $(V_{iso(rms)}:4kV)$
5. Recognized by UL (No.E94758)
6. Recognized by CSA (No.LR63705)

## ■ Applications

1. Various types of home appliances

## ■ Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

	Parameter	Symbol	Rating	Unit	
Input	<sup>*1</sup> Forward current	$I_F$	50	mA	
	Reverse voltage	$V_R$	6	V	
Output	<sup>*1</sup> RMS ON-state current	$I_{T(rms)}$	0.3	A	
	Peak one cycle surge current	$I_{surge}$	3 (50Hz sine wave)	A	
	Repetitive peak OFF-state voltage	$V_{DRM}$	<b>PR23MF11NSZ</b>	400	V
			<b>PR33MF11NSZ</b>	600	
<sup>*2</sup> Isolation voltage	$V_{iso(rms)}$	4.0	kV		
	Operating temperature	$T_{opr}$	-25 to +85	$^\circ\text{C}$	
	Storage temperature	$T_{stg}$	-40 to +125	$^\circ\text{C}$	
	Soldering temperature	$T_{sol}$	260 (For 10s)	$^\circ\text{C}$	

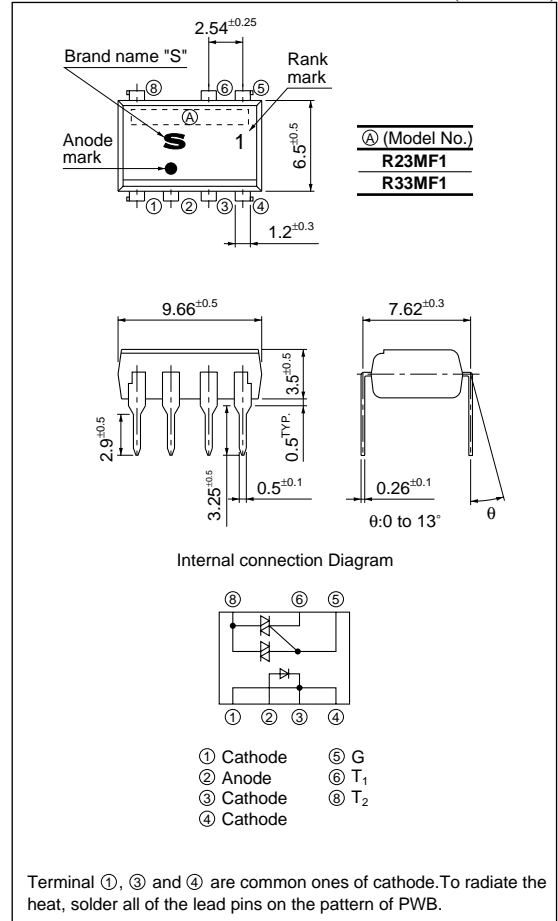
<sup>\*1</sup> The derating factors of absolute maximum ratings due to ambient temperature are shown in Fig.1, 2

<sup>\*2</sup> 40 to 60%RH, AC for 1 minute,  $f=60\text{Hz}$

## 8-Pin DIP Type SSR for Low Power Control

## ■ Outline Dimensions

(Unit : mm)



## ■ Model Line-up

	For 100V line	For 200V line
Model No.	<b>PR23MF11NSZ</b>	<b>PR33MF11NSZ</b>

■ Electrical Characteristics

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

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	$\mu\text{A}$
Output	Repetitive peak OFF-state current	$I_{\text{DRM}}$	$V_D=V_{\text{DRM}}$	—	—	100	$\mu\text{A}$
	ON-state voltage	$V_T$	$I_T=0.3\text{A}$	—	—	3.0	V
	Holding current	$I_H$	$V_D=6\text{V}$	—	—	25	mA
	Critical rate of rise of OFF-state voltage	$dV/dt$	$V_D=1/\sqrt{2} \cdot V_{\text{DRM}}$	100	—	—	$\text{V}/\mu\text{s}$
Transfer characteristics	Minimum trigger current	$I_{\text{FT}}$	$V_D=6\text{V}, R_L=100\Omega$	—	—	10	mA
	Isolation resistance	$R_{\text{ISO}}$	DC=500V, 40 to 60%RH	$5 \times 10^{10}$	$10^{11}$	—	$\Omega$
	Turn-on time	$t_{\text{on}}$	$V_D=6\text{V}, R_L=100\Omega, I_F=20\text{mA}$	—	—	100	$\mu\text{s}$

Fig.1 RMS ON-state Current vs. Ambient Temperature

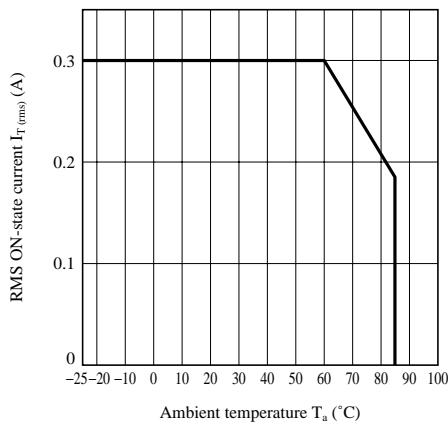


Fig.2 Forward Current vs. Ambient Temperature

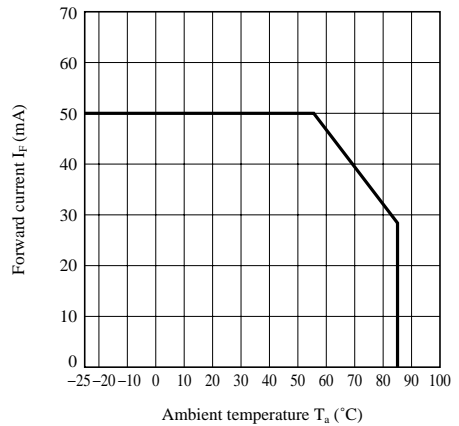


Fig.3 Forward Current vs. Forward Voltage

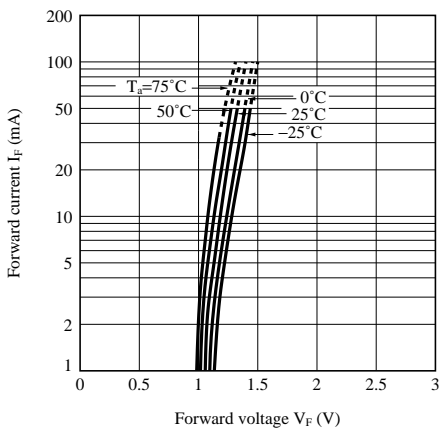
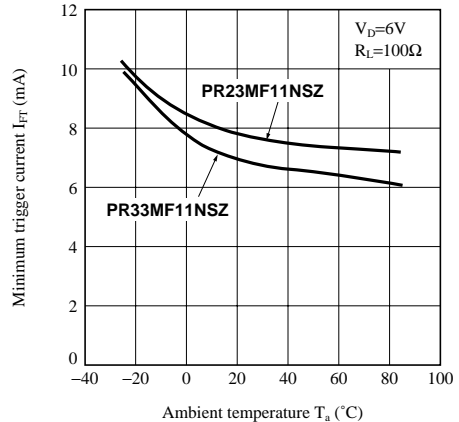
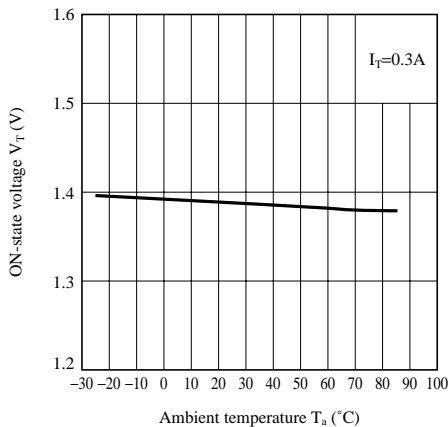


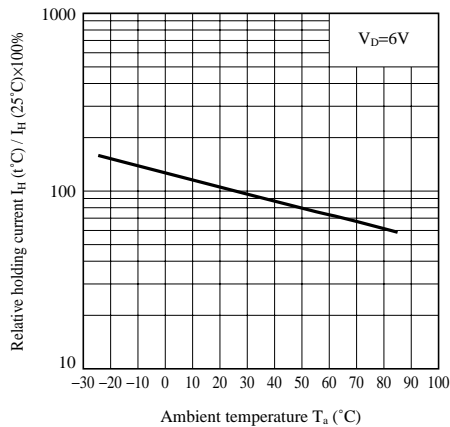
Fig.4 Minimum Trigger Current vs. Ambient Temperature



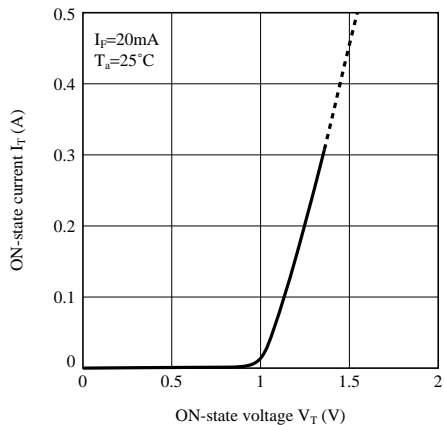
**Fig.5 ON-state Voltage vs. Ambient Temperature**



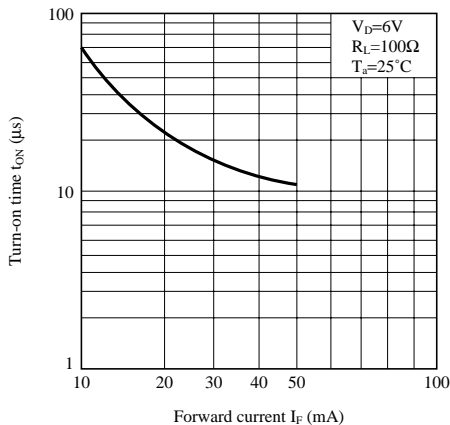
**Fig.6 Relative Holding Current vs. Ambient Temperature**



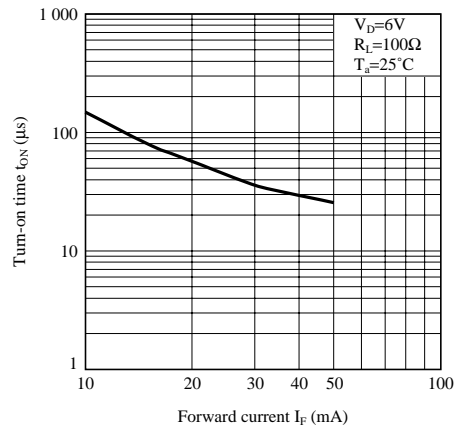
**Fig.7 ON-state Current vs. ON-state Voltage**



**Fig.8 Turn-on Time vs. Forward Current (PR23MF11NSZ)**



**Fig.9 Turn-on Time vs. Forward Current (PR33MF11NSZ)**



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