

# S101DH1/S101DH2 S201DH1/S201DH2

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

### ■ Features

1. Compact  
(16-pin dual-in-line package type)
2. High output current  
(RMS ON-state current  $I_T$  : 1.5A<sub>rms</sub>)
3. Built-in zero-cross circuit  
(S101DH2 / S201DH2)
4. Recognised by UL, file No. E94758
5. Approved by CSA, No. LR63705

### ■ Applications

1. Air conditioners
2. Microwave ovens
3. Home appliances

### ■ Model Line-ups

	For 100V lines	For 200V lines
No built-in zero-cross circuit	<b>S101DH1</b>	<b>S201DH1</b>
Built-in zero-cross circuit	<b>S101DH2</b>	<b>S201DH2</b>

### ■ Absolute Maximum Ratings

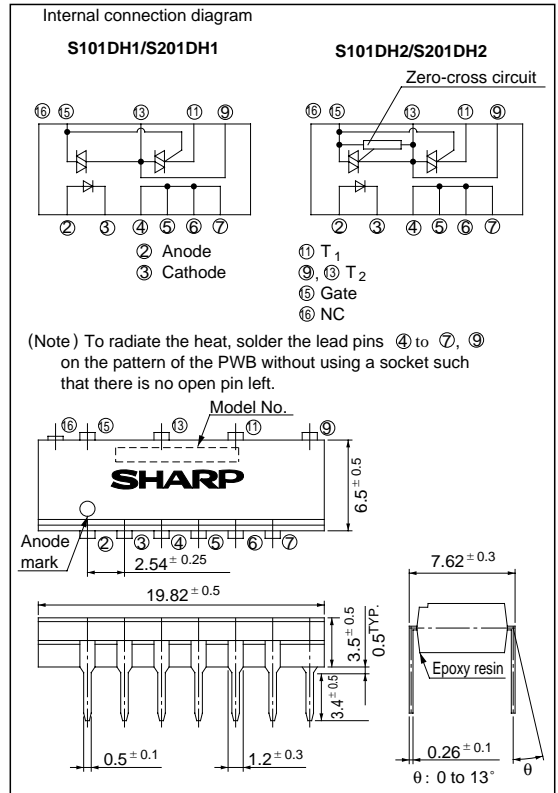
(Ta = 25°C)

Parameter	Symbol	Rating		Unit
		S101DH1/ S101DH2	S201DH1/ S201DH2	
Input	Forward current	$I_F$	50	mA
	Reverse current	$V_R$	6	V
Output	RMS ON-state current	$I_T$	1.5	A <sub>rms</sub>
	Peak one cycle surge current	$I_{surge}$	15 (50Hz, sine wave)	A
	Repetitive peak OFF-state voltage	$V_{DRM}$	400   600	V
	*1 Isolation voltage	$V_{iso}$	4,000	V <sub>rms</sub>
	Operating temperature	$T_{opr}$	- 25 to + 85	°C
	Storage temperature	$T_{stg}$	- 40 to + 125	°C
	Soldering temperature	$T_{sol}$	260 ( For 10 seconds )	°C

\*1 AC for 1 minute, 40 to 60% RH, f = 60Hz

### ■ Outline Dimensions

(Unit : mm)

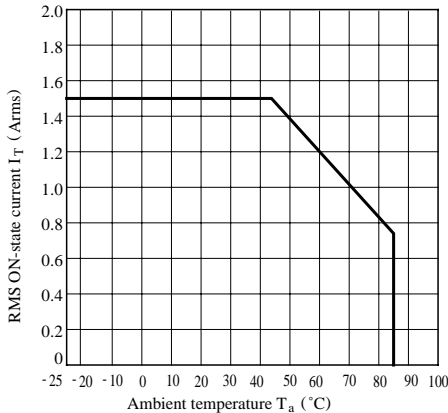


**Electrical Characteristics**

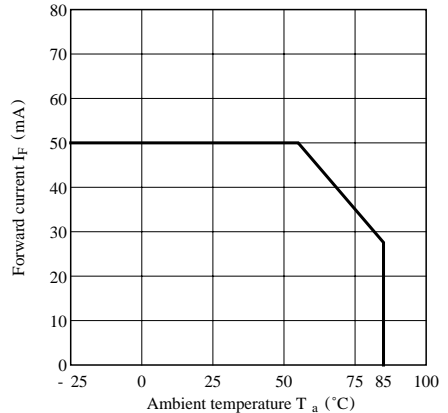
( $T_a = 25^\circ\text{C}$ )

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	$I_{DRM}$	$V_{DRM} = \text{Rated}$	-	-	100	$\mu\text{A}$	
	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	S101DH1/S101DH2 S201DH1/S201DH2	dV/dt	$V_{DRM} = 1/\sqrt{2} \cdot \text{Rated}$	200	-	-	V/ $\mu\text{s}$
					100	-	-	
Zero-cross voltage	S101DH2/S201DH2	$V_{OX}$	Resistance load, $I_F = 15\text{mA}$	-	-	35	V	
Transfer characteristics	Minimum trigger current	$I_{FT}$	$V_D = 6\text{V}, R_L = 100\Omega$	-	-	10	mA	
	Isolation resistance	$R_{ISO}$	DC500V, 40 to 60% RH	$5 \times 10^{10}$	$10^{11}$	-	$\Omega$	
	Turn-on time	$t_{on}$	$V_D = 6\text{V}, R_L = 100\Omega$ $I_F = 20\text{mA}$	-	-	100	$\mu\text{s}$	

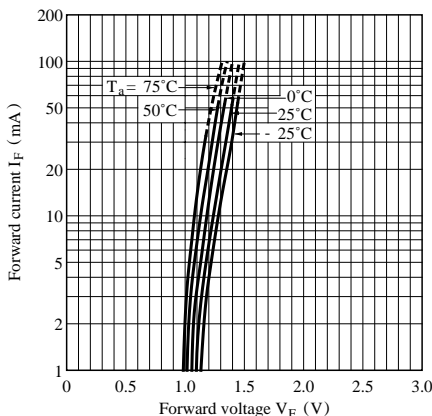
**Fig. 1 RMS ON-state Current vs. Ambient Temperature**



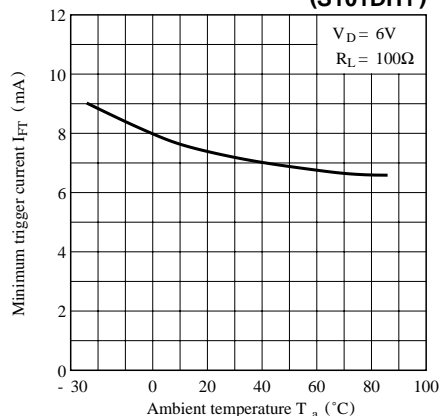
**Fig. 2 Forward Current vs. Ambient Temperature**



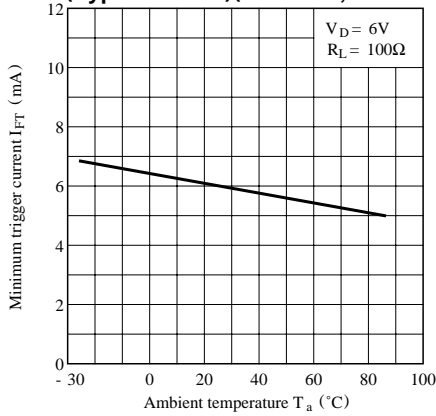
**Fig. 3 Forward Current vs. Forward Voltage**



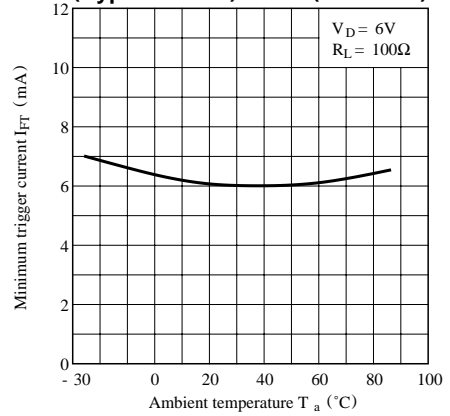
**Fig. 4 Minimum Trigger Current vs. Ambient Temperature (Typical Value) (S101DH1)**



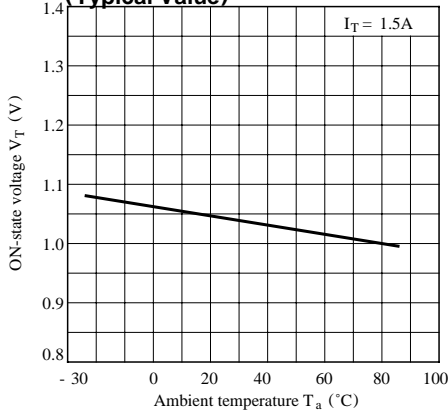
**Fig. 5-a Minimum Trigger Current vs. Ambient Temperature (Typical Value) (S101DH2, S201DH2)**



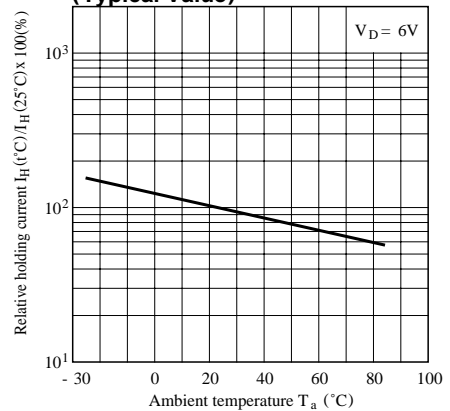
**Fig. 5-b Minimum Trigger Current vs. Ambient Temperature (Typical Value) (S201DH1)**



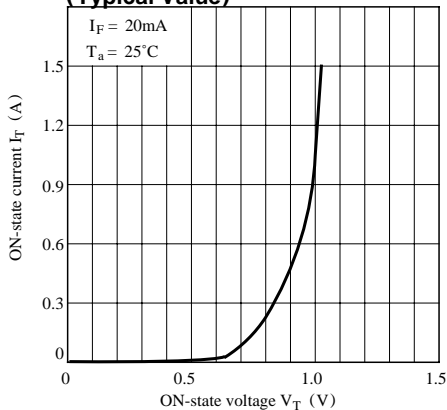
**Fig. 6 ON-state Voltage vs. Ambient Temperature (Typical Value)**



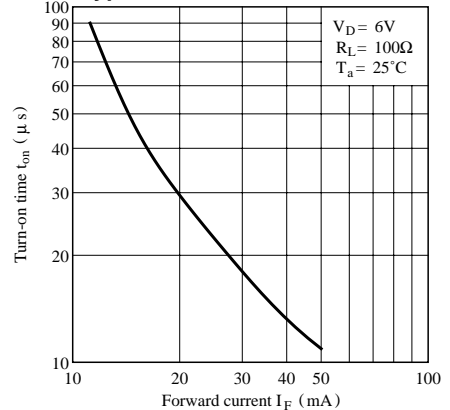
**Fig. 7 Relative Holding Current vs. Ambient Temperature (Typical Value)**



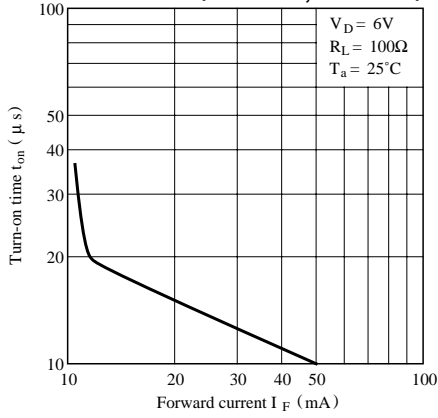
**Fig. 8 ON-state Current vs. ON-State Voltage (Typical Value)**



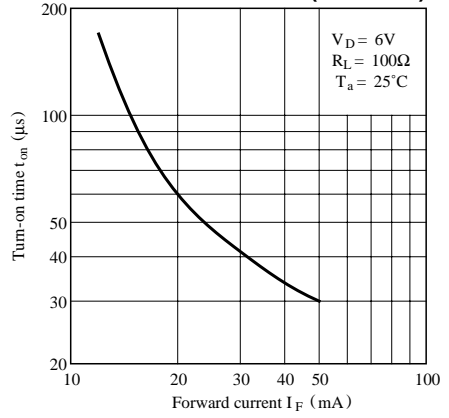
**Fig. 9 Turn-on Time vs. Forward Current (Typical Value) (S101DH1)**



**Fig.10 Turn-on Time vs. Forward Current  
(Typical Value)  
(S101DH2, S201DH2)**



**Fig.11 Turn-on Time vs. Forward Current  
(Typical Value)  
(S201DH1)**



● Please refer to the chapter “Precautions for Use.”