

S101DH1/S101DH2 16-Pin μ P Type SSR I_O, I_{*W} S201DH1/S201DH2 Power Control

■ Features

1. Compact
(16-pin dual-in-line package type)
2. High output current
(RMS ON-state current $I_T: 1.5A_{rms}$)
3. Built-in zero-cross circuit
(S101DH2/S201DH2)
4. UL, CSA : under application

■ Applications

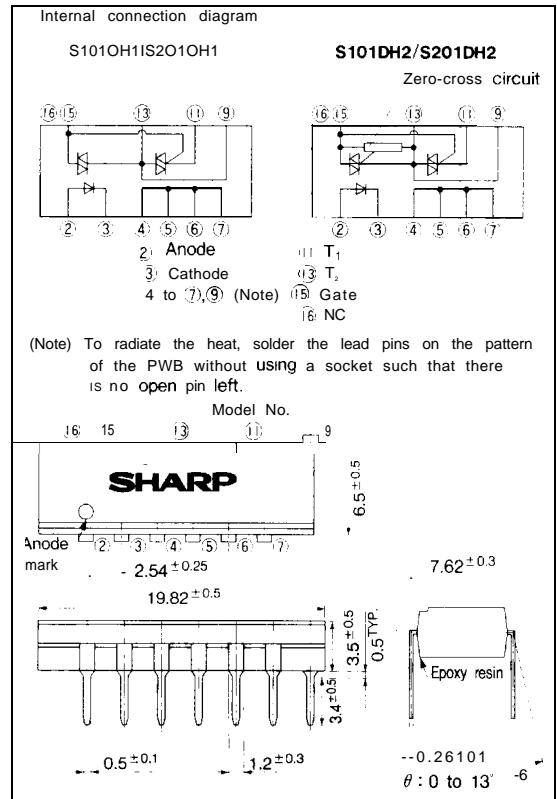
1. Air conditioners
2. Microwave ovens
3. Home appliances

■ Model Line-ups

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

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(T_a = 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 _{rms}
	Peak one cycle surge current	I _{surge}	15(50 Hz sine wave)	A
	Repetitive peak (OFF state) voltage	V _{DRM}	400 600	V
* Isolation voltage		V _{iso}	4,000*	V _{rms}
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

■ Electrical Characteristics

(T_a = 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 _{DRM} = Rated	—	—	100	μA	
	ON-state voltage	V _T	I _T = 1.5A	—	—	1.7	V	
	Holding current	I _H	V _D = 6V	—	—	25	mA	
	Critical rate of rise of OFF-state voltage	S101OH1/S101M2 S201DH1/S201DH2	dV/dt	V _{DRM} = 1/√2 · Rated	200	—	—	V/μs
					100	—	—	
Zero-cross voltage	S101OH2/S201CU12	V _{OX}	Resistance load, I _F = 15mA	—	—	35	V	
Transfer characteristics	Minimum trigger current	I _{FT}	V _D = 6V, R _I = 100Ω	—	—	10	mA	
	Isolation resistance	R _{ISO}	DC500V, 40 to 60%RH	5 × 10 ¹⁰	10 ¹¹	—	Ω	
	Turn-on time	t _{on}	V _D = 6V, R _I = 100Ω I _F = 20mA	—	—	100	μs	

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

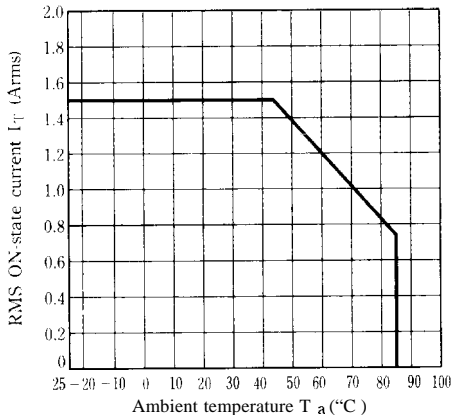


Fig. 2 Forward Current vs. Ambient Temperature

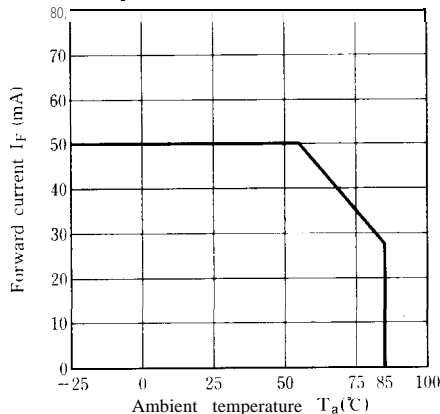


Fig. 3 Forward Current vs. Forward Voltage

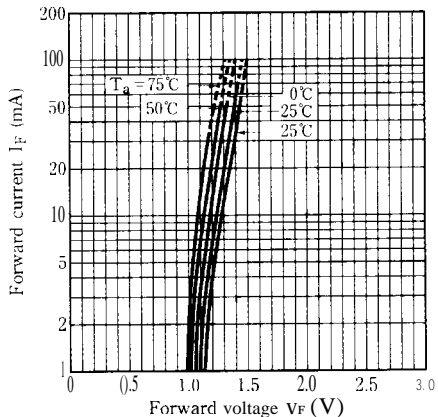


Fig. 4 Minimum Trigger Current vs. Ambient Temperature (Typical Value) (S101DH1)

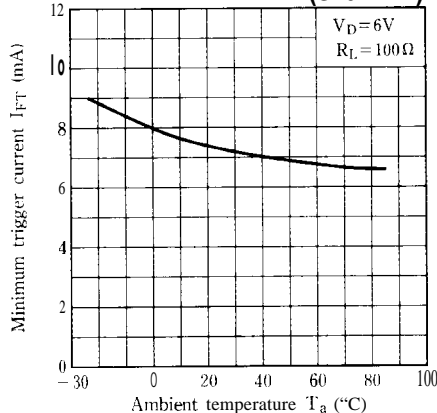


Fig. 3 Low Level Output Voltage vs. Ambient Temperature

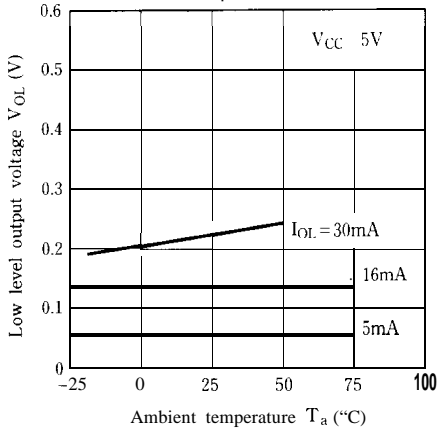


Fig. 4 Supply Current vs. Supply Voltage

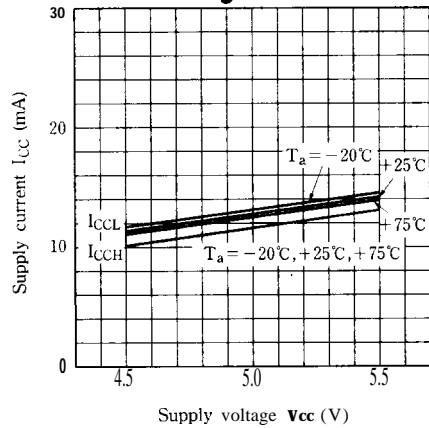


Fig. 5 Detecting Position Characteristics (1)

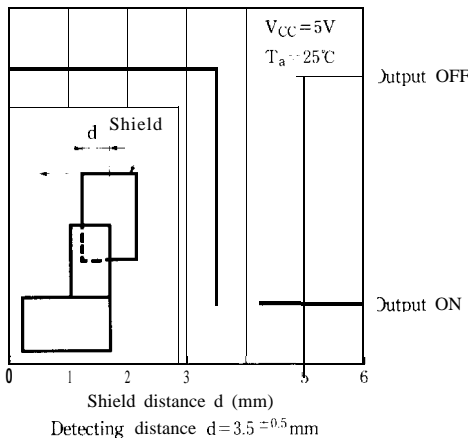
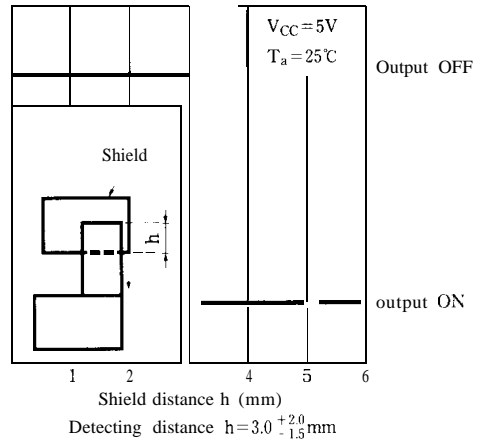


Fig. 6 Detecting Position Characteristics (2)



■ Recommended Connectors on **the Inserted Side**

Recommended connector for GP1A05HR is same as **GP1 A05's**.
 Recommended connector for **GP1 A22HR** is same as **GP1 A23LC'S**.
 (Refer to page 667.)

■ Precautions for Use

- (1) It is recommended that a by-pass capacitor of more than $0.01 \mu\text{F}$ be added between V_{CC} and GND near the device in order to stabilize power supply line.
- (2) In this product, the PWB is fixed with a resin cover, and cleaning solvent may remain inside the case ; therefore, dip cleaning or ultrasonic cleaning is prohibited.
- (3) Remove dust or stains, using an air blower or a soft cloth moistened in cleaning solvent. However, do not perform the above cleaning using a soft cloth with cleaning solvent in the marking portion.

In this case, use only the following type of cleaning solvent used for wiping off:

Ethyl alcohol, Methyl alcohol, Isopropyl alcohol

When the cleaning solvents expect for specific materials are used, please consult us.

- (4) As for other general cautions, refer to the chapter "Precautions for Use" (Page 78 to 93)

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

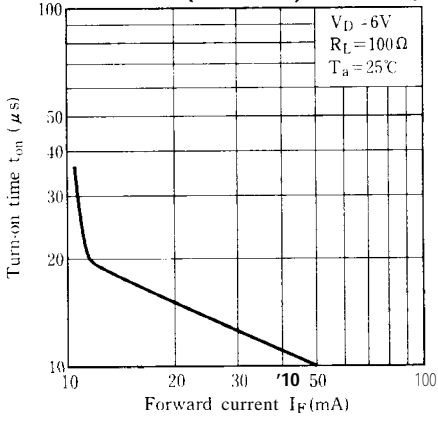
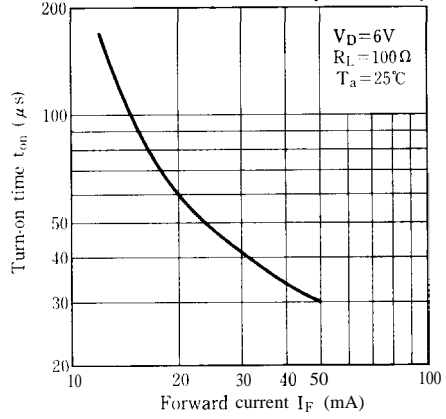


Fig.11 Turn-on Time vs. Forward Current (Typical Value)
(S201DH1)



● Please refer to the chapter “Precautions for Use.” (Page 78 to 93).