S101S05V/S101S06V S201S05V/S201S06V

SIP Type SSR with Mounting Capability for External Heat Sink

■ Features

1. High radiation resin mold package.
2. RMS ON-state current
   I_T: MAX. 3Arms at T_C<=100˚C
   (With heat sink)
3. Isolation voltage between input and output
   (V_{iso}: 3 000 V_{rms})
4. Built-in zero-cross circuit
   (S101S06V/S201S06V)
5. Recognized by UL, file No. E94758
   Approved by CSA, No. LR63705

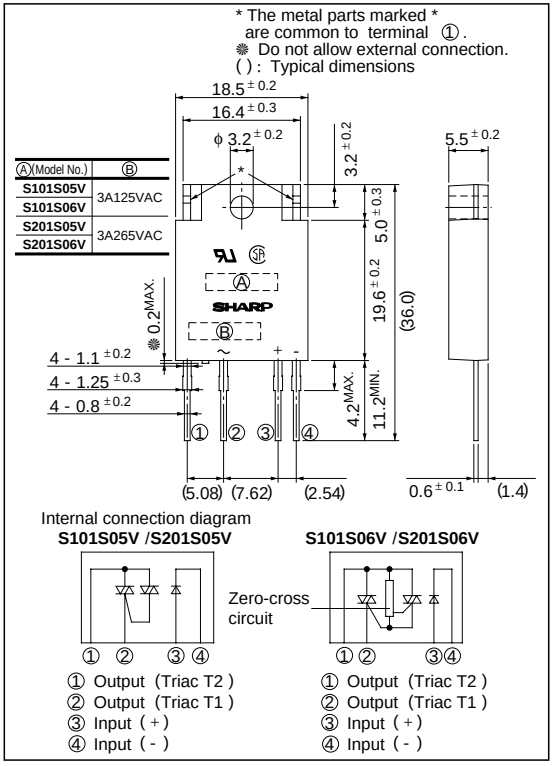
■ Applications

1. OA equipment such as copiers
2. FA equipment

■ Model Line-ups

	For 100V lines	For 200V lines
No built-in zero-cross circuit	**S101S05V**	**S201S05V**
Built-in zero-cross circuit	**S101S06V**	**S201S06V**

■ Outline Dimensions (Unit : mm)



■ Absolute Maximum Ratings (Ta = 25˚C)

Parameter		Symbol	Rating		Unit
			S101S05V / S101S06V	S201S05V / S201S06V	
Input	Forward current	I_F	50		mA
	Reverse voltage	V_R	6		V
Output	RMS ON-state current	I_T	*4 3		A_{rms}
	*1 Peak one cycle surge current	I_{surge}	30		A
	Repetitive peak OFF-state voltage	V_{DRM}	400	600	V
	Non-repetitive peak OFF-state voltage	V_{DSM}	400	600	V
	Critical rate of rise of ON-state current	dI_T/dt	40		A/μs
	Operating freguency	f	45 to 65		Hz
*2 Isolation voltage		V_{iso}	3 000		V_{rms}
Operating temperature		T_{opr}	- 25 to + 100		˚C
Storage temperature		T_{stg}	- 30 to + 125		˚C
*3 Soldering temperature		T_{sol}	260		˚C

*1 60Hz sine wave, start at Tj= 25˚C
*2 60Hz AC for 1 minute, 40 to 60% RH. Apply voltages between input and output, by the dielectric withstand voltage tester with zero-cross circuit.(Input and output shall be shorted respectively)
(Note) When the isolation voltage is necessary at using external heat sink, please use the insulation sheet.
*3 For 10 seconds
*4 Tc<=100˚C

■ Electrical Characteristics

(Ta = 25˚C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Foward voltage		V_F	I_F = 20mA	-	1.2	1.4	V
	Reverse current		I_R	V_R = 3V	-	-	10^{-4}	A
Output	Repetitive peak OFF-state current		I_{DRM}	$V_D = V_{DRM}$	-	-	10^{-4}	A
	RMS ON-state current		V_T	Resistance load, I_F = 20mA I_T = 1.5A_{rms}	-	-	1.5	V_{rms}
	Holding current		I_H	-	-	-	50	mA
	Critical rate of rise of OFF-state voltage		dV/dt	V_D = 2/3V_{DRM}	30	-	-	V/μs
	Critical rate of rise of commutating OFF-state voltage		$(dV/dt)_C$	Tj = 125˚C, V_D = 400V dI_t/d_t = -1.5A/ms	4	-	-	V/μs
Transfer characteristics	Minimum trigger current	S101S05V/ S201S05V	I_{FT}	V_D = 12V, R_L = 30Ω	-	-	15	mA
		S101S06V/ S201S06V		V_D = 6V, R_L = 30Ω	-	-	15	
	Isolation resistance		R_{ISO}	DC500V, 40 to 60 % RH	10^{10}	-	-	Ω
	Zero-cross voltage	S101S06V	V_{OX}	I_F = 15mA	-	-	35	V
		S201S06V			-	-	35	
	Turn-on time	S101S05V/ S201S05V	t_{on}	AC50Hz	-	-	1	ms
		S101S06V/ S201S06V			-	-	10	
	Turn-off time	S101S05V/ S201S05V	t_{off}	AC50Hz	-	-	10	ms
		S101S06V/ S201S06V			-	-	10	
Thermal resistance (Between junction and case)			$R_{th(j-c)}$	-	-	6	-	˚C/W
Thermal resistance (Between junction and ambience)			$R_{th(j-a)}$	-	-	45	-	˚C/W

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

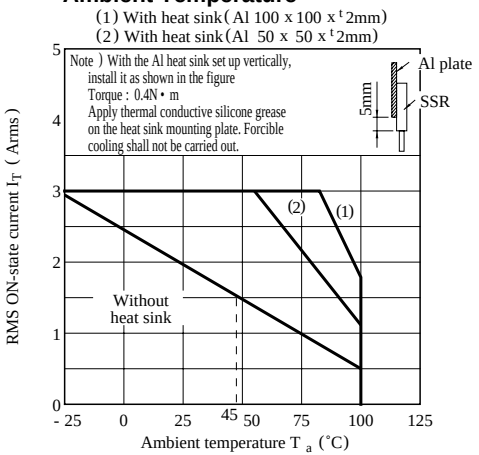


Fig. 2 RMS ON-state Current vs. Case Temperature

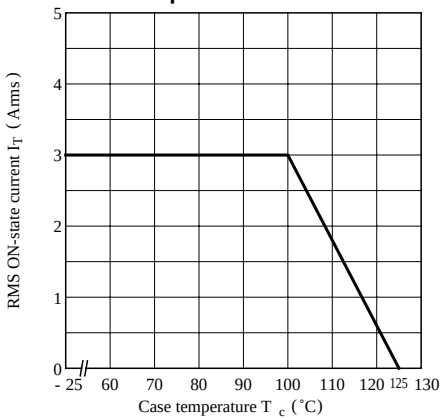


Fig. 3 Forward Current vs. Ambient Temperature

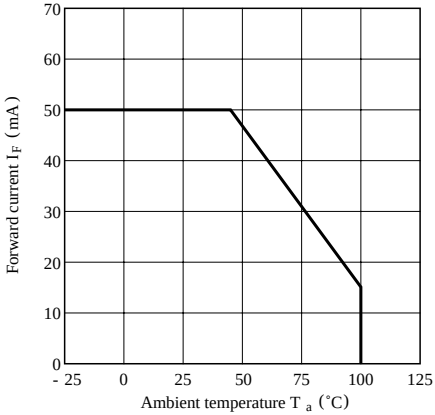


Fig. 4 Forward Current vs. Forward Voltage

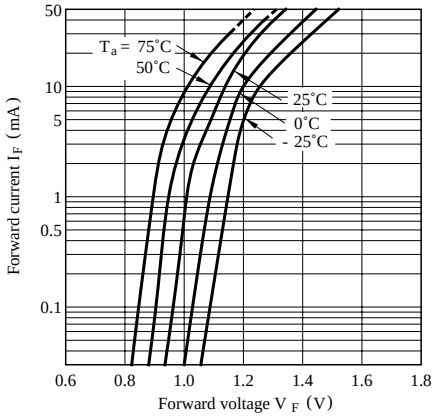


Fig. 5 Surge Current vs. Power-on Cycle

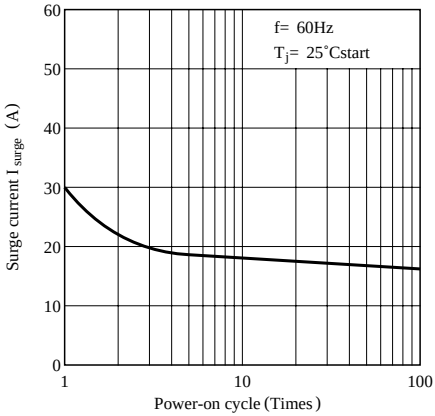


Fig. 6 Maximum ON-state Power Dissipation vs. RMS ON-state Current (Typical Value)

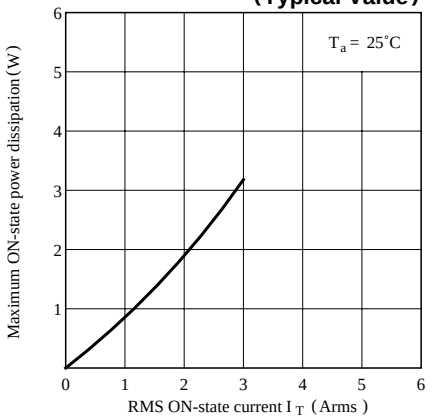


Fig.7-a Minimum Trigger Current vs. Ambient Temperature (Typical Value) (S101S05V/S201S05V)

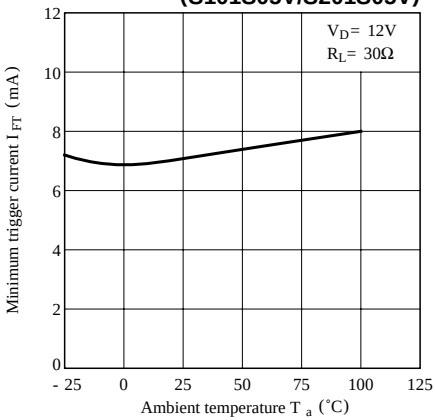


Fig.7-b Minimum Trigger Current vs. Ambient Temperature (Typical Value) (S101S06V/S201S06V)