S202S15V

SIP Type Solid State Relay with Built-in Snubber Circuit

■ Features

1. High radiation resin mold package
2. RMS ON-state current I_T : Max. 8Arms
3. Built-in snubber circuit

■ Applications

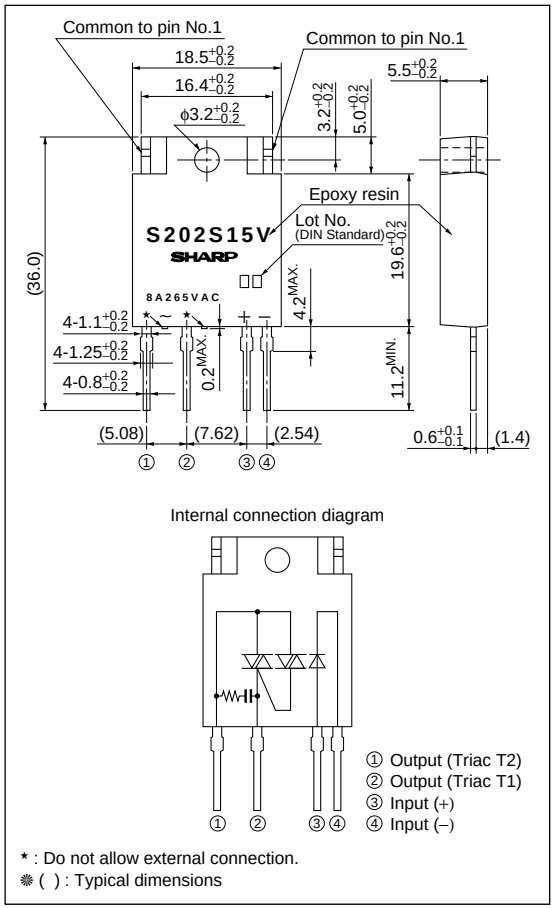
1. Air conditioners
2. OA equipment

■ Absolute Maximum Ratings (Ta=25°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	*1 8	A_{rms}
	*2 Peak one cycle surge current	I_{surge}	80	A
	Repetitive peak OFF-state voltage	V_{DRM}	600	V
	Non-repetitive peak OFF-state voltage	V_{DSM}	600	V
	Critical rate of rise of ON-state current	dI_T/dt	50	A/μs
	Operating frequency	f	45 to 65	Hz
	Operating temperature	T_{opr}	–20 to +80	°C
	Storage temperature	T_{stg}	–30 to +100	°C
	*3 Isolation voltage	V_{iso}	3.0	kV_{rms}
	*4 Soldering temperature	T_{sol}	260	°C
	Load supply voltage	V_{OUT}	265	V_{rms}

*1 Refer to Fig.2
*2 60Hz sine wave, start at Tj=25°C
*3 Isolation voltage measuring method
(1) Dielectric withstand voltage tester with zero cross circuit shall be used.
(2) The applied voltage waveform shall be sine wave.
(3) Voltage shall be applied between input and output.
(Input and output terminals shall be shorted respectively.)
(4) AC 60Hz, aminute, 40 to 60%RH.
*4 For 10 seconds

■ Outline Dimensions (Unit : mm)



★ : Do not allow external connection.
✵ ( ) : Typical dimensions

■ 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	–	–	1×10^{-4}	A
Output	ON-state voltage	V_T	I_T=2A_{rms}, Resistance load, I_F=20mA	–	–	1.5	V_{rms}
	Minimum operating current	I_{op}	V_{OUT}=240V_{rms}	–	–	50	mA_{rms}
	Open circuit leak current	I_{leak}	V_{OUT}=240V_{rms}	–	–	10	mA_{rms}
	Critical rate of rise of OFF-state voltage	dV/dt	V_D=2/3V_{DRM}	30	–	–	V/μs
	Critical rate of rise of OFF-state voltage at commutaion	$(dV/dt)_C$	T_j=125°C, V_D=2/3V_{DRM}, dI_t/dt=–4.0A/ms	5	–	–	V/μs
Transfer characteristics	Minimum trigger current	I_{FT}	V_D=12V, R_L=30Ω	–	–	15	mA
	Isolation resistance	R_{iso}	DC500V, 40 to 60%RH	1×10^{10}	–	–	Ω
	Turn-on time	t_{on}	V_D=200V_{rms} AC50Hz, I_T=2A_{rms}, Resistance load, I_F=20mA	–	–	1	ms
	Turn-off time	t_{off}		–	–	10	ms
Thermal resistance Between junction and case		R_{th}(j-c)	–	–	4	–	°C/W
Thermal resistance Between junction and ambience		R_{th}(j-a)	–	–	40	–	°C/W

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

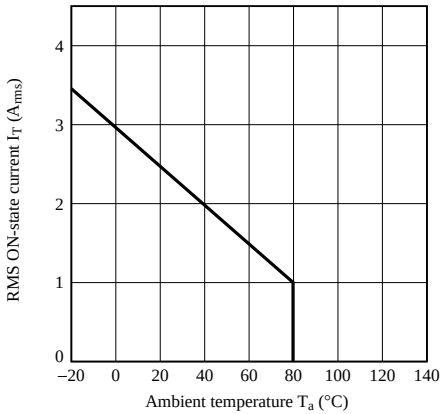


Fig.2 RMS ON-state Current vs. Case Temperature

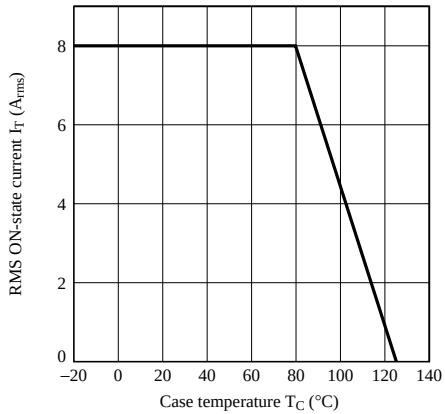


Fig.3 Forward Current vs. Forward Voltage (Typical Value)

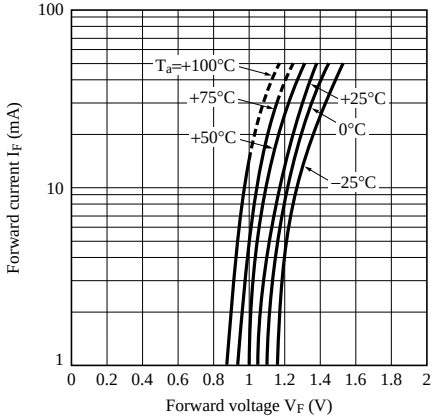


Fig.4 Surge Current vs. Power-on cycle

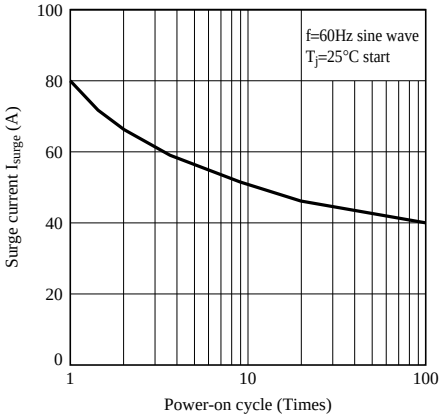


Fig.5 Minimum Trigger Current vs. Ambient Temperature (Typical Value)

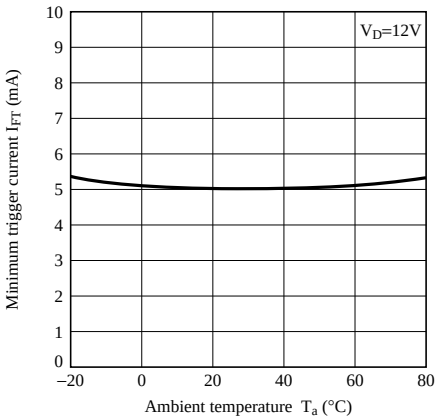


Fig.6 Open Circuit Leak Current vs. Supply Voltage (Typical Value)

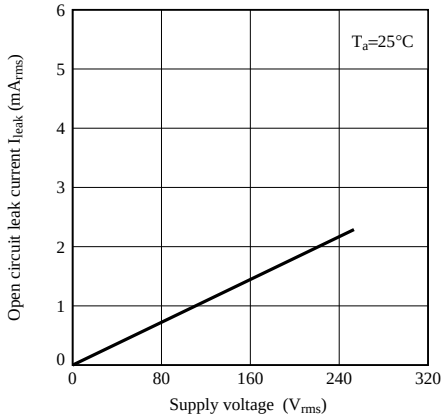
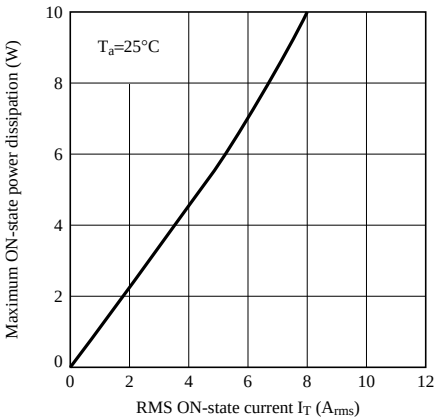


Fig.7 Maximum ON-state Power Dissipation vs. RMS ON-state Current (Typical Value)



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