S102T01/S102T02 S202T01/S202T02

Low Height Type Solid State Relays

■ Features

1. Low height type (height : 16 mm)
   30% less compared with S101S05V
2. Effective ON-state current I_T : MAX. 2Ams (Ta= <=40˚C)
3. Model Line-ups

	No zero cross circuit	Built-in zero cross circuit
AC100V	**S102T01**	**S102T02**
AC200V	**S202T01**	**S202T02**

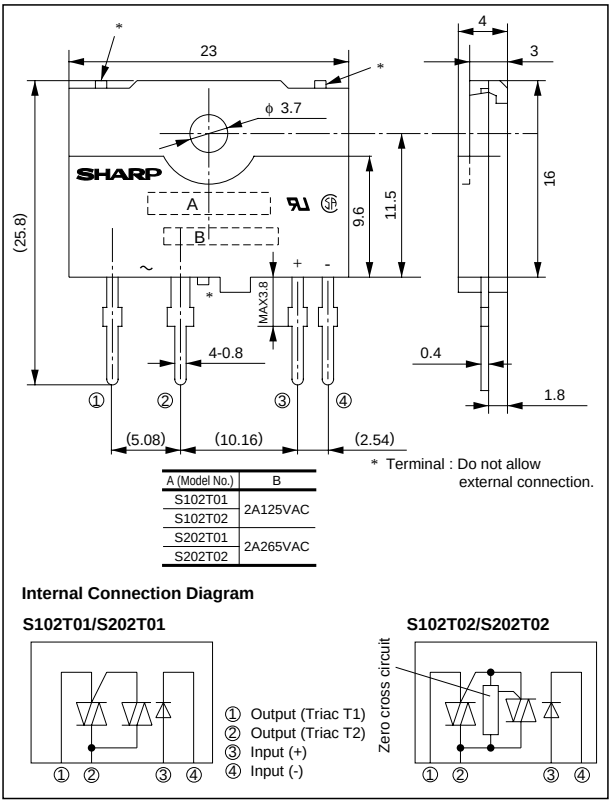
4. Recognized by UL, file No. E94758
   Approved by CSA, No. LR63705

■ Applications

1. Programmable controllers
2. Air conditioners
3. Copiers
4. Automatic vending machines

■ Outline Dimensions

(Unit : mm)



A (Model No.)	B
S102T01	2A125VAC
S102T02	
S202T01	2A265VAC
S202T02	

■ Absolute Maximum ratings

(Ta=25˚C)

Parameter		Symbol	Rating		Unit
			S102T01 / S102T02	S202T01 / S202T02	
Input	Forward current	I_F	50		mA
	Reverse voltage	V_R	6		V
Output	*1 Effective ON-state current	I_T	2		A_{rms}
	*2 Peak one cycle surge current	I_{surge}	20		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 frequency	f	45 to 65		Hz
	Operating temperature	T_{opr}	- 25 to + 100		˚C
	Storage temperature	T_{stg}	- 30 to + 125		˚C
	*3 Isolation voltage	V_{iso}	3 000		V_{rms}
	Soldering temperature	T_{sol}	260 (For 10 seconds)		˚C

*1 Refer to Fig. 1. *2 60Hz sine wave, start at Tj=25˚C
*3 Isolation voltage test method
1) Use a dielectric withstand voltage tester with zero cross circuit.
2) The applied voltage waveform shall be sine wave.
3) Apply voltage between input and output. (Input and output terminals shall be shorted respectively.)

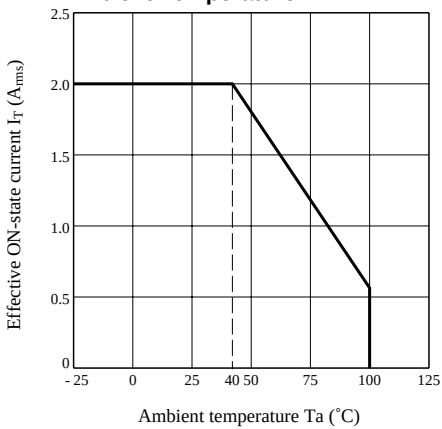
■ Electro-optical Characteristics

(Ta=25˚C)

Parameter			Symbol	Conditions	MIN.	TYPE.	MAX.	Unit
Input	Forward voltage		V_F	I_F = 20mA	-	1.2	1.4	V
	Reverse current		I_R	V_R = 3V	-	-	1 x 10^{-4}	A
Output	Repetitive peak OFF-state current		I_{DRM}	V_D = V_{DRM}	-	-	1 x 10^{-4}	A
	ON-state voltage		V_T	I_T = $2A_{rms}$ Load resistance, I_F = 20mA	-	-	1.7	V_{rms}
	Holding current		I_H	-	-	-	25	mA
	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 commutation		$(dV/dt)_C$	T_j = 125˚C, V_D = 400V dI_t/d_t =- 1.0A/ms	4	-	-	V/μs
Transfer characteristics	Minimum trigger current		I_{FT}	*4	-	-	8	mA
	Zero cross voltage	**S102T02/ S202T02**	V_{OX}	I_F = 8mA	-	-	35	V
	Insulation resistance		R_{ISO}	DC500V, 40 to 60% RH	1 x 10^{10}	-	-	Ω
	Turn-on time	**S102T01/ S202T01**	t_{on}	AC50Hz	-	-	1	ms
		S102T02/ S202T02			-	-	10	
	Turn-off time		t_{off}	AC50Hz	-	-	10	ms

*4 S102T01/S202T01 V_D=12V,R_L=30Ω
S102T02/S202T02 V_D=6V,R_L=30Ω

Fig. 1 Effective On-state current vs. Ambient Temperature



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

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- Personal computers
- Office automation equipment
- Telecommunication equipment [terminal]
- Test and measurement equipment
- Industrial control
- Audio visual equipment
- Consumer electronics

(ii) Measures such as fail-safe function and redundant design should be taken to ensure reliability and safety when SHARP devices are used for or in connection with equipment that requires higher reliability such as:
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- Traffic signals
- Gas leakage sensor breakers
- Alarm equipment
- Various safety devices, etc.

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- Telecommunication equipment [trunk lines]
- Nuclear power control equipment
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