S11 MD5V

Mini-flat Type **Phototriac Coupler**

※ Lead forming type (I type) and taping reel type (P type) are also available. (S1 **1MD5VI/S11MD5VP**) (Page 656)

■ Features

1. Isolation voltage between input and output
   V_{iso} : 5 000V_{rms}
2. High critical rate of rise of OFF-state voltage
   (dV/dt : MIN.100V/μ S)
3. Recognized by UL, file No. E64380
   (s11 MD5V/S11 MD5VI)

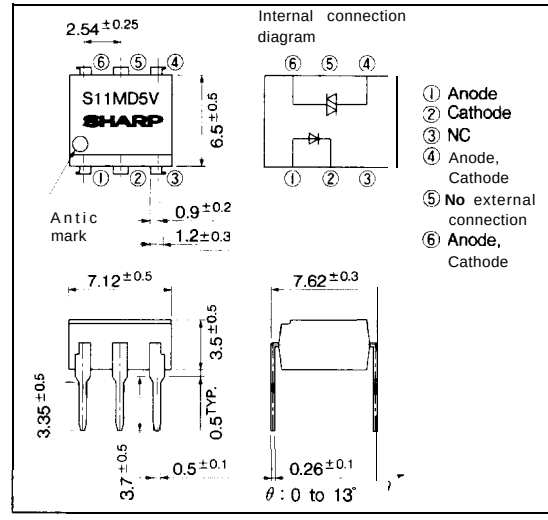
※ **S11 MD5V** is for 100V line

■ Applications

1. For triggering medium/high power triac

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(Ta=25℃)

Input				
output				
	*1 peak one cycle surge current	I_{surge}		- -
	Repetitive peak OFF-state voltage	V_{DRM}	400	V
*2 Isolation voltage		Visa	5000	V_{rms}
Operating temperature		T_{opr}	-30 to + 100	℃
Storage temperature		T_{stg}	–55 to +125	℃
*3 Soldering temperature		T_{sol}	260	℃

*1 Sine wave *2 40 to 60%RH, AC for 1 minute
*3 For 10 seconds

■ Electro-optical Characteristics

(Ta=25℃)

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^{-5}	A
output	Repetitive peak OFF-state current	I_{DRM}	V_{DRM} = Rated	–	–	10^{-6}	A
	ON-state voltage	V_T	I_T=100mA	–	1.3	2.0	V
	Holding current	I_H	V_D=6V	0.1	1	3.5	mA
	Critical rate of rise of OFF-state voltage	dV/dt	V_{DRM} = 1/√2 Rated	100		–	v/ μs
Transfer characteristics	Minimum trigger current	I_{FT}	V_D=6V, R_L= 100Ω	–		10	mA
	Isolation resistance	R_{ISO}	DC500V, 40 to 60%RH	5x 10^{10}	10^{11}		Ω
	Turn-on time	ton	VD=6V, I_F=20mA, R_L=100Ω	–	80	200	μs

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

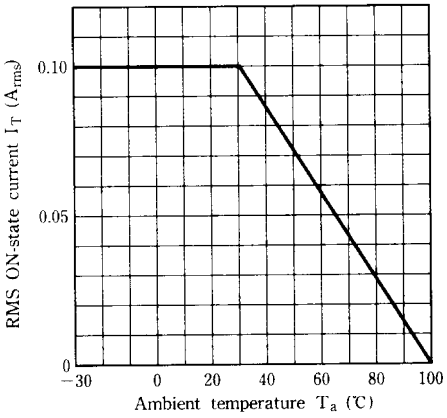


Fig. 2 Forward Current vs. Ambient Temperature

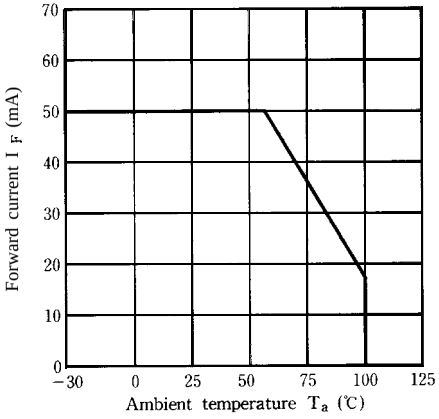


Fig. 3 Forward Current vs. Forward Voltage

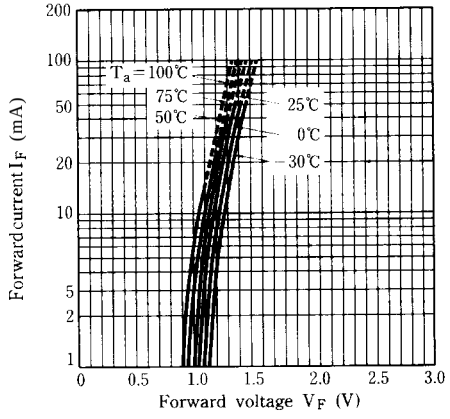


Fig. 4 Minimum Trigger Current vs. Ambient Temperature

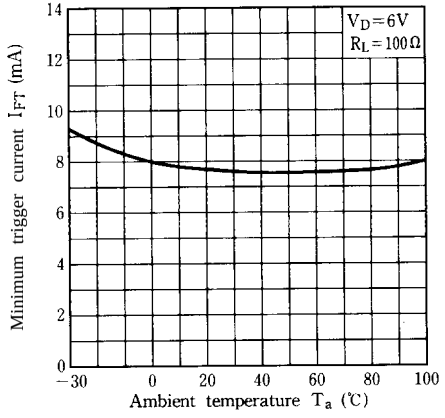


Fig. 5 Relative Repetitive Peak OFF-state Voltage vs. Ambient Temperature

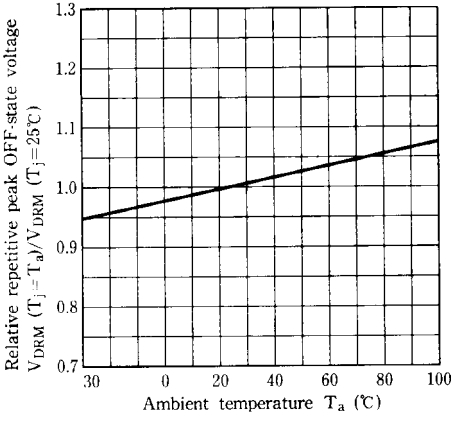


Fig. 6 ON-state Voltage vs. Ambient Temperature

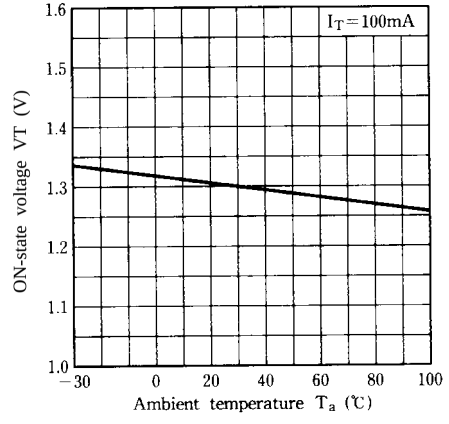


Fig 7 Holding current Ve. Ambient Temperature

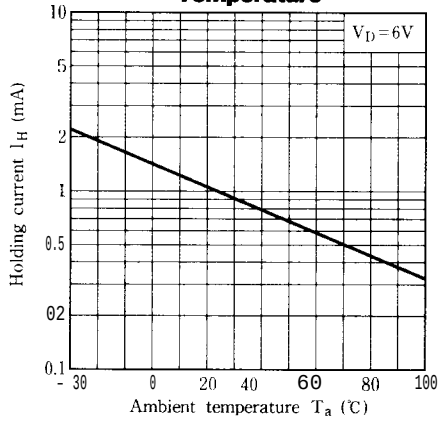


Fig. 8 **Repetitive** Peak **OFF-state** Current **vs.** OFF-state **Voltage**

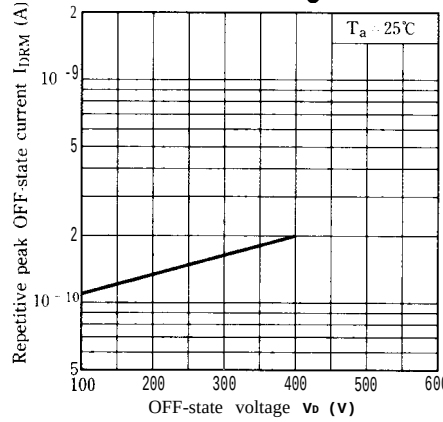


Fig. 9 Repetitive Peak OFF-state Current vs. Ambient temperature

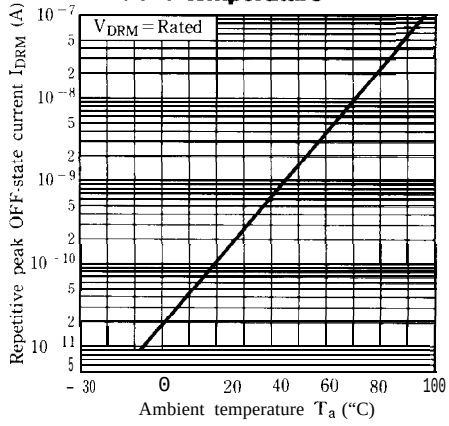


Fig.10 Turn-on Time vs. Forward Current

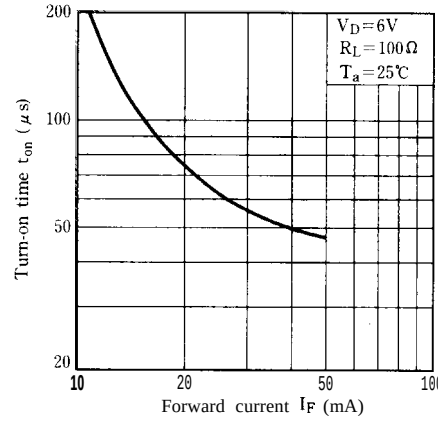
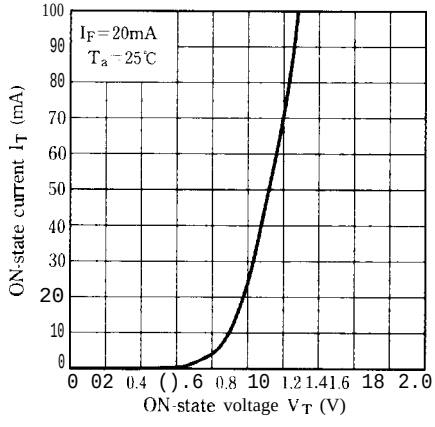
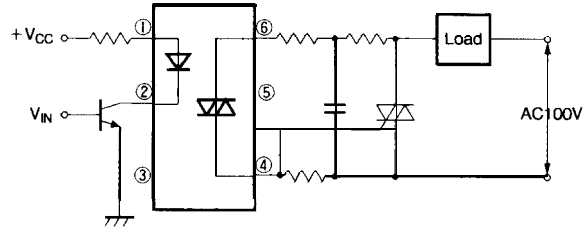


Fig.11 ON-state Current vs. ON-state Voltage



■ Basic Operation Circuit

Medium/High Power Triac Drive Circuit



Note) Please use on condition of the triac for power triggers

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