

S11MS7

High Speed/ High Noise-resistance Type Phototriac Coupler

■ Features

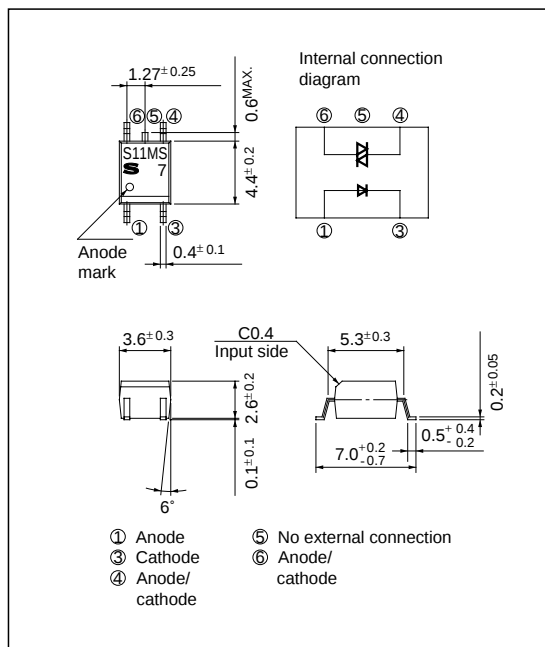
1. High speed (t_{on} : MAX. 15 μ s)
2. High noise resistance
(dV/dt : MIN. 500V/ μ s)
3. Low trigger current (I_{FT} : MAX. 5mA)
4. Mini-flat package type
5. Recognized by UL, file No.E64380

■ Applications

1. For triggering medium/high power triac

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

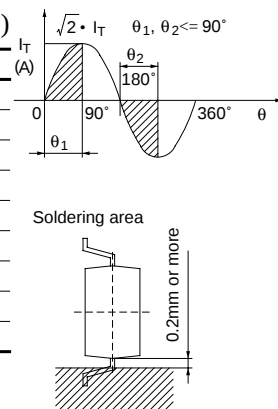
($T_a = 25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Reverse voltage	V_R	6	V
Output	*1RMS ON-state current	I_T	0.05	A_{rms}
	Peak one cycle surge current	I_{surge}	0.6 (50Hz Sine Wave)	A
	Repetitive peak OFF-state voltage	V_{DRM}	400	V
*2Isolation voltage		V_{iso}	2 500	V_{rms}
Operating temperature		T_{opr}	- 30 to +100	$^\circ\text{C}$
Storage temperature		T_{stg}	- 40 to +125	$^\circ\text{C}$
*3Soldering temperature		T_{sol}	260	$^\circ\text{C}$

*1 The definition of conduction angle θ of effective on current I_T should be as shown in the right drawing.

*2 40 to 60% RH, AC for 1 minute, $f = 60\text{Hz}$

*3 For 10 seconds



■ Electro-optical Characteristics

(Ta= 25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F = 20\text{mA}$	-	1.2	1.4	V
	Reverse current	I_R	$V_R = 3\text{V}$	-	-	10	μA
Output	Repetitive peak OFF-state current	I_{DRM}	$V_{\text{DRM}} = \text{Rated}$	-	-	1	μA
	ON-state voltage	V_T	$I_T = 0.05\text{A}$	-	1.3	2.5	V
	Holding current	I_H	$V_D = 6\text{V}$	-	0.5	3.5	mA
	Critical rate of rise of OFF-state voltage	dV/dt	$V_{\text{DRM}} = (1/\sqrt{2}) \cdot \text{Rated}$	500	-	-	$\text{V}/\mu\text{s}$
Transfer charac- teristics	Minimum trigger current	I_{FT}	$V_D = 6\text{V}, R_L = 100\Omega$	-	-	5	mA
	Isolation resistance	R_{ISO}	DC = 500V, 40 to 60% RH	5×10^{10}	10^{11}	-	Ω
	Turn-on time	t_{on}	$V_D = 6\text{V}, R_L = 100\Omega, I_F = 20\text{mA}$	-	10	15	μs

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

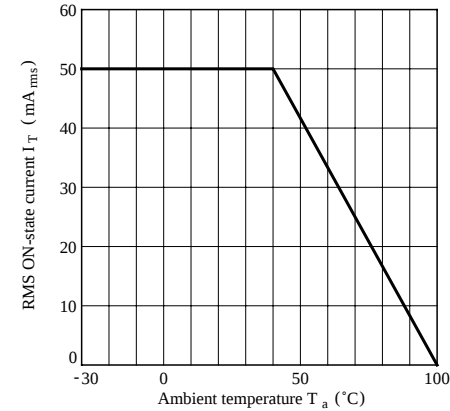


Fig. 2 Forward Current vs. Ambient Temperature

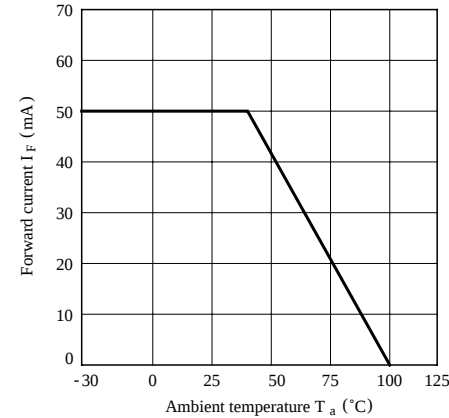


Fig. 3 Forward Current vs. Forward Voltage

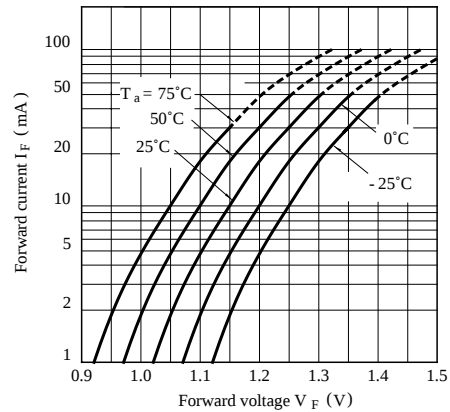


Fig. 4 Minimum Trigger Current vs. Ambient Temperature

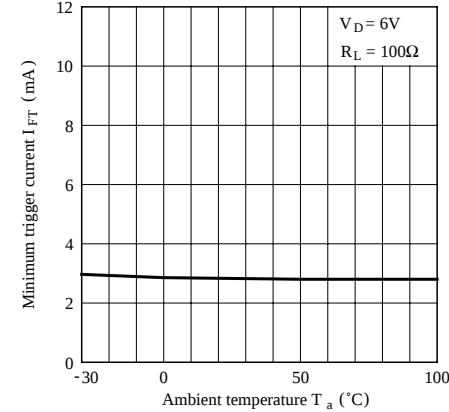


Fig. 5 Relative Repetitive Peak OFF-state Voltage vs. Ambient Temperature

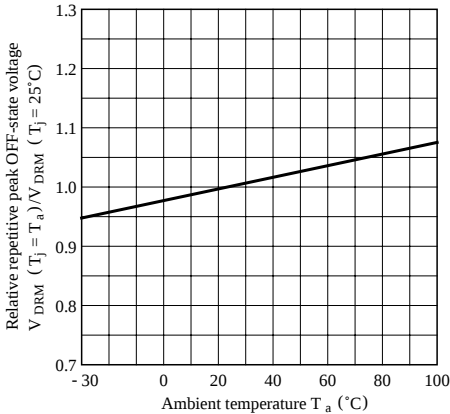


Fig. 6 ON-state Voltage vs. Ambient Temperature

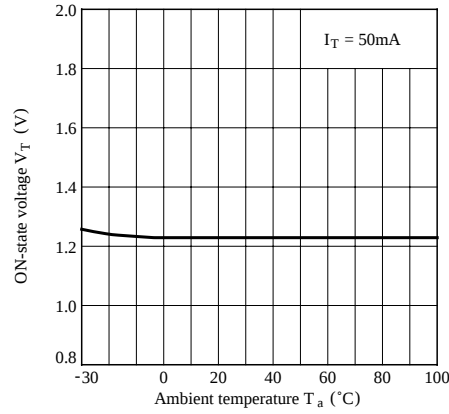


Fig. 7 Holding Current vs. Ambient Temperature

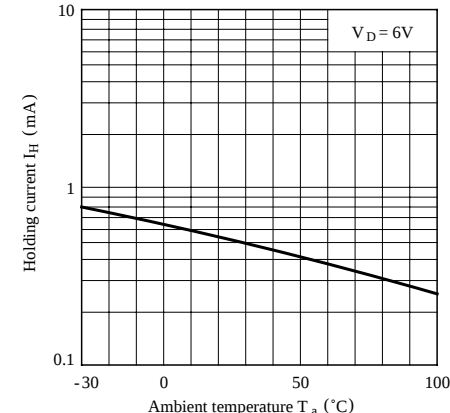


Fig. 8 Repetitive Peak OFF-state Current vs OFF-state Voltage

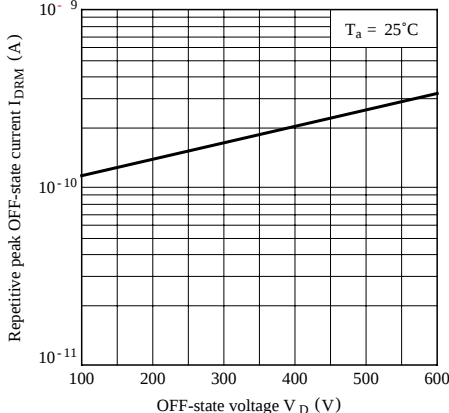


Fig. 9 Relative Repetitive Peak OFF-state Current vs. Ambient Temperature

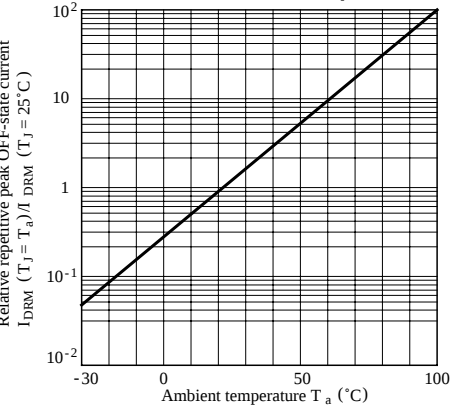
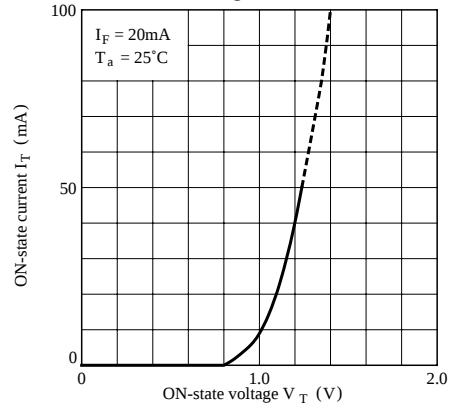


Fig.10 ON-state Current vs. ON-state Voltage



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