S11ME5/S11ME6/S21ME5F S21ME5/S21ME6/S21ME6F

Phototriac Coupler Conformable to European Safety Standard

❋ Lead forming type (I type) of / **S21ME5F**/ **S21ME6F** are also available. (/ **S21ME5FI**/ **S21ME6FI**)
❋ DIN-VDE0884 approved type is also available as an option.

■ Features

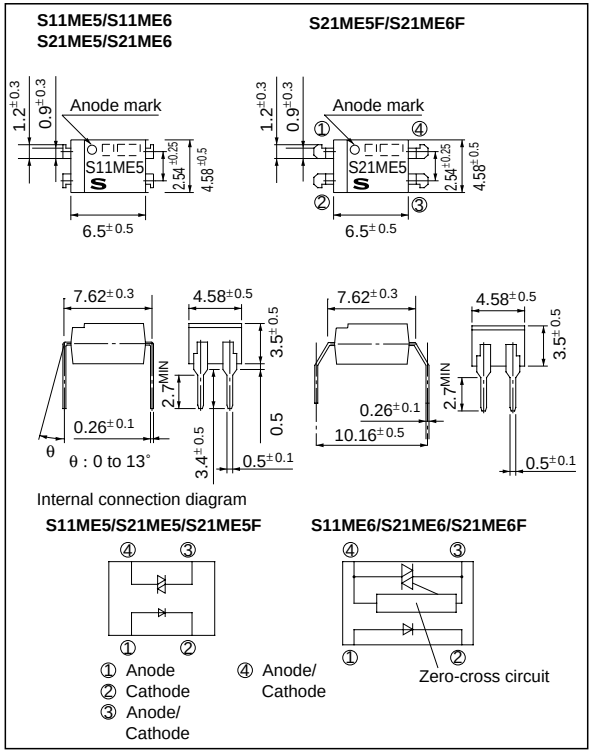
1. Internal isolation distance : 0.4mm or more
2. Creepage distance : 6.4mm or more
3. Clearance : 6.4mm or more
4. Recogized by UL file No. E64380
   Approved by VDE (DIN-VDE0884 : No.76850)
   Approved by BSI (BS415 : No.6690, BS7002 : No.7421)
   Approved by SEMKO (No.9202227)
   Approved by DEMKO (No.107968)
   Approved by EI (No.152029-02,03,04,0116)
5. Built-in zero-cross circuit
   (S11ME6/S21ME6/S21ME6F)
6. Wide forming type **(S21ME5F**, **S21ME6F)**
   (Distance between lead pins : 10.16 mm)
7. High isolation voltage between input and output
   (Viso : 5 000V_{rms})

■ Applications

1. For triggering medium/high power triac
2. For detecting over voltage of switching power supply

■ Outline Dimensions

(Unit : mm)



■ 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	100	mA_{rms}
	*1 Peak one cycle surge current		I_{surge}	1.2	A
	Repetitive peak OFF-state voltage	**S11ME5** / **S11ME6**	V_{DRM}	400	V
		*2**S21ME5** / **S21ME6**		600	
*3 Isolation voltage			V_{iso}	5 000	V_{rms}
Operating temperature			T_{opr}	- 30 to + 100	˚C
Storage temperature			T_{stg}	- 55 to + 125	˚C
*4 Soldering temperature			T_{sol}	260	˚C

∗1 50Hz sine wave ∗2 Also **S21ME5F**/ **S21ME6F**
∗3 40 to 60% RH, AC for 1 minute, f = 60Hz
∗4 For 10 seconds

" In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that occur in equipment using any of SHARP's devices, shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest version of the device specification sheets before using any SHARP's device."

■ Electro-optical 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	-	-	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	-	-	2.5	V
	Holding current	I_H	V_D = 6V	0.1	-	3.5	mA
	Critical rate of rise of OFF-state voltage	dV/dt	V_{DRM} = (1/√2) • Rated	100	-	-	V/μs
	*5Zero-cross voltage	V_{OX}	Resistance load, I_F = 15mA	-	-	35	V
Transfer characteristics	Minimum trigger current	I_{FT}	R_L = 100Ω, V_D = 6V	-	-	10	mA
	Isolation resistance	R_{ISO}	DC = 500V, 40 to 60% RH	5 x 10^{10}	10^{11}	-	Ω
	Turn-on time	t_{on}	V_D = 6V, R_L = 100Ω, I_F = 20mA	-	-	100	μs

*5 **S11ME6**, **S21ME6**, **S21ME6F**

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

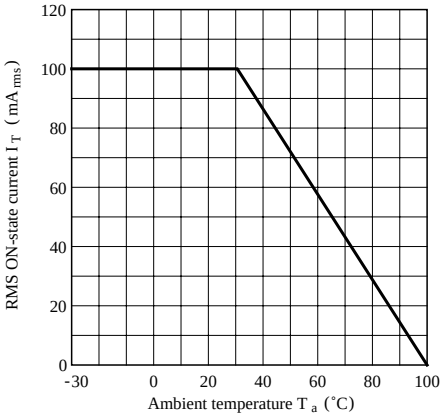


Fig. 2 Forward Current vs. Ambient Temperature

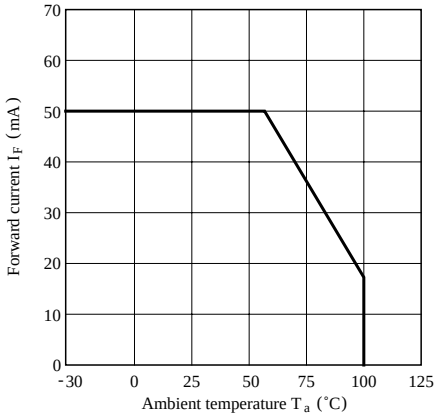


Fig. 3 Forward Current vs. Forward Voltage

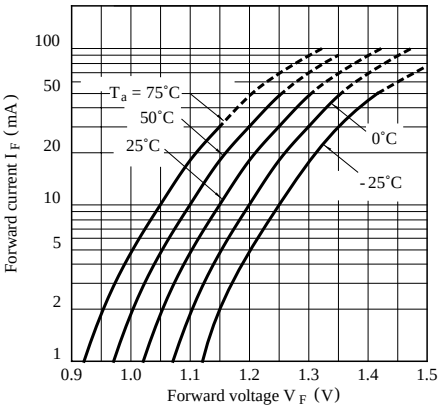


Fig. 4 Minimum Trigger Current vs. Ambient Temperature

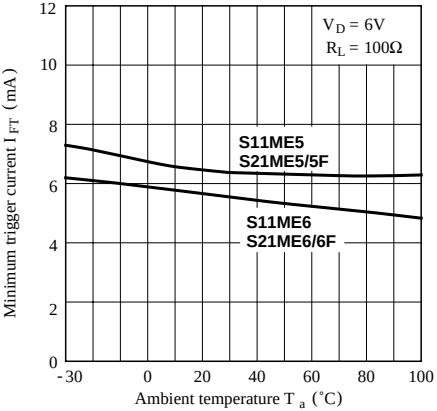


Fig. 5 Relative Repetitive Peak OFF-State Voltage vs. Ambient Temperature

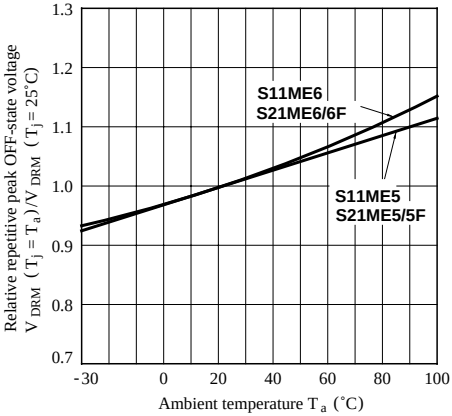


Fig. 6 ON-state Voltage vs. Ambient Temperature

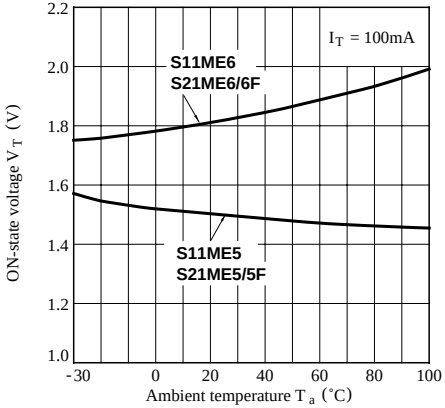


Fig. 7 Holding Current vs. Ambient Temperature

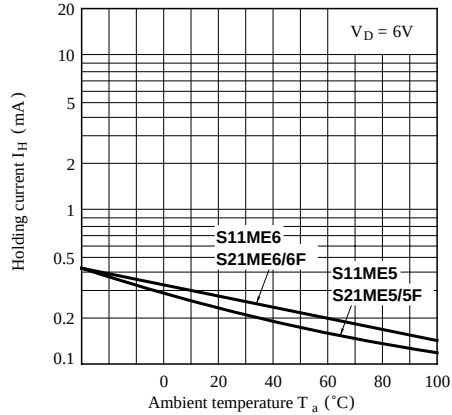


Fig. 8-a Repetitive Peak OFF-state Current vs. OFF-state Voltage (S21ME5/S21ME5F)

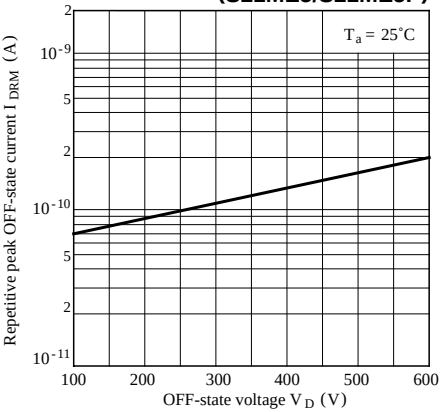


Fig. 8-b Repetitive Peak OFF-state Current vs. OFF-state Voltage (S21ME6/S21ME6F)

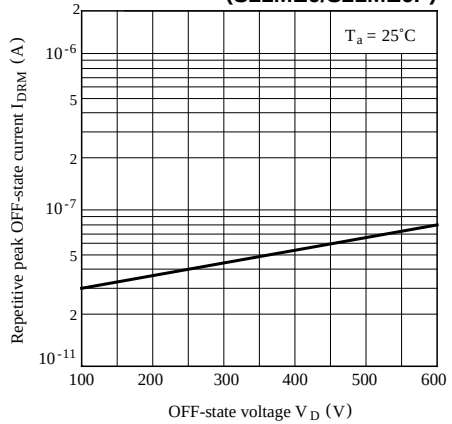


Fig. 9-a Repetitive Peak OFF-state Current vs. Ambient Temperature (S11ME5/S21ME5/S21ME5F)

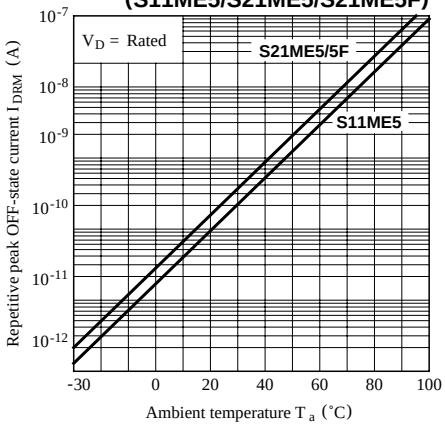


Fig. 9-b Repetitive Peak OFF-state Current vs. Ambient Temperature (S11ME6/S21ME6/S21ME6F)

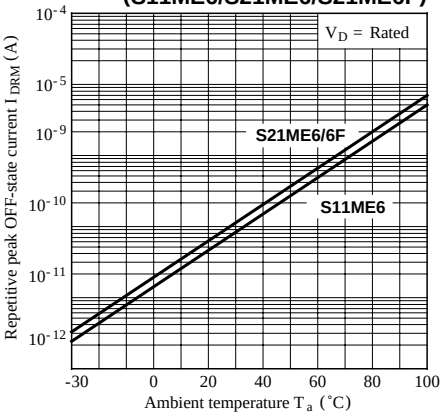


Fig.10 Turn-on Time vs. Forward Current

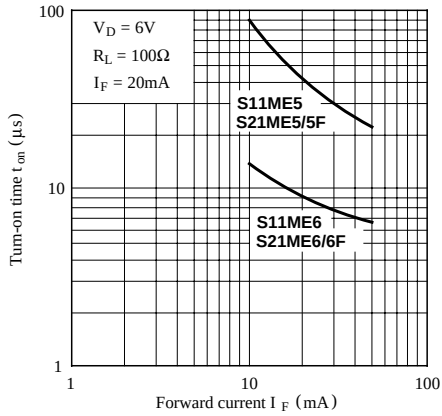


Fig11. Zero-cross Voltage vs. Ambient Temperature (S11ME6/S21ME6/S21ME6F)

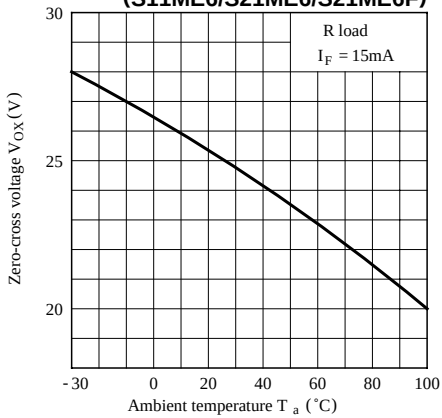
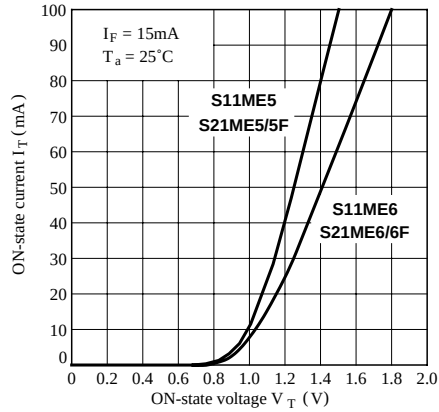


Fig.12 ON-state Current vs. ON-state Voltage



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