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

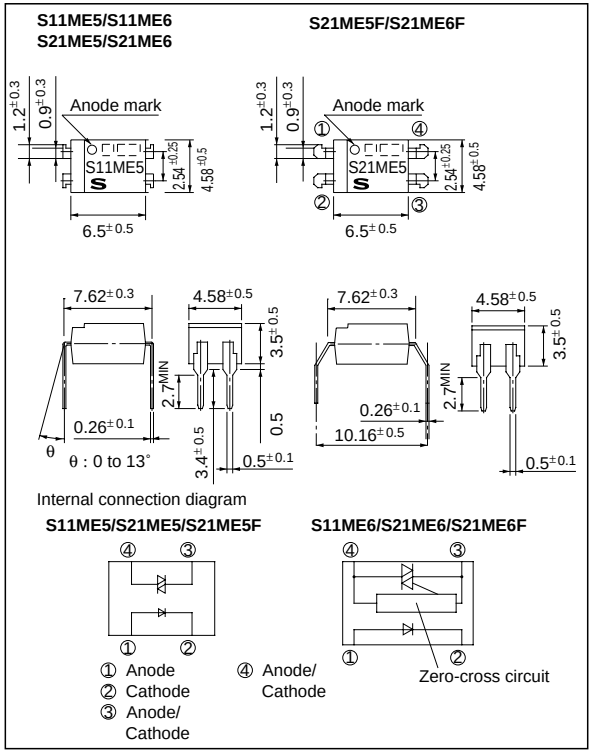
1. Internal isolation distance : 0.4mm or more
2. Creepage distance : 6.4mm or more
3. Clearance : 6.4mm or more
4. Recogized by UL file No. E64380
   Approved by VDE (DIN-VDE0884 : No.76850)
   Approved by BSI (BS415 : No.6690, BS7002 : No.7421)
   Approved by SEMKO (No.9202227)
   Approved by DEMKO (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

■ 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

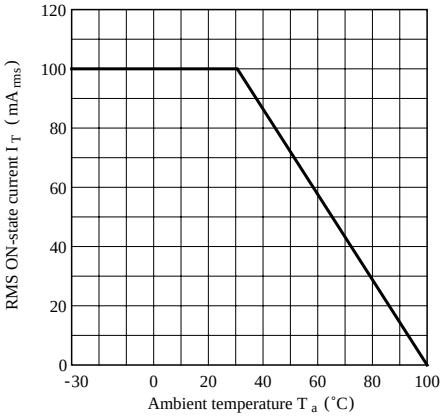


Fig. 2 Forward Current vs. Ambient Temperature

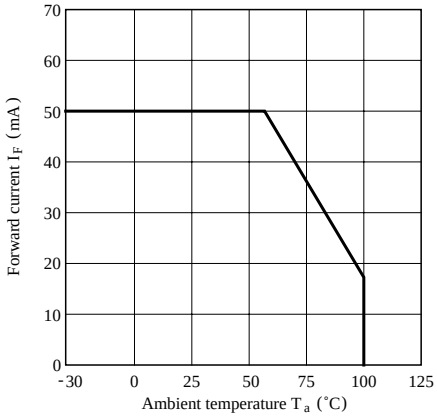


Fig. 3 Forward Current vs. Forward Voltage

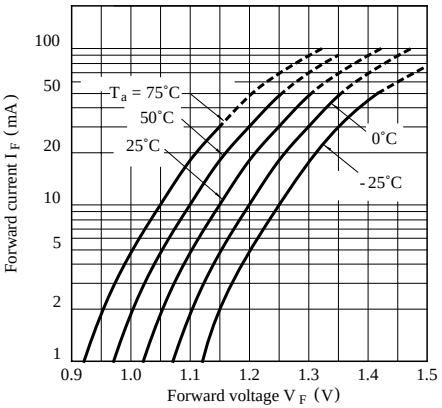


Fig. 4 Minimum Trigger Current vs. Ambient Temperature

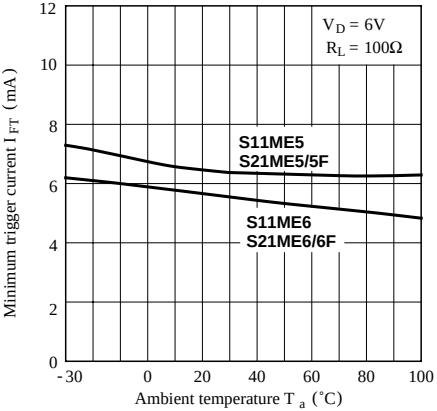


Fig. 5 Relative Repetitive Peak OFF-State Voltage vs. Ambient Temperature

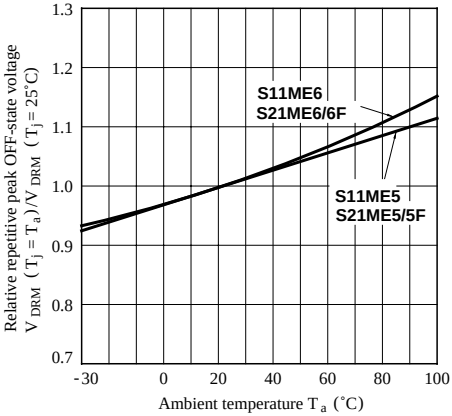


Fig. 6 ON-state Voltage vs. Ambient Temperature

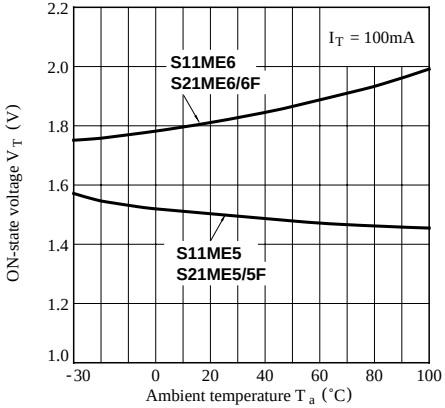


Fig. 7 Holding Current vs. Ambient Temperature

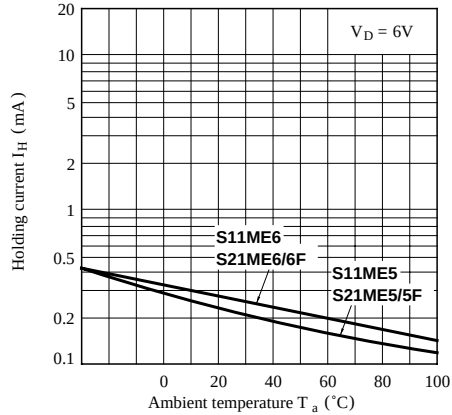


Fig. 8-a Repetitive Peak OFF-state Current vs. OFF-state Voltage (S21ME5/S21ME5F)

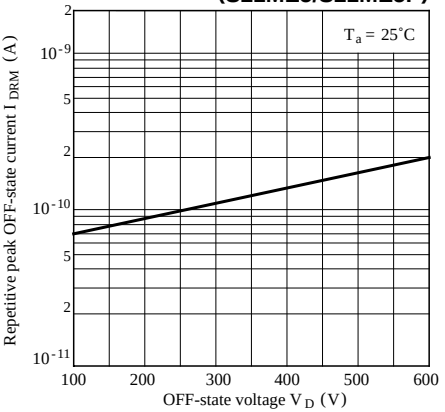


Fig. 8-b Repetitive Peak OFF-state Current vs. OFF-state Voltage (S21ME6/S21ME6F)

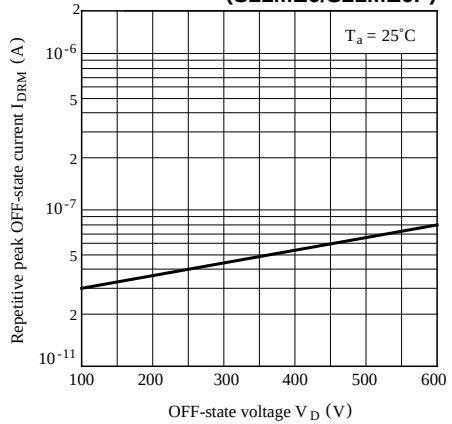


Fig. 9-a Repetitive Peak OFF-state Current vs. Ambient Temperature (S11ME5/S21ME5/S21ME5F)

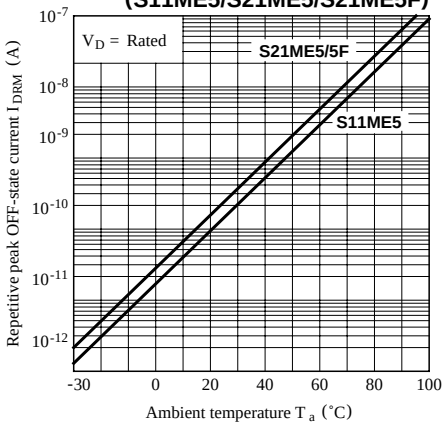


Fig. 9-b Repetitive Peak OFF-state Current vs. Ambient Temperature (S11ME6/S21ME6/S21ME6F)

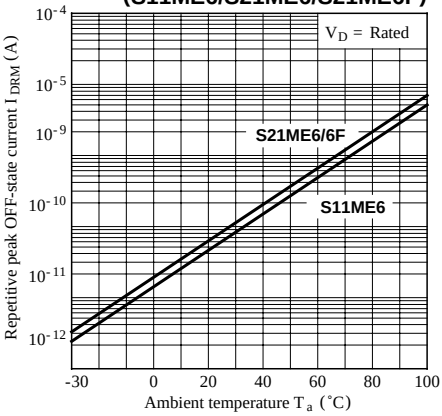


Fig.10 Turn-on Time vs. Forward Current

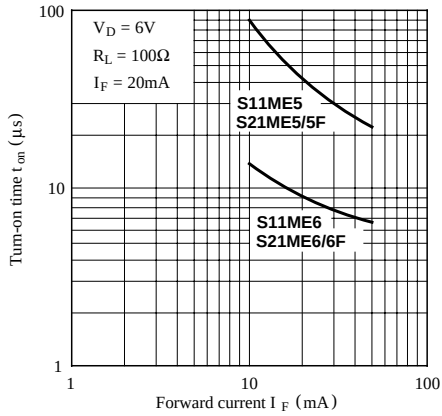


Fig11. Zero-cross Voltage vs. Ambient Temperature (S11ME6/S21ME6/S21ME6F)

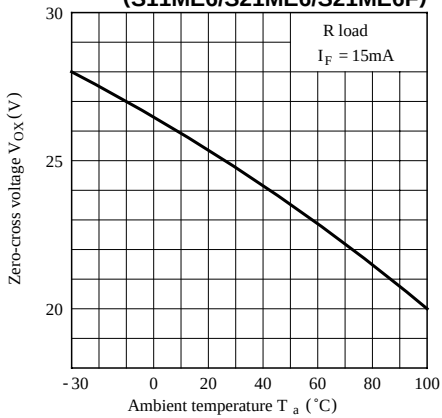
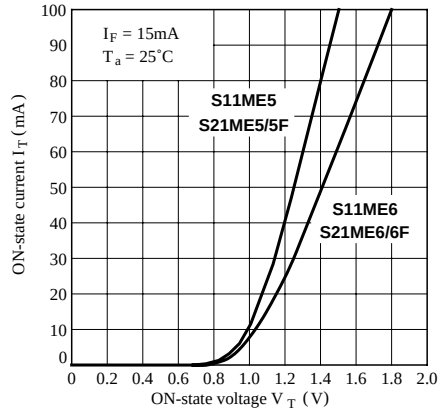


Fig.12 ON-state Current vs. ON-state Voltage



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

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— Alarm equipment
— Various safety devices, etc.

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