

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

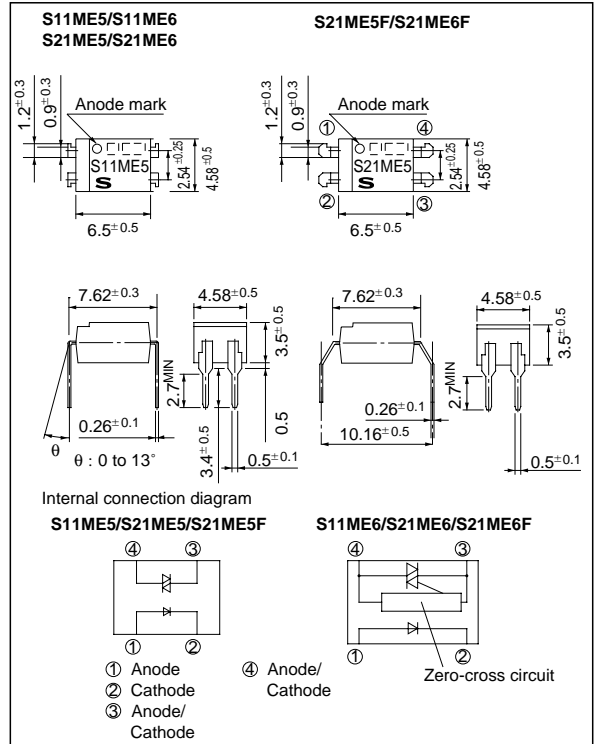
- Internal isolation distance : 0.4mm or more
- Creepage distance : 6.4mm or more
- Clearance : 6.4mm or more
- Recognized by UL file No. E64380
 - Approved by VDE (DIN-VDE0884 : No.76850)
 - Approved by BSI (BS415 : No.6690, BS7002 : No.7421)
 - Approved by SEMKO (No.9202227)
 - Approved by DEMKO (No.107968)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

■ Applications

- For triggering medium/high power triac
- 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	V_{DRM}	400	V
	*2 S11ME5 / S11ME6 *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	$I_F = 20\text{mA}$	-	1.2	1.4	V
	Reverse current	I_R	$V_R = 3\text{V}$	-	-	10^{-5}	A
Output	Repetitive peak OFF-state current	I_{DRM}	$V_{\text{DRM}} = \text{Rated}$	-	-	10^{-6}	A
	ON-state voltage	V_T	$I_T = 100\text{mA}$	-	-	2.5	V
	Holding current	I_H	$V_D = 6\text{V}$	0.1	-	3.5	mA
	Critical rate of rise of OFF-state voltage	dV/dt	$V_{\text{DRM}} = (1/\sqrt{2}) \cdot \text{Rated}$	100	-	-	V/ μs
	*5Zero-cross voltage	V_{OX}	Resistance load, $I_F = 15\text{mA}$	-	-	35	V
Transfer characteristics	Minimum trigger current	I_{FT}	$R_L = 100\Omega$, $V_D = 6\text{V}$	-	-	10	mA
	Isolation resistance	R_{ISO}	DC = 500V, 40 to 60% RH	5×10^{10}	10^{11}	-	Ω
	Turn-on time	t_{on}	$V_D = 6\text{V}$, $R_L = 100\Omega$, $I_F = 20\text{mA}$	-	-	100	μs

*5 S11ME6, S21ME6, S21ME6F

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

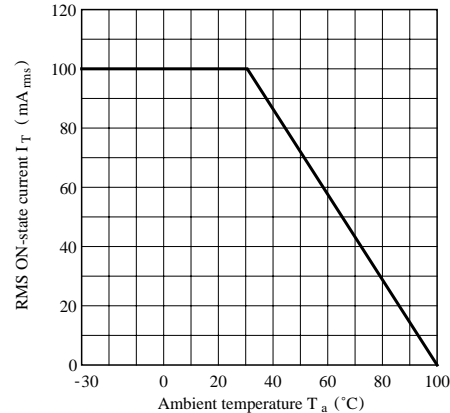


Fig. 2 Forward Current vs. Ambient Temperature

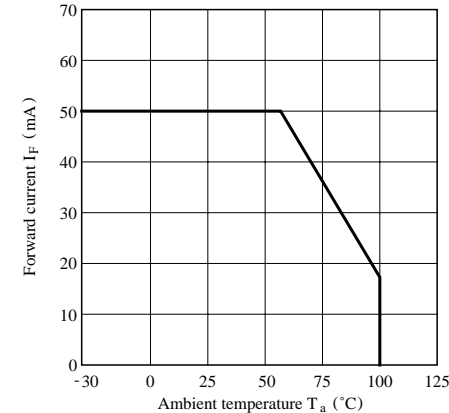


Fig. 3 Forward Current vs. Forward Voltage

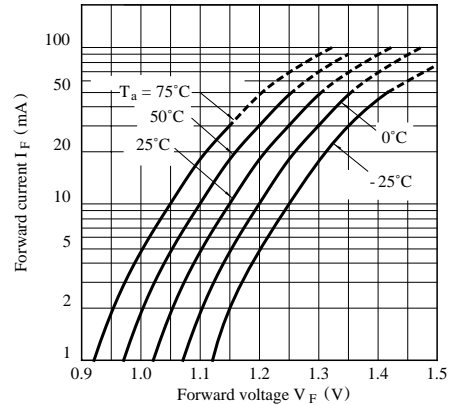


Fig. 4 Minimum Trigger Current vs. Ambient Temperature

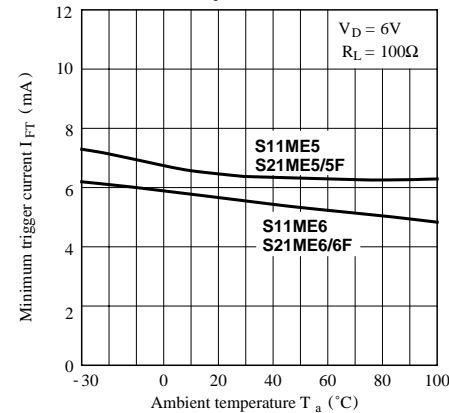


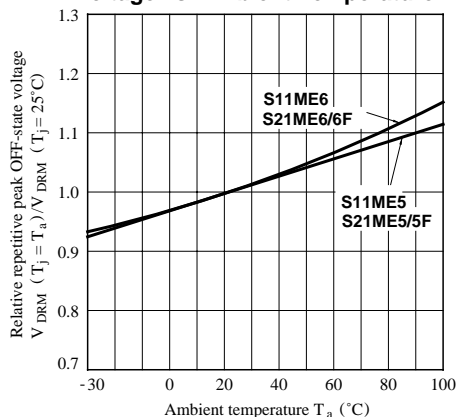
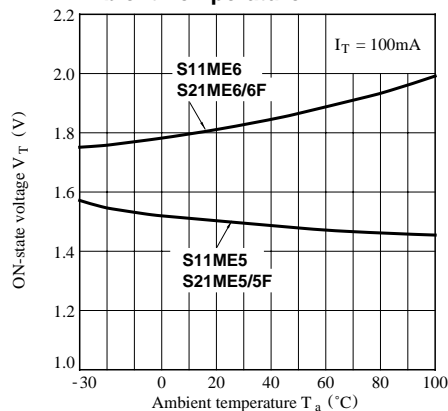
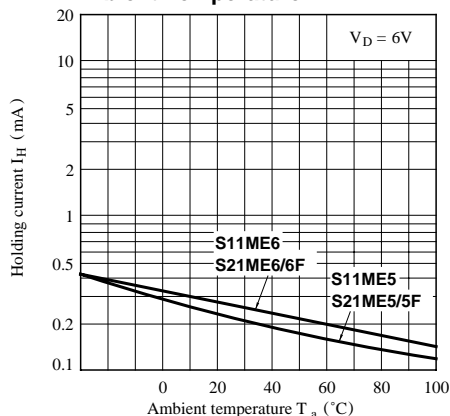
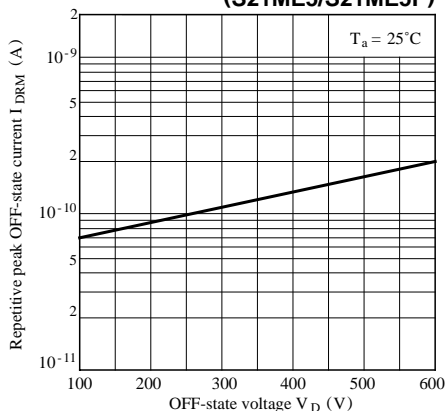
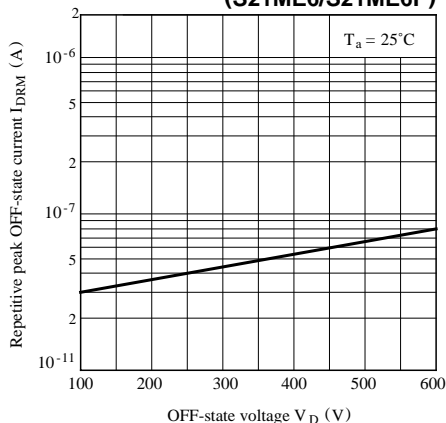
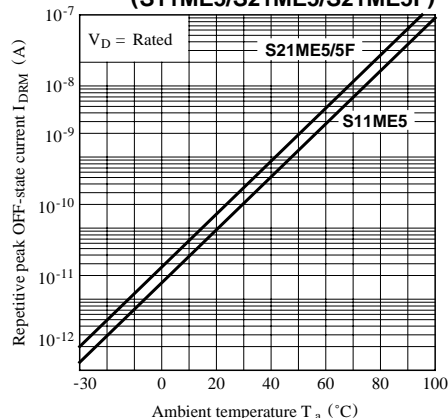
Fig. 5 Relative Repetitive Peak OFF-State Voltage vs. Ambient Temperature**Fig. 6 ON-state Voltage vs. Ambient Temperature****Fig. 7 Holding Current vs. Ambient Temperature****Fig. 8-a Repetitive Peak OFF-state Current vs. OFF-state Voltage (S21ME5/S21ME5F)****Fig. 8-b Repetitive Peak OFF-state Current 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)

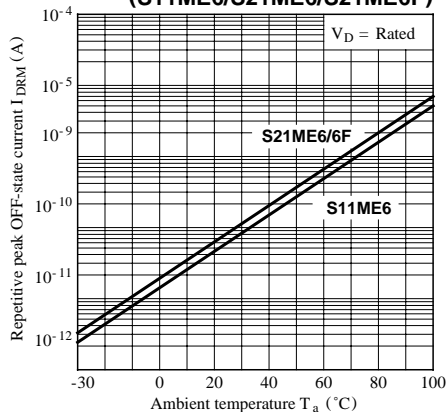


Fig.10 Turn-on Time vs. Forward Current

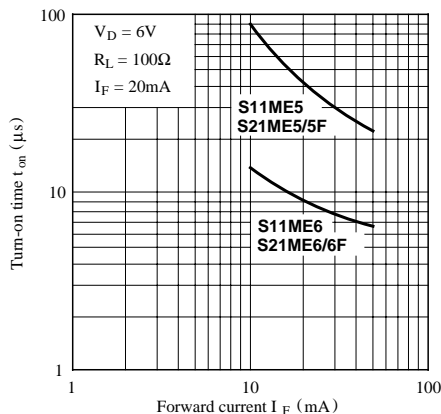


Fig11. Zero-cross Voltage vs. Ambient Temperature (S11ME6/S21ME6/S21ME6F)

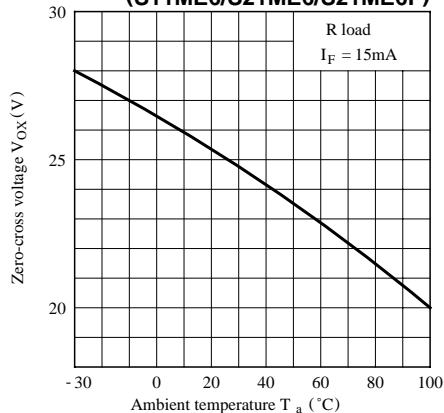
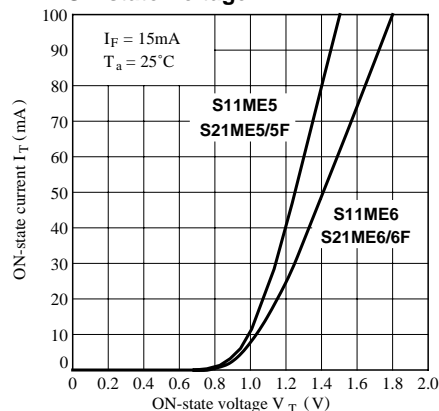


Fig.12 ON-state Current vs. ON-state Voltage



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