

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. 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)

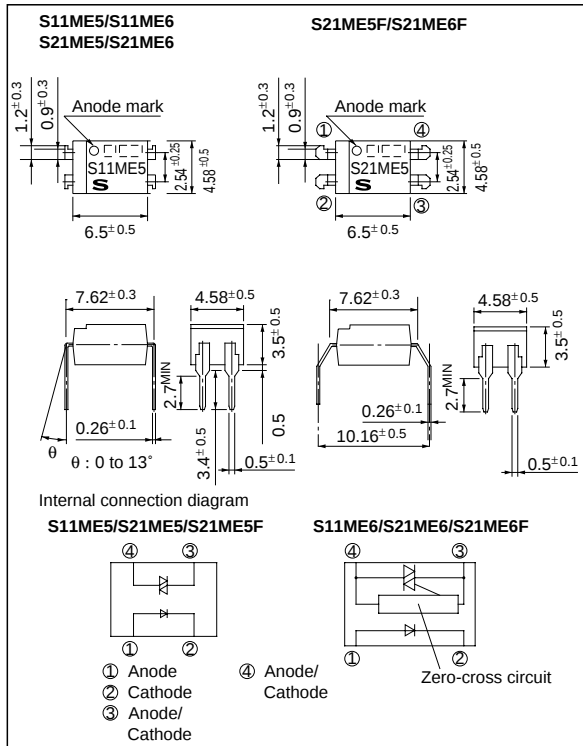
5. Built-in zero-cross circuit
(S11ME6/S21ME6/S21ME6F)
6. Wide forming type **(S21ME5F, S21ME6F)**
(Distance between lead pins : 10.16 mm)
7. High isolation voltage between input and output
(Viso : 5 000V_{rms})

■ Applications

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

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

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

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
		*2S21ME5/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, $f = 60\text{Hz}$

*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

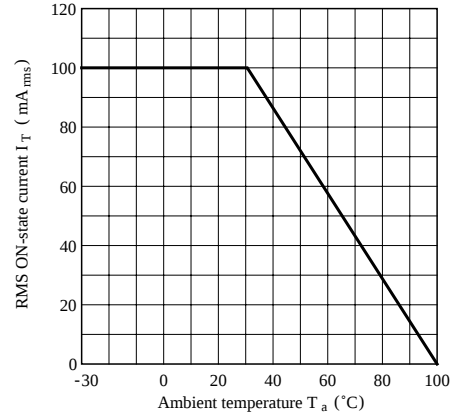


Fig. 2 Forward Current vs. Ambient Temperature

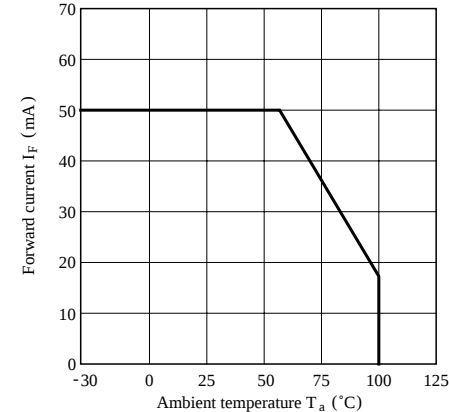


Fig. 3 Forward Current vs. Forward Voltage

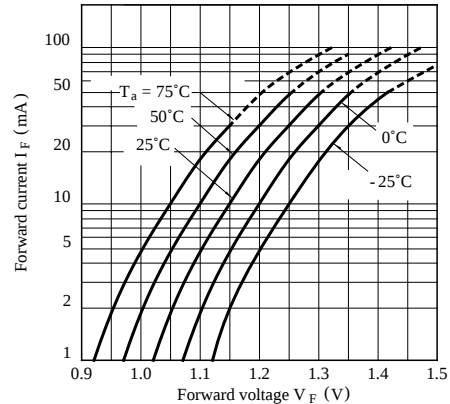


Fig. 4 Minimum Trigger Current vs. Ambient Temperature

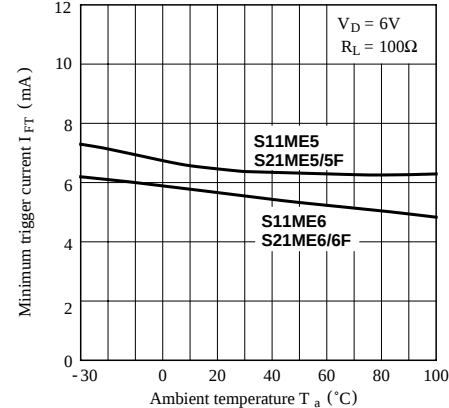


Fig. 5 Relative Repetitive Peak OFF-State Voltage vs. Ambient Temperature

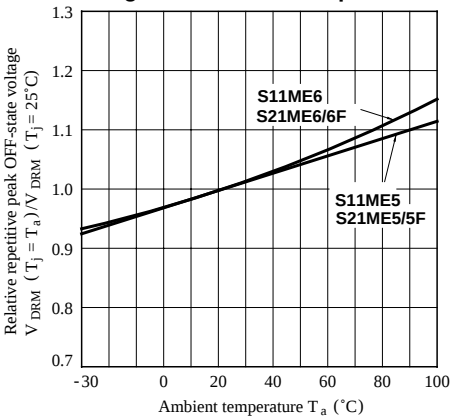


Fig. 6 ON-state Voltage vs. Ambient Temperature

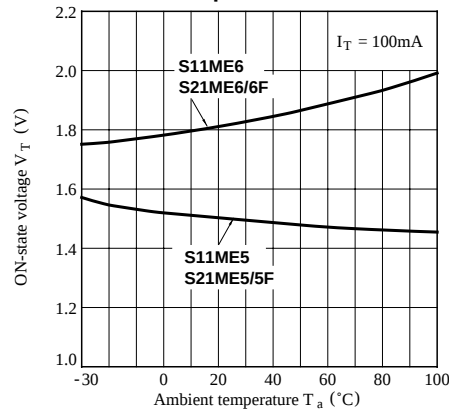


Fig. 7 Holding Current vs. Ambient Temperature

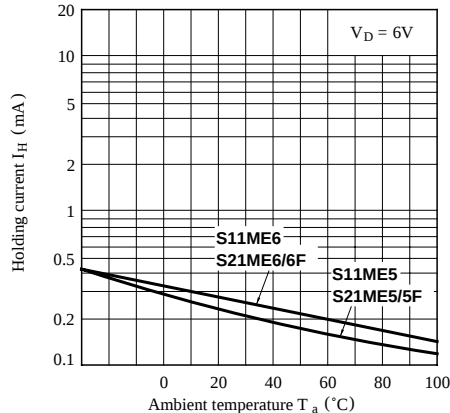


Fig. 8-a Repetitive Peak OFF-state Current vs. OFF-state Voltage (S21ME5/S21ME5F)

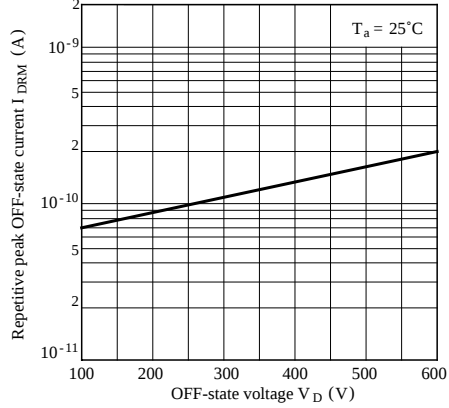


Fig. 8-b Repetitive Peak OFF-state Current vs. OFF-state Voltage (S21ME6/S21ME6F)

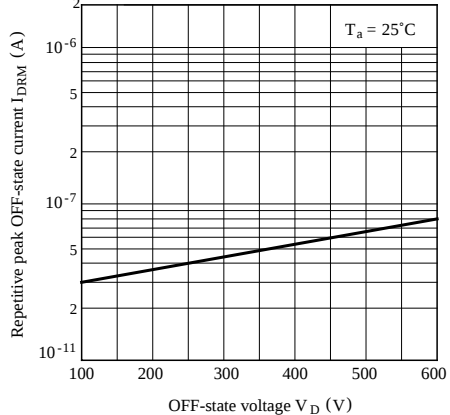


Fig. 9-a Repetitive Peak OFF-state Current vs. Ambient Temperature (S11ME5/S21ME5/S21ME5F)

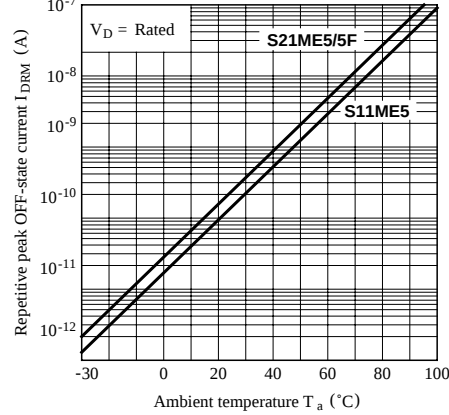


Fig. 9-b Repetitive Peak OFF-state Current vs. Ambient Temperature (S11ME6/S21ME6/S21ME6F)

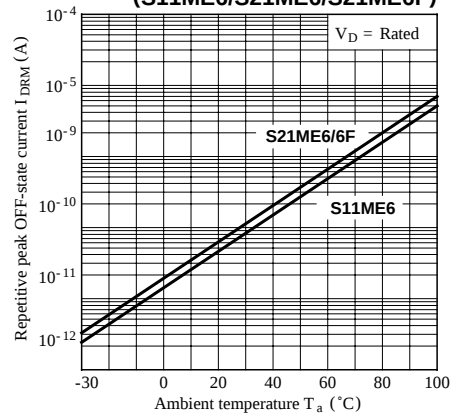


Fig.10 Turn-on Time vs. Forward Current

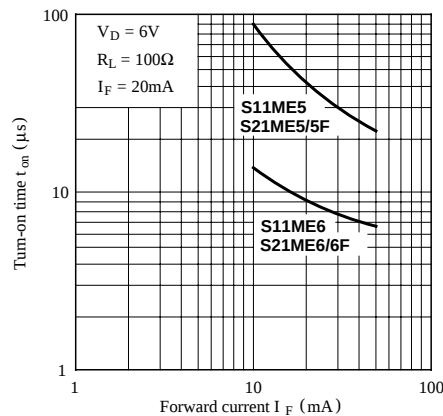


Fig11. Zero-cross Voltage vs. Ambient Temperature (S11ME6/S21ME6/S21ME6F)

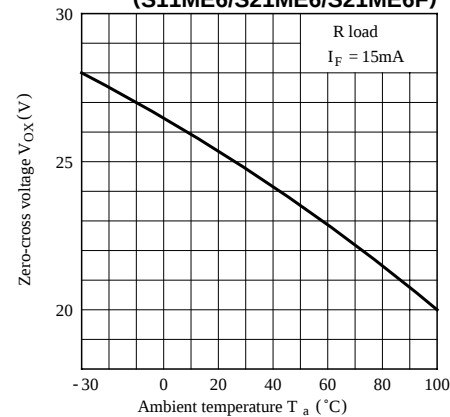
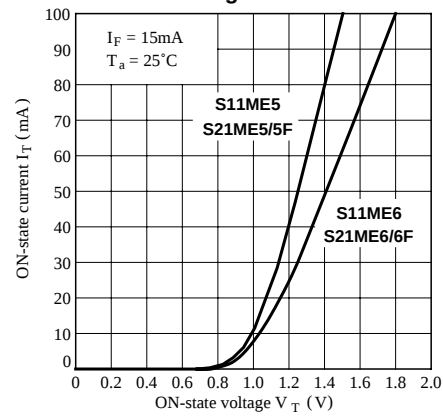


Fig.12 ON-state Current vs. ON-state Voltage



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