S21ME8/S21ME8F

High Repetitive Peak OFF-State Voltage Type Phototriac Couplers

■ Features

1. High repetitive peak OFF-state voltage (V_{DRM} : MIN. 800V)
2. Low minimum trigger current (I_{FT} : MAX. 3mA)
3. Internal insulation distance : 0.5mm or more
4. Long creepage distance type
   (Creepage distance : 8mm or more)
5. Built-in zero-cross circuit
6. High isolation voltage between input and output
   (V_{iso} : 5 000V_{rms})
7. Recoginized by UL file No. E64380
   Approved by BSI, No. 6690, No. 7421
   Approved by SEMKO, No. 9843099
   Approved by DEMKO, No. 308207
   ❋DIN-VDE 0884 approved type is also available as an option
   (S21ME8Y/S21ME8FY)
   Approved by VDE, No. 77294

■ Applications

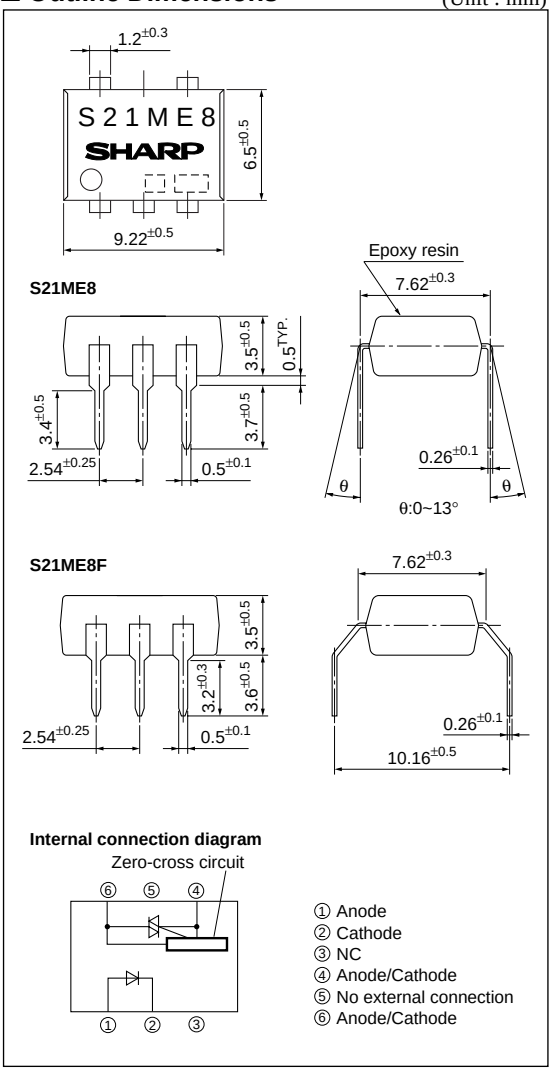
1. For triggering medium/high power triac

■ Absolute Maximum Ratings (Ta=25˚C)

Parameter		Symbol	Rating	Unit
Input	*1 Forward current	I_F	15	mA
	Reverse voltage	V_R	6	V
Output	*1 RMS ON-state current	I_T	0.1	A_{rms}
	Peak one cycle surge current	I_{surge}	*3 1.2	A
	Repetitive peak OFF-state voltage	V_{DRM}	800	V
Operating temperature		T_{opr}	–30 to +100	˚C
Storage temperature		T_{stg}	–55 to +125	˚C
*2 Isolation voltage		V_{iso}	5 000	V_{rms}
Soldering temperature		T_{SOL}	*4 260	˚C

*1 The derating factors of absolute maximum ratings due to ambient temperature are shown in Fig.1 to 2.
*2 40 to 60%RH, AC for 1min, f=60Hz.
*3 50Hz, sine wave.
*4 For 10s.

■ Outline Dimensions (Unit : mm)



■ Electro-optical Characteristics

(Ta=25˚C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	I_F=6mA	–	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=0.1A	–	1.7	3.0	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	500	–	–	V/μs
Transfer characteristics	Zero-cross voltage	V_{ox}	I_F=6mA, Resistance load	–	–	20	V
	Minimum trigger current	I_{FT}	V_D=6V, R_L=100Ω	–	–	3.0	mA
	Isolation resistance	R_{iso}	DC=500V, 40 to 60%RH	5×10^{10}	1×10^{11}	–	Ω
	Turn-on time	t_{on}	V_D=6V, R_L=100Ω, I_F=6mA	–	–	50	μs

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

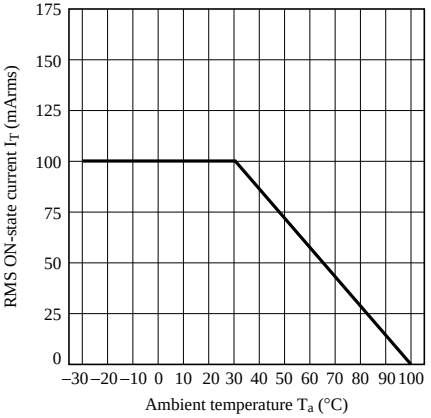


Fig.2 Forward Current vs. Ambient Temperature

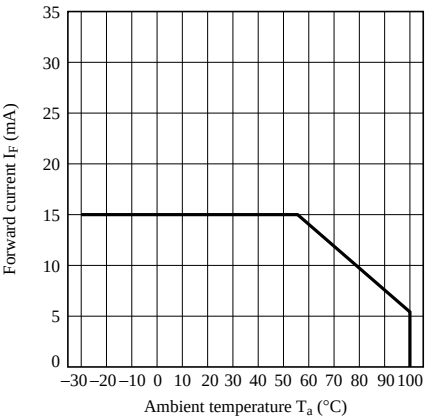


Fig.3 Forward Current vs. Forward Voltage

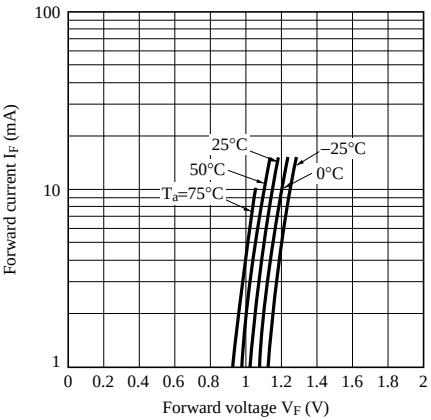


Fig.4 Minimum Trigger Current vs. Ambient Temperature

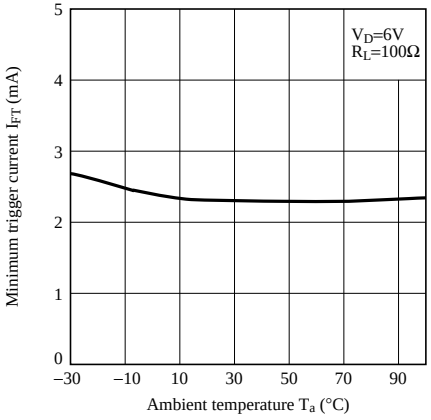


Fig.5 Relative Repetitive Peak OFF-state Voltage vs. Ambient Temperature

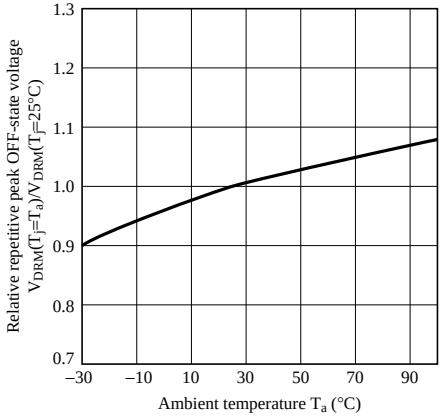


Fig.6 ON-state Voltage vs. Ambient Temperature

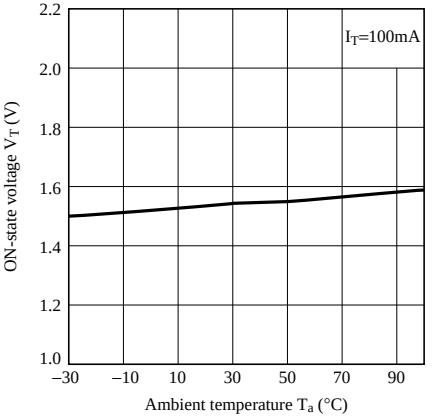


Fig.7 Holding Current vs. Ambient Temperature

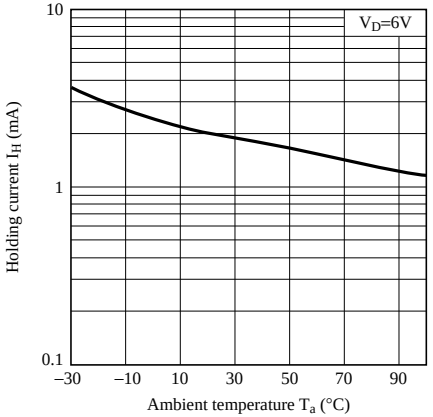


Fig.8 Repetitive Peak OFF-state Current vs. Ambient Temperature

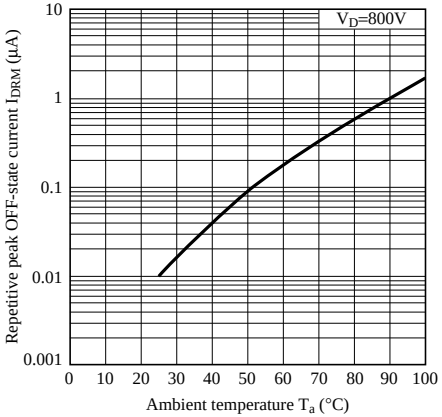


Fig.9 Turn-on Time vs. Forward Current

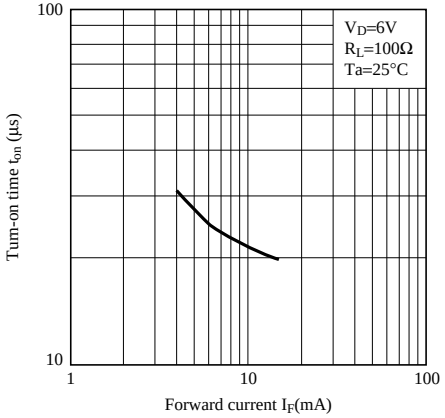


Fig.10 Zero-cross Voltage vs. Ambient Temperature

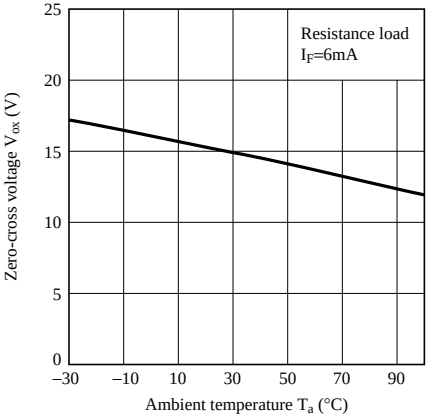


Fig.11 Zero-cross Voltage vs. Forward Current

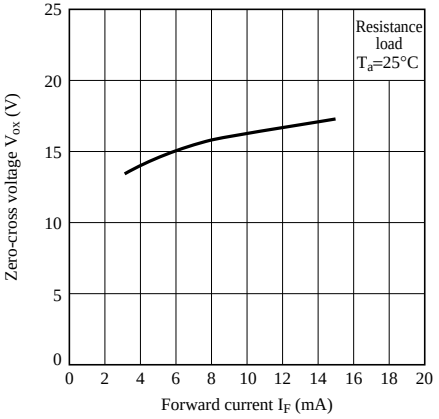


Fig.12 ON-state Current vs. ON-state Voltage

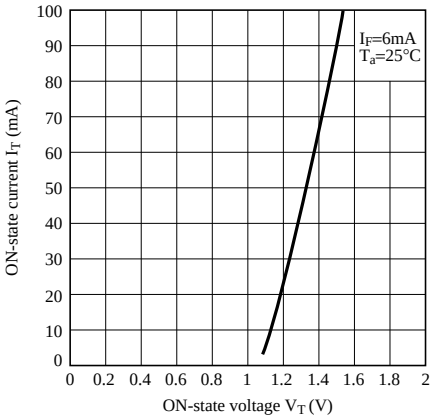
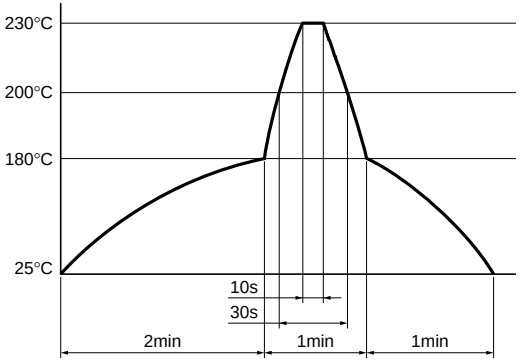


Fig.13 Reflow Soldering

Only one time soldering is recommended within the temperature profile shown below.



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