

S21ME8/S21ME8F

High Repetitive Peak OFF-State Voltage Type Phototriac Couplers

■ Features

- High repetitive peak OFF-state voltage (V_{DRM} : MIN. 800V)
- Low minimum trigger current (I_{FT} : MAX. 3mA)
- Internal insulation distance : 0.5mm or more
- Long creepage distance type
(Creepage distance : 8mm or more)
- Built-in zero-cross circuit
- High isolation voltage between input and output
(V_{iso} : 5 000V_{rms})
- Recognized 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

- 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.

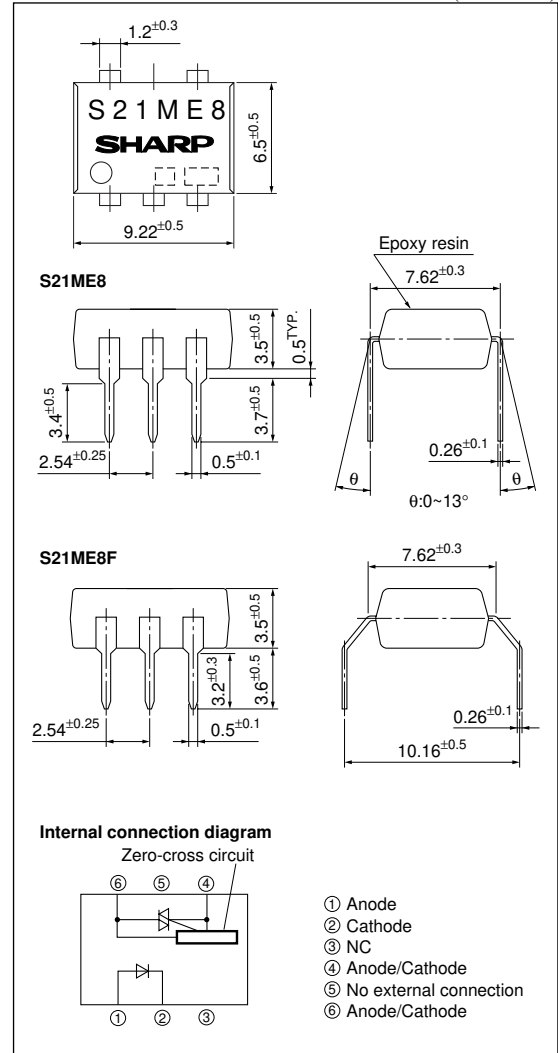
*2 40 to 60%RH, AC for 1min, f=60Hz.

*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}	$V_{DRM}=\text{Rated}$	-	-	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	$V_{DRM}=1/\sqrt{2}\text{-Rated}$	500	-	-	V/ μs
Transfer characteristics	Zero-cross voltage	V_{ox}	$I_F=6mA$, Resistance load	-	-	20	V
	Minimum trigger current	I_{FT}	$V_D=6V$, $R_L=100\Omega$	-	-	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}	$V_D=6V$, $R_L=100\Omega$, $I_F=6mA$	-	-	50	μs

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

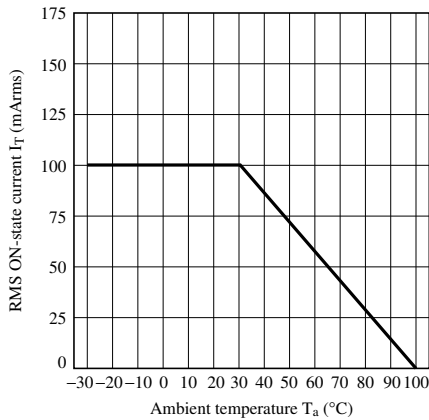


Fig.2 Forward Current vs. Ambient Temperature

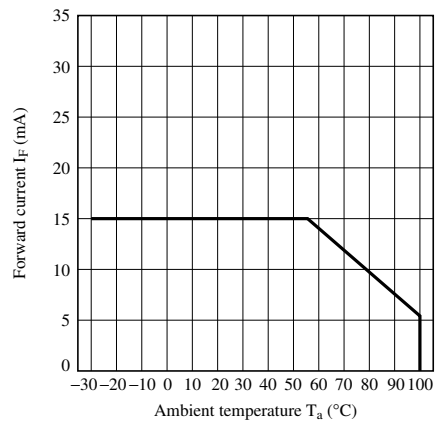


Fig.3 Forward Current vs. Forward Voltage

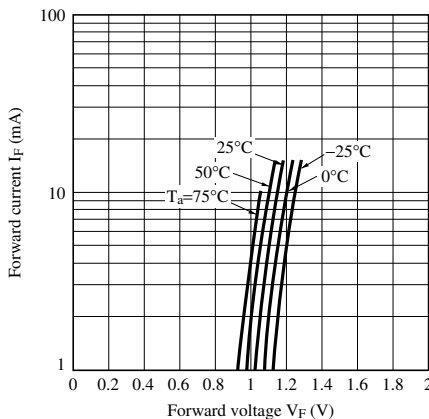


Fig.4 Minimum Trigger Current vs. Ambient Temperature

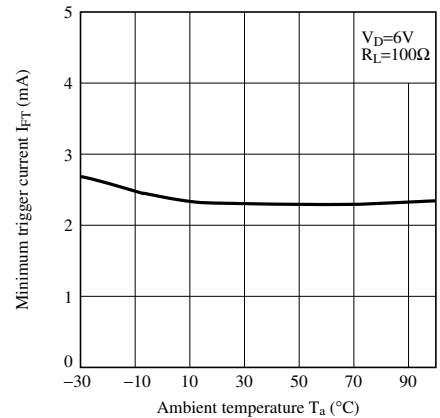


Fig.5 Relative Repetitive Peak OFF-state Voltage vs. Ambient Temperature

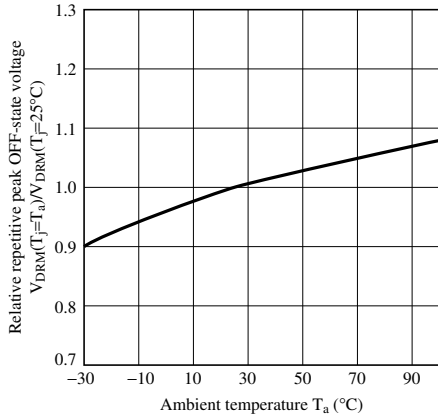


Fig.6 ON-state Voltage vs. Ambient Temperature

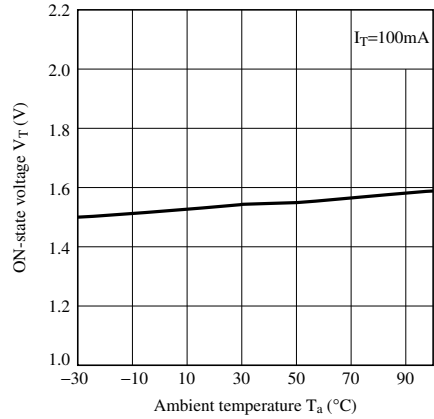


Fig.7 Holding Current vs. Ambient Temperature

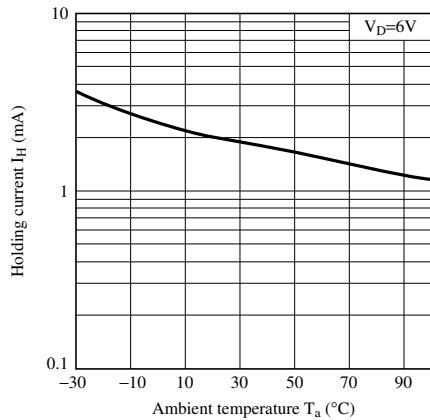


Fig.8 Repetitive Peak OFF-state Current vs. Ambient Temperature

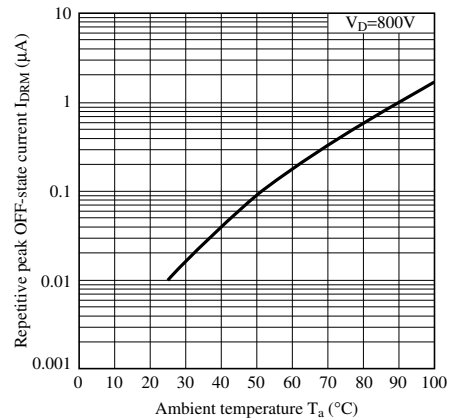


Fig.9 Turn-on Time vs. Forward Current

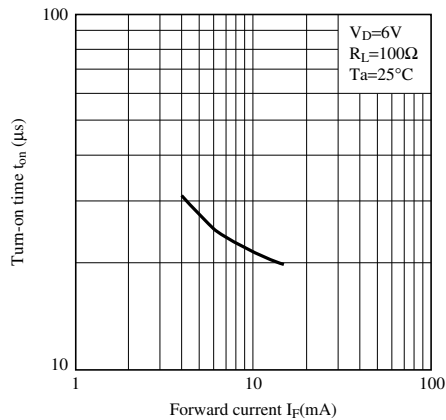


Fig.10 Zero-cross Voltage vs. Ambient Temperature

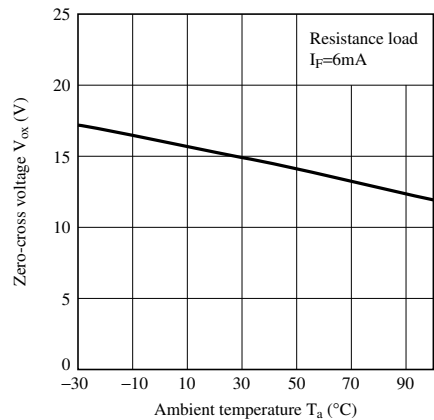


Fig.11 Zero-cross Voltage vs. Forward Current

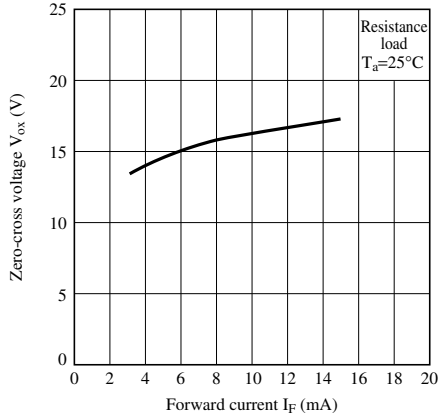


Fig.12 ON-state Current vs. ON-state Voltage

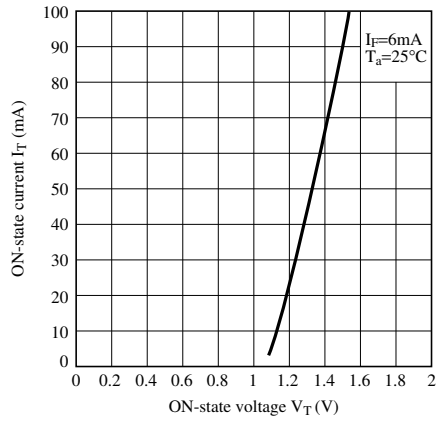
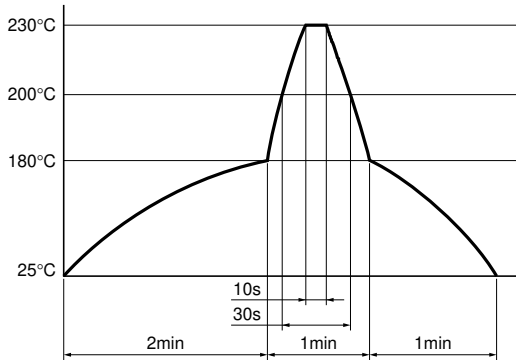


Fig.13 Reflow Soldering

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



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