S21 MD6T

Built-in Zero-cross Circuit Phototriac Coupler

※TÜV (DIN -VDE0884) approved type is also available as an option

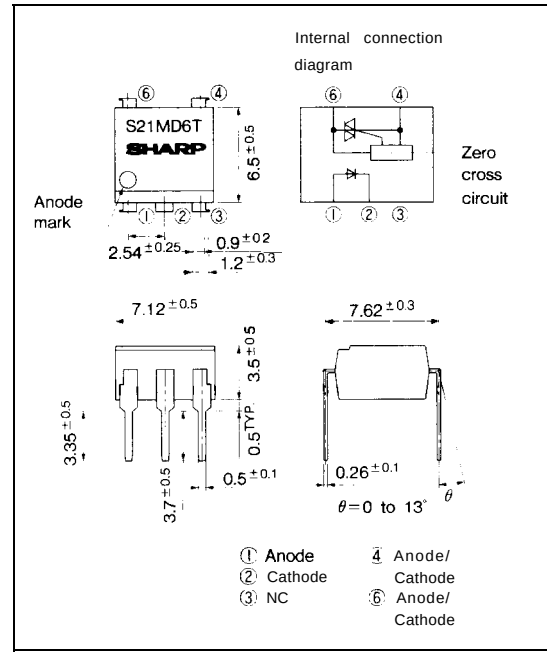
■ Features

1. Built-in zero-cross circuit (200V)
2. No. 5 pin completely molded for external noise resistance
3. Long dielectric distance between AC lines (3.9mm)
4. Recognized by UL. file No. E64380

■ Applications

1. For triggering medium/high power triac

■ Outline Dimensions (Unit : mm)



■ Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Reverse voltage	V_R	6	v'
output	RMS ON-state current	I_T	0.1	A_{rms}
	*1 peak one cycle surge current	I_{surge}	1.2	A
	Repetitive peak OFF-state voltage	V_{DRM}	600	v
*isolation voltage		V_{iso}	5 000	V_{rms}
operating temperature		T_{opr}	-30 to +100	"c
Storage temperature		T_{stg}	−55 to +125	℃
*soldering temperature		T_{sol}	260	"c

*150Hz, sine wave
*2 RH = 40 to 60%, AC fur 1 minute, f= 60Hz
*3 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=0.1A	–	2.0	3.0	v
	Holding current	I_H	V_D=6V	0.1	0.5	3.5	mA
	Critical rate of rise of OFF-state voltage	dV/dt	V_{DRM} = 1/√2 · Rated	100	–	–	v/f. s
	Zero-cross voltage	V_{OX}	Resistance load , I_F=15mA	–	–	35	v
Transfer charac teristics	Minimum trigger current	I_{FT}	V_D=6V, R_L=100Ω	–	–	10	mA
	Isolation resistance	R_{ISO}	DC500V, 40 to 60% RH	5×10^{10}	10^{11}	–	Ω
	Turn-on time	ton	VD=6V, R_L=100Ω, I_F=20mA	–	–	50	μs

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

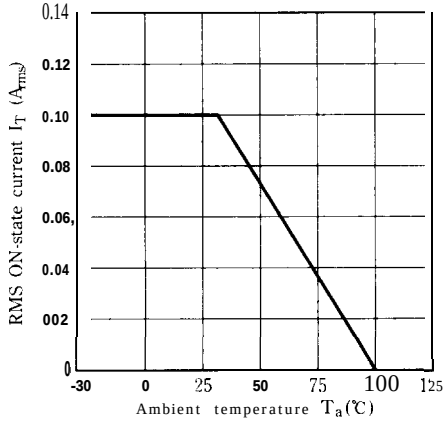


Fig. 2 Forward Current vs. Ambient Temperature

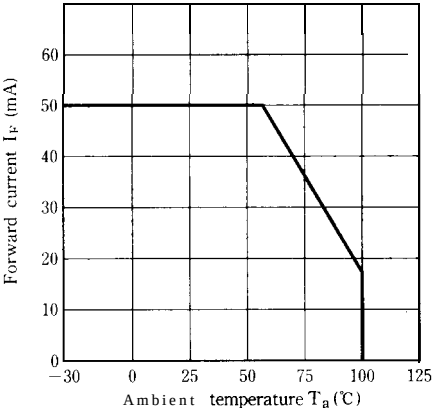


Fig. 3 Forward Current vs. Forward Voltage

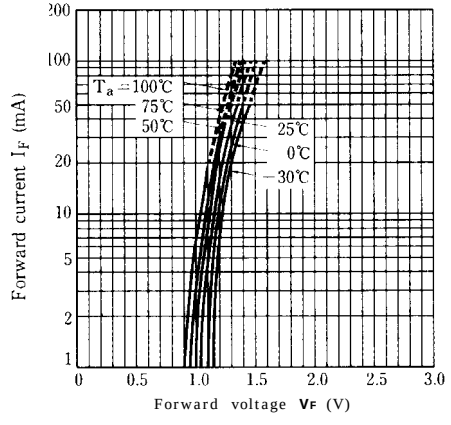
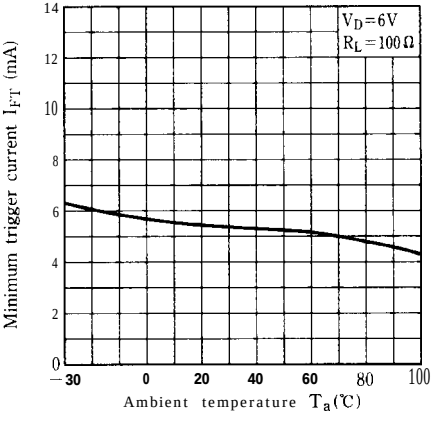


Fig. 4 Minimum Trigger Current vs. Ambient Temperature



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Phototriac Couplers

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

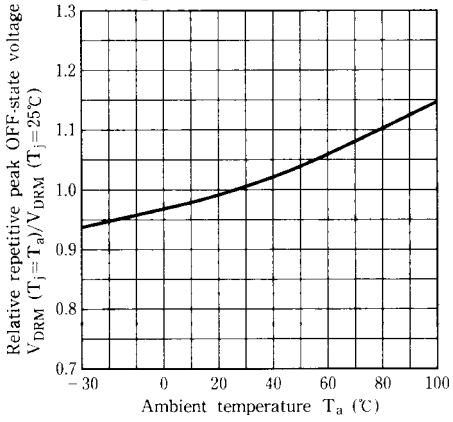


Fig. 6 ON-state Voltage vs. Ambient Temperature

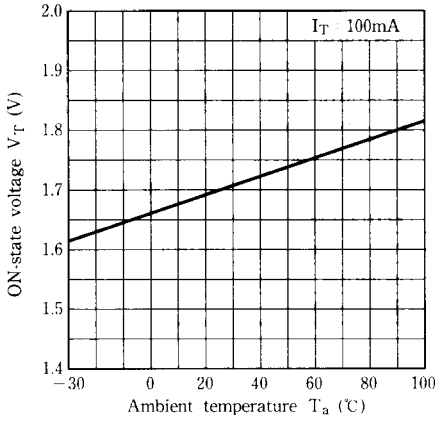


Fig. 7 Holding Current vs. Ambient Temperature

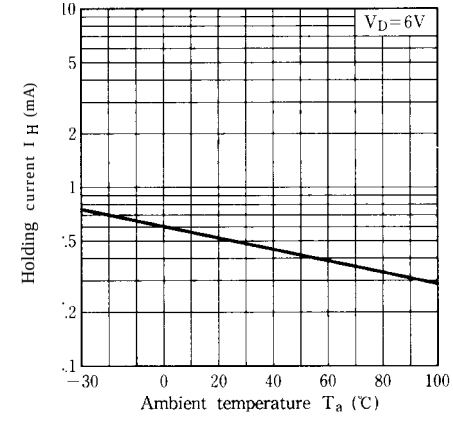


Fig. 8 Repetitive Peak OFF-state Current vs. OFF-state Voltage

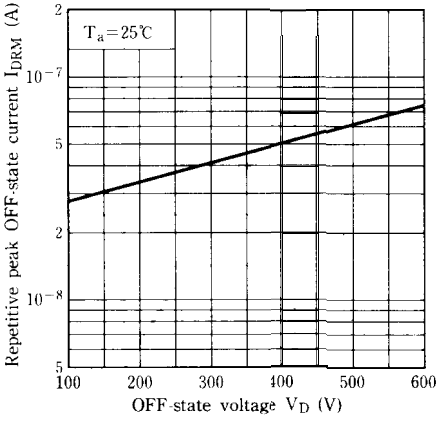


Fig. 9 Repetitive Peak OFF-state Current vs. Ambient Temperature

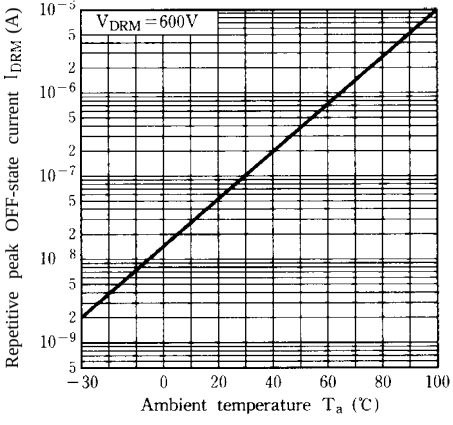


Fig.10 Zero-cross Voltage vs. Ambient Temperature

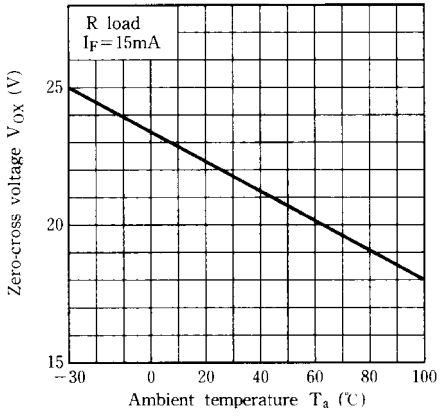
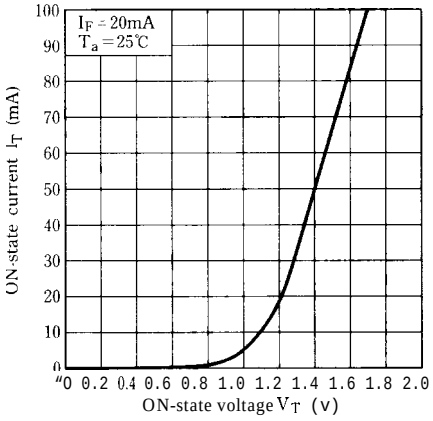
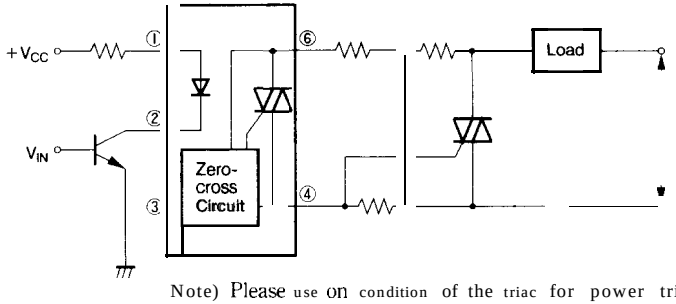


Fig.11 ON-state Current vs. ON-state Voltage



Basic Operation Circuit

Medium/High Power Triac Drive Circuit



Note) Please use on condition of the triac for power triggers.

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