PC4SD21NTZ Series

V_{DRM}: 800V Phototriac Coupler for Triggering

■ Features

1. High repetitive peak OFF-state voltage (V_{DRM}):800V
2. Low zero-cross voltage ($V_{OX[MAX.]}$=20V)
3. Isolation voltage between input and output ($V_{iso\ (rms)}$:5kV)
4. Recognized by UL, file No. E64380 (model No.4SD21)
5. Approved by CSA, file No. CA95323 (model No.4SD21)
6. Approved by VDE(VDE0884), file No.127413 (available as an option)

■ Applications

1. Home appliances
2. OA equipment, FA equipment
3. SSRs

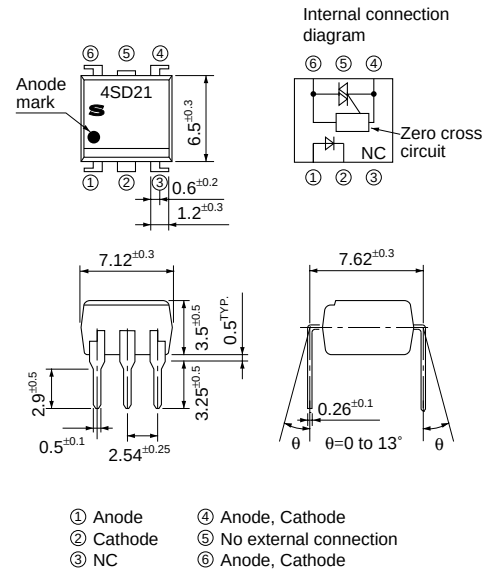
■ Model Line-up

Minimum trigger current ($I_{FT[MAX.]}$)	Model No.
5mA	**PC4SD21NTZC** ***(PC4SD21YTZC)**
3mA	**PC4SD21NTZD** ***(PC4SD21YTZD)**

*VDE(VDE0884) approved type

■ Outline Dimensions

(Unit : mm)



① Anode ④ Anode, Cathode
② Cathode ⑤ No external connection
③ NC ⑥ Anode, Cathode

※ Pin ⑤ is not allowed external connection

■ Absolute Maximum Ratings

(T_a=25°C)

	Parameter	Symbol	Rating	Unit
Input	*1Forward current	I_F	50	mA
	Reverse voltage	V_R	6	V
Output	*1RMS ON-state current	$I_{T\ (rms)}$	0.1	A
	Peak one cycle surge current	I_{surge}	1.2 (50Hz sine wave)	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		$V_{iso\ (rms)}$	5	kV
Soldering temperature		T_{sol}	260 (For 10s)	°C

*1 The derating factors of absolute maximum ratings due to ambient temperature are shown in Fig.1, 2

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

■ Electro-optical Characteristics

(T_a=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_D=V_{DRM}	–	–	3×10^{-6}	A
	ON-state voltage		V_T	I_T=0.1mA	–	–	2.5	V
	Holding current		I_H	V_D=4V	0.1	–	3.5	mA
	Critical rate of rise of OFF-state voltage		dV/dt	$V_D=(1/\sqrt{2})\cdot V_{DRM}$	500	1 000	–	V/µs
	Zero-cross voltage		V_{OX}	Resistance load, I_F=8mA	–	–	20	V
Transfer characteristics	Minimum trigger current	**PC4SD21NTZC**	I_{FT}	V_D=4V, R_L=100Ω	–	–	5	mA
		PC4SD21NTZD			–	–	3	
	Isolation resistance		R_{ISO}	DC=500V, 40 to 60%RH	5×10^{10}	1×10^{11}	–	Ω
	Turn-on time		t_{on}	V_D=4V, R_L=100Ω, I_F=20mA	–	–	50	µs

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

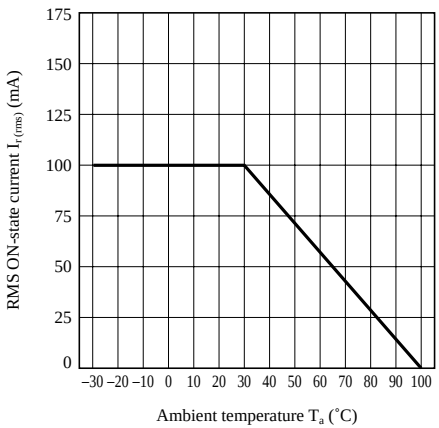


Fig.2 Forward Current vs. Ambient Temperature

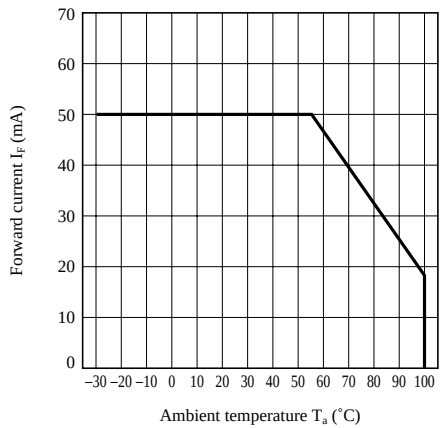


Fig.3 Forward Current vs. Forward Voltage

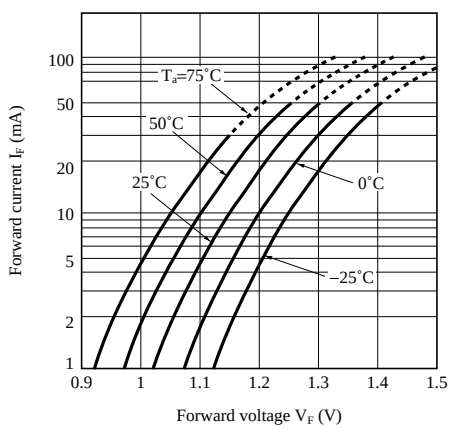


Fig.4 Minimum Trigger Current vs. Ambient Temperature

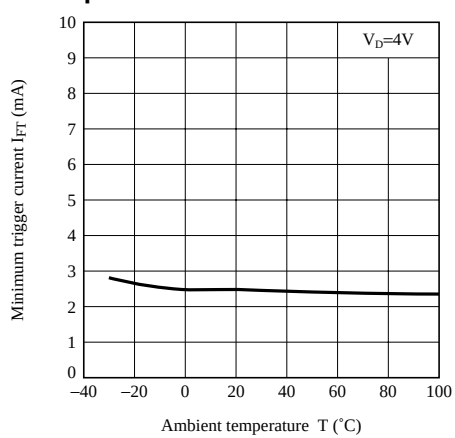


Fig.5 ON-state Voltage vs. Ambient Temperature

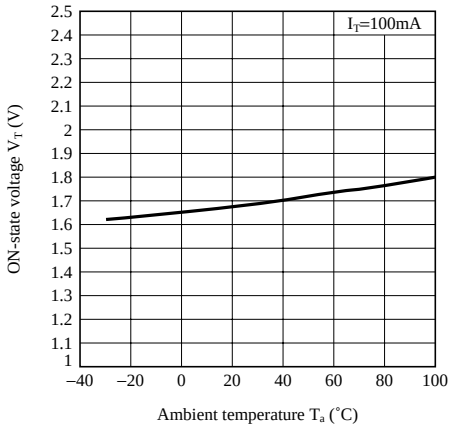


Fig.6 Holding Current vs. Ambient Temperature

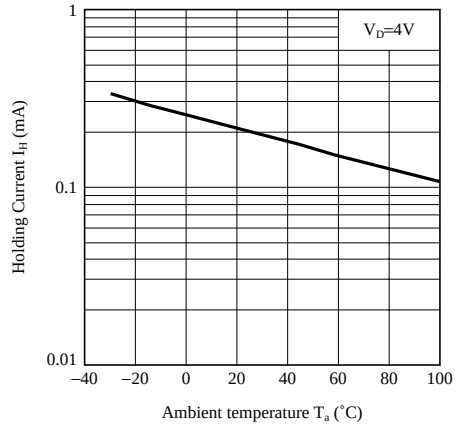


Fig.7 Repetitive Peak OFF-state Current vs. Ambient Temperature

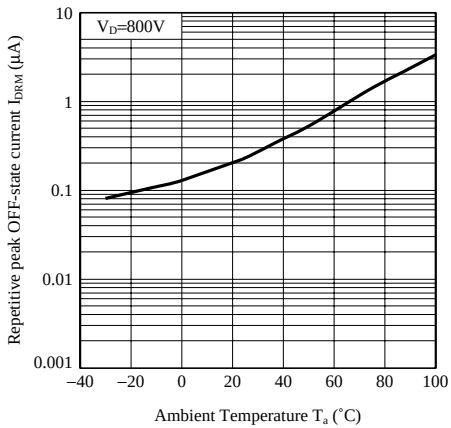


Fig.8 Relative Repetitive Peak OFF-state Voltage vs. Ambient Temperature

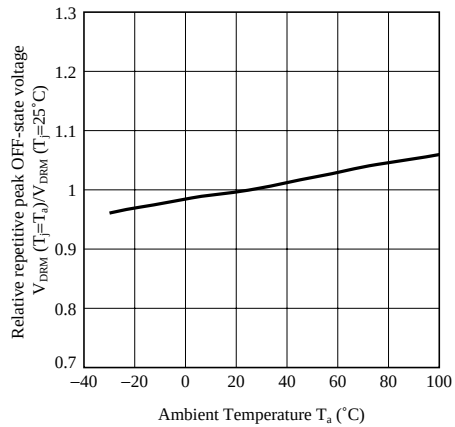


Fig.9 Turn-on Time vs. Forward Current

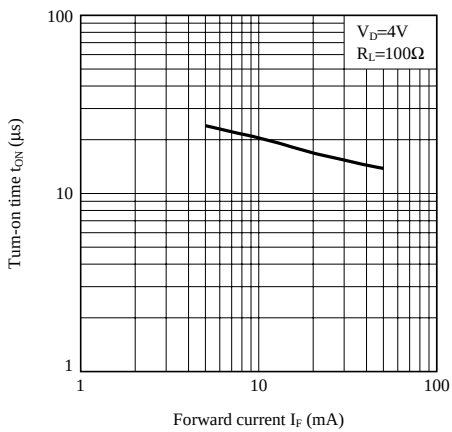
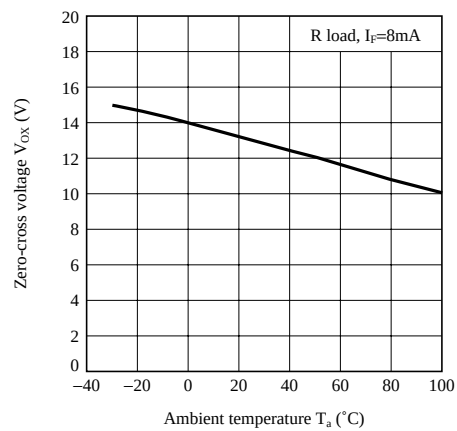


Fig.10 Zero-cross Voltage vs. Ambient Temperature



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  --- Office automation equipment
  --- Telecommunication equipment [terminal]
  --- Test and measurement equipment
  --- Industrial control
  --- Audio visual equipment
  --- Consumer electronics

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  --- Traffic signals
  --- Gas leakage sensor breakers
  --- Alarm equipment
  --- Various safety devices, etc.

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  --- Telecommunication equipment [trunk lines]
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