PC4SF11YVZ Series

V_{DRM}:800V
**Reinforced Insulation Type
Phototriac Coupler for Triggering**

■ Features

1. High repetitive peak OFF-state voltage (V_{DRM}):800V
2. Isolation voltage between input and output ($V_{iso (rms)}$):5kV
3. Internal isolation distance (0.4mm or more)
4. Recognized by UL (File No. E64380)

   Approved by CSA (File No. CA95323)

   Approved by VDE (VDE0884, File No.127413)

   Approved by BSI (BS415, File No.6690,

                   BS7002, File No.7421)

   Approved by SEMKO (File No.0033029/01-04)

   Approved by DEMKO (File No.310107-01)

   Approved by FIMKO (File No.15795)

■ Applications

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

■ Model Line-up

Minimum trigger current ($I_{FT[MAX.]}$)	for AC 200V line
10mA	**PC4SF11YVZA**
7mA	**PC4SF11YVZB**

■ 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	[*1]Forward current	I_F	50	mA
Input	Reverse voltage	V_R	6	V
Output	[*1]RMS ON-state current	$I_{T (rms)}$	0.1	A
Output	Peak one cycle surge current	I_{surge}	1.2 (50Hz sine wave)	A
Output	Repetitive peak OFF-state voltage	V_{DRM}	800	V
	[*2]Isolation voltage	$V_{iso (rms)}$	5	kV
	Operating temperature	T_{opr}	−30 to +100	°C
	Storage temperature	T_{stg}	−55 to +125	°C
	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$_T$=0.1A	–	–	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$_D$=1/√2・V$_{DRM}$	50	–	–	V/μs
Transfer charac-teristics	Minimum trigger current **PC4SF11YVZA**	I$_{FT}$	V$_D$=6V, R$_L$=100Ω	–	–	10	mA
	PC4SF11YVZB			–	–	7	
	Isolation resistance	R$_{ISO}$	DC=500V, 40 to 60%RH	5×10^{10}	10^{11}	–	Ω
	Turn-on time	t$_{on}$	V$_D$=6V, R$_L$=100Ω, I$_F$=20mA	–	–	100	μs

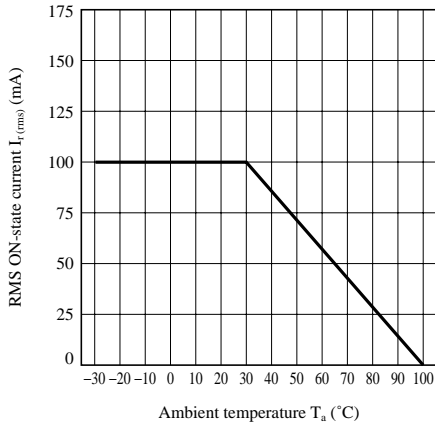### Fig.1 RMS ON-state Current vs. Ambient Temperature

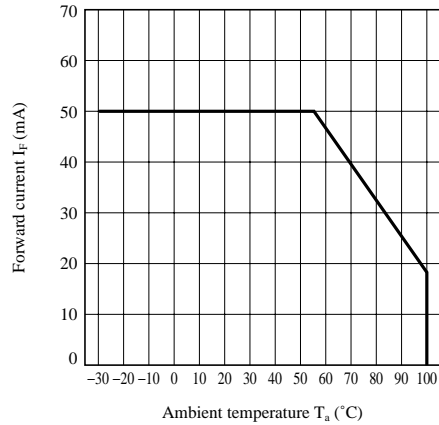### Fig.2 Forward Current vs. Ambient Temperature
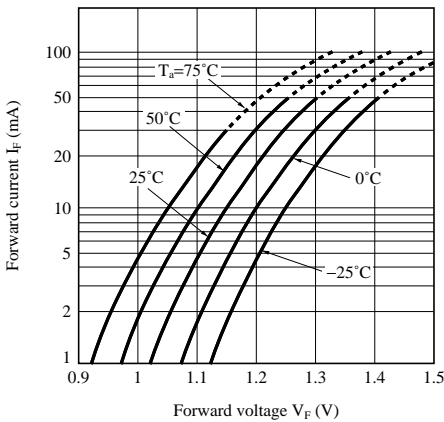

Fig.3 Forward Current vs. Forward Voltage

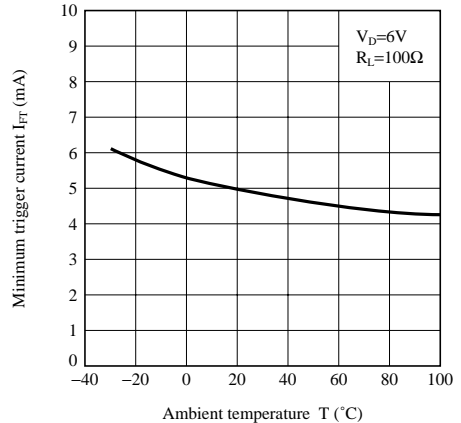### Fig.4 Minimum Trigger Current vs. Ambient Temperature
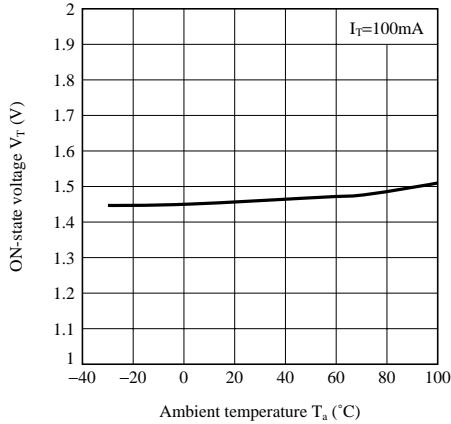
Fig.5 ON-state Voltage vs. Ambient Temperature

ON-state voltage V_T (V) vs. Ambient temperature T_a (°C)

I_T=100mA

Fig.6 Holding Current vs. Ambient Temperature

Holding Current I_H (mA) vs. Ambient temperature T_a (°C)

V_D=6V
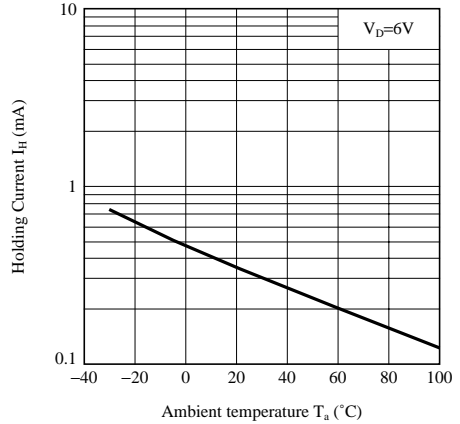
Fig.7 Repetitive Peak OFF-state Current vs. Ambient Temperature

Repetitive peak OFF-state current I_{DRM} (μA) vs. Ambient Temperature T_a (°C)

V_D=800V
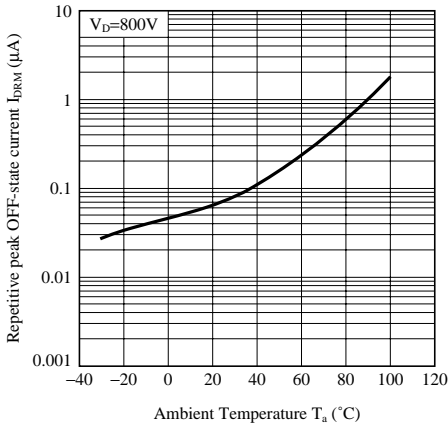
Fig.8 Relative Repetitive Peak OFF-state Voltage vs. Ambient Temperature

Relative repetitive peak OFF-state voltage V_{DRM} (T_j=T_a)/V_{DRM} (T_j=25°C) vs. Ambient Temperature T_a (°C)

Fig.9 Turn-on Time vs. Forward Current
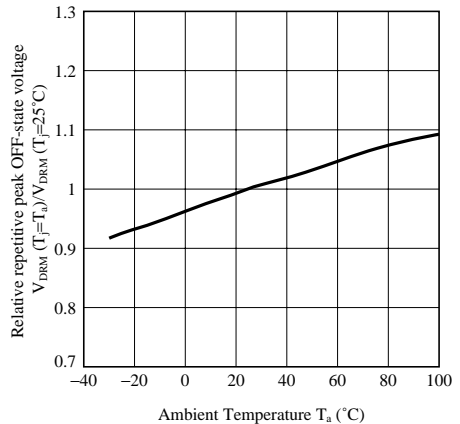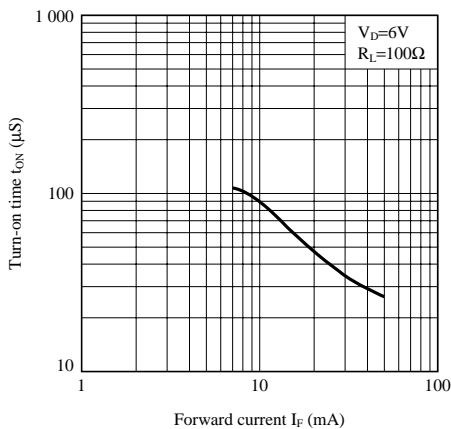
Turn-on time t_{ON} (μS) vs. Forward current I_F (mA)

V_D=6V
R_L=100Ω

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

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