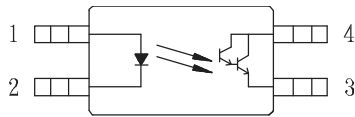


## Schematic:



For dimensions and pin-outs, see the last page of this document.

## Features:

1. High isolation voltage (BV=2500 Vrms)
2. Small and thin package (4pin SOP, Pin pitch 1.27 mm)
3. High current transfer ratio  
(CTR=2000% TYP. @  $I_F=1\text{mA}$ ,  $V_{CE}=2\text{V}$ )

## Ordering:

Suffix to Standard Part Number

- V = VDE Compliant
- G = 10mm Lead Spread
- S = Surface Mount Lead-form
- T = Tape & Reel

## Equivalents:

This part equals/exceeds all specifications of:

- PC3H5
- PS2802-1

## Absolute Maximum Ratings:

( $T_a=25^\circ\text{C}$ )

	Parameter	Symbol	Rating	Unit
Input	Forward current (DC)	$I_F$	50	mA
	Reverse voltage		6	V
	Power dissipation derating	$P_D/^\circ\text{C}$	0.6	mW / $^\circ\text{C}$
	Power dissipation	$P_D$	60	mW
	Peak forward current <sup>+1</sup>	$I_{FP}$	1	A
Output	Collector-emitter voltage	$V_{CEO}$	40	V
	Emitter-collector voltage		6	V
	Collector current	$I_C$	90	mA
	Power dissipation derating	$P_C/^\circ\text{C}$	1.2	mW / $^\circ\text{C}$
	Total power dissipation	$P_C$	120	mW
	Isolation voltage <sup>+2</sup>	Viso	2500	Vrms
Operating temperature		$T_{opr}$	-30 to +100	$^\circ\text{C}$
Storage temperature		$T_{stg}$	-55 to +150	$^\circ\text{C}$

+1  $PW=100\ \mu\text{s}$ , duty cycle=1%

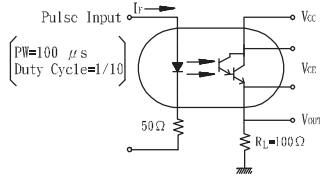
+2 AC voltage for 1 minute at  $T_A=25^\circ\text{C}$ , RH=60% between input and output

## Electrical Characteristics:

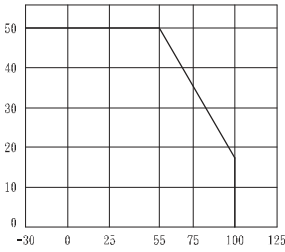
( $T_a=25^\circ\text{C}$ )

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	$V_F$	$I_F=5\text{mA}$	—	1.1	1.4	V
	Reverse current	$I_R$	$V_R=5\text{V}$	—	—	5	$\mu\text{A}$
	Terminal capacitance	$C_t$	$V=0\text{V}$ , $f=1.0\text{MHz}$	—	30	—	pF
Output	Collector-emitter dark current	$I_{CEO}$	$V_{CE}=40\text{V}$ , $I_F=0\text{mA}$	—	—	400	nA
	Current transfer ratio ( $I_C / I_F$ )	CTR	$I_F=1\text{mA}$ , $V_{CE}=2\text{V}$	200	2000	—	%
Transfer characteristics	Collector saturation voltage	$V_{CE}(\text{sat})$	$I_F=1\text{mA}$ , $I_C=2\text{mA}$	—	—	1.0	V
	Isolation resistance	$R_{I-O}$	$V_{I-O}=500\text{VDC}$	$5 \times 10^{10}$	$10^{11}$	—	ohm
	Floating capacitance	$C_{I-O}$	$V=0\text{V}$ , $f=1.0\text{MHz}$	—	0.4	—	pF
	Response time (Rise) <sup>+1</sup>	$t_r$	$V_{CE}=5\text{V}$ , $I_C=2\text{mA}$ , $R_L=100\text{ohm}$	—	200	—	$\mu\text{S}$
	Response time (Fall) <sup>+1</sup>	$t_f$		—	200	—	$\mu\text{S}$

+1 Test circuit for switching time

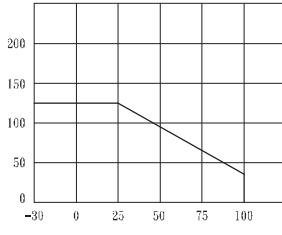


**Fig.1** Forward Current vs. Ambient Temperature



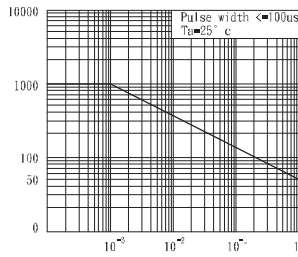
Ambient Temperature  $T_a$  (°C)

**Fig.2** Collector Power Dissipation vs. Ambient Temperature



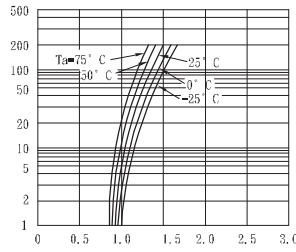
Ambient Temperature  $T_a$  (°C)

**Fig.3** Peak Forward Current vs. Duty Ratio



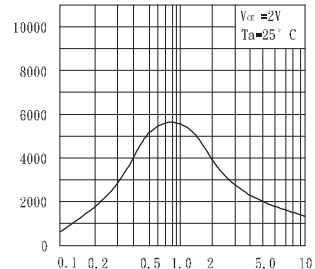
Duty Ratio

**Fig.4** Forward Current vs. Ambient Temperature



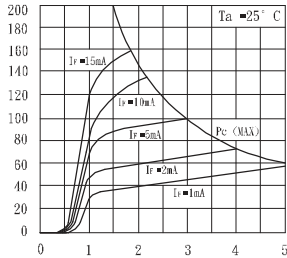
Ambient Temperature  $T_a$  (°C)

**Fig.5** Current Transfer Ratio vs. Forward Current



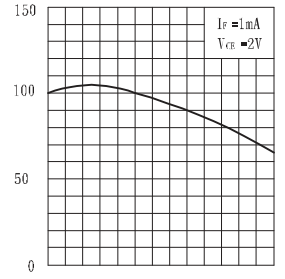
Forward Current  $I_f$  (mA)

**Fig.6** Collector Current vs. Collector-emitter Voltage



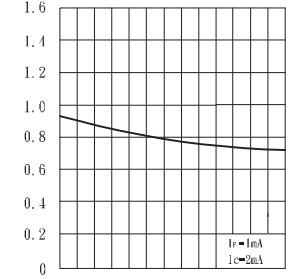
Collector-emitter Voltage  $V_{CE}$  (V)

**Fig.7** Relative Current Transfer Ratio vs. Ambient Temperature



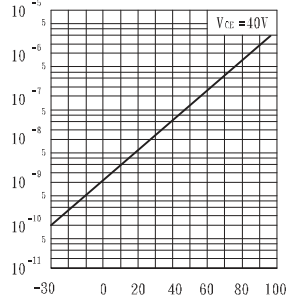
Ambient Temperature  $T_a$  (°C)

**Fig.8** Collector-emitter Saturation Voltage vs. Ambient Temperature



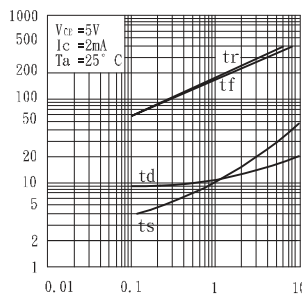
Ambient Temperature  $T_a$  (°C)

**Fig.9** Collector Dark Current vs. Ambient Temperature



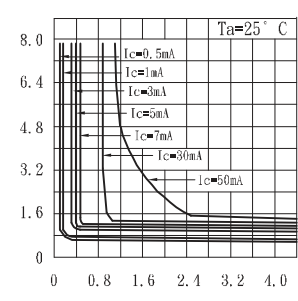
Ambient Temperature  $T_a$  (°C)

**Fig.10** Response Time vs. Load Resistance



Load Resistance  $R_L$  (K ohm)

**Fig.11** Collector-emitter Saturation Voltage vs. Forward Current



Ambient Temperature  $T_a$  (°C)