

# PC3H5

## High Sensitivity Type Half Pitch Photocoupler

### ■ Features

1. Half pitch surface mount type for high density mounting  
(Lead pitch:1.27mm)
2. High sensitivity (darlington type)
3. Soldering reflow type (230°C, for 30s)
4. Taping package
5. Isolation voltage (Viso (rms):2.5kV)
6. Recognized by UL, file No. E64380

### ■ Applications

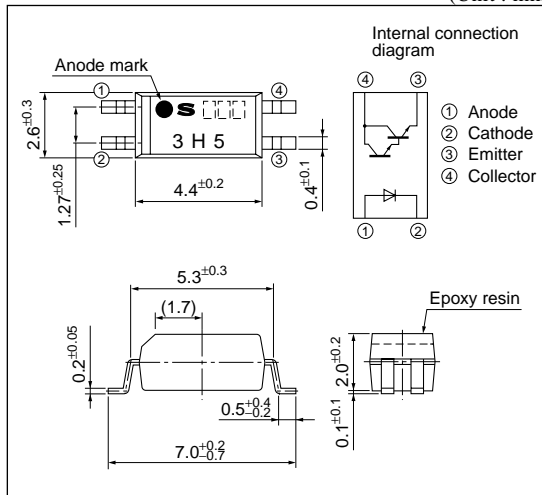
1. Programmable controllers
2. Facsimiles
3. Telephones

### ■ Package Specifications

Model No.	Package specification
<b>PC3H5</b>	Taping reel diameter 330mm (3 000pcs.)

### ■ Outline Dimensions

(Unit : mm)



### ■ Absolute Maximum Ratings

(Ta=25°C)

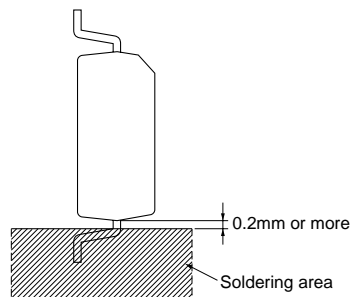
	Parameter	Symbol	Rating	Unit
Input	*1 Forward current	I <sub>F</sub>	50	mA
	*2 Peak forward current	I <sub>FM</sub>	1	A
	Reverse voltage	V <sub>R</sub>	6	V
	*1 Power dissipation	P	70	mW
Output	Collector-emitter voltage	V <sub>CEO</sub>	35	V
	Emitter-collector voltage	V <sub>ECO</sub>	6	V
	Collector current	I <sub>C</sub>	80	mA
	*1 Collector power dissipation	P <sub>C</sub>	150	mW
	*1 Total power dissipation	P <sub>tot</sub>	170	mW
	Operating temperature	T <sub>opr</sub>	-30 to +100	°C
	Storage temperature	T <sub>stg</sub>	-40 to +125	°C
	*3 Isolation voltage	V <sub>iso (rms)</sub>	2.5	kV
	*4 Soldering temperature	T <sub>sol</sub>	260	°C

\*1 The derating factors of absolute maximum ratings due to ambient temperature are shown in Fig.2 to 5

\*2 Pulse width≤100μs, Duty ratio=0.001(shown in Fig.6)

\*3 40 to 60%RH, AC for 1 min, f=60Hz

\*4 For 10 s



## Electro-optical Characteristics

(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	$V_F$	$I_F=20\text{mA}$	–	1.2	1.4	V
	Reverse current	$I_R$	$V_R=4\text{V}$	–	–	10	$\mu\text{A}$
	Terminal capacitance	$C_t$	$V=0, f=1\text{kHz}$	–	30	250	pF
Output	Collector dark current	$I_{CEO}$	$V_{CE}=10\text{V}, I_F=0$	–	–	1000	nA
	Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C=0.1\text{mA}, I_F=0$	35	–	–	V
	Emitter-collector breakdown voltage	$BV_{ECO}$	$I_E=10\mu\text{A}, I_F=0$	6	–	–	V
Transfer characteristics	Collector current	$I_C$	$I_F=1\text{mA}, V_{CE}=2\text{V}$	6	16	75	mA
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F=1\text{mA}, I_C=2\text{mA}$	–	0.8	1.0	V
	Isolation resistance	$R_{ISO}$	DC500V, 40 to 60%RH	$5 \times 10^{10}$	$10^{11}$	–	$\Omega$
	Floating capacitance	$C_f$	$V=0, f=1\text{MHz}$	–	0.6	1.0	pF
	Response time	Rise time	$t_r$	$V_{CE}=2\text{V}$ $I_C=2\text{mA}$ $R_L=100\Omega$	–	60	300
Fall time		$t_f$	–		53	250	$\mu\text{s}$

Fig.1 Forward Current vs. Ambient Temperature

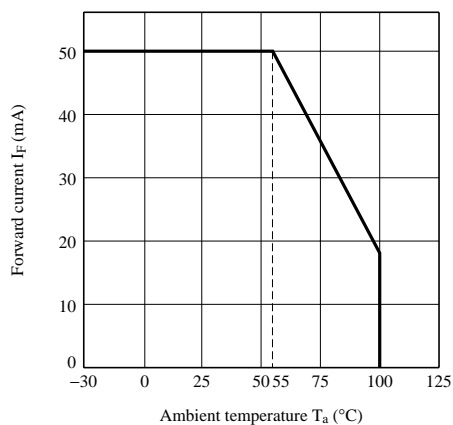
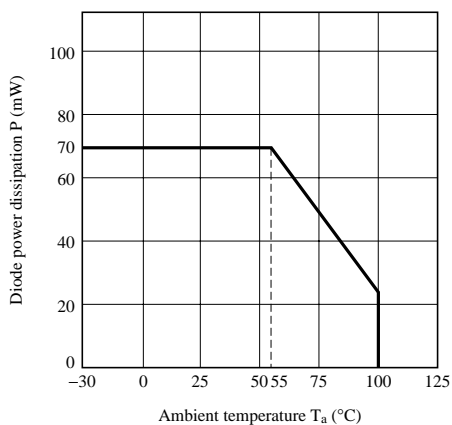
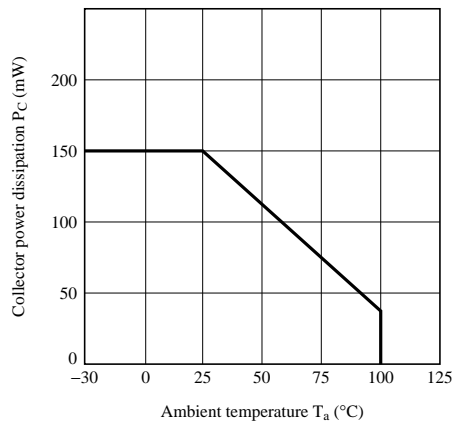


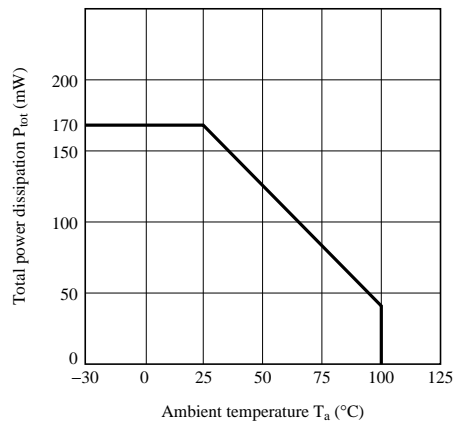
Fig.2 Diode Power Dissipation vs. Ambient Temperature



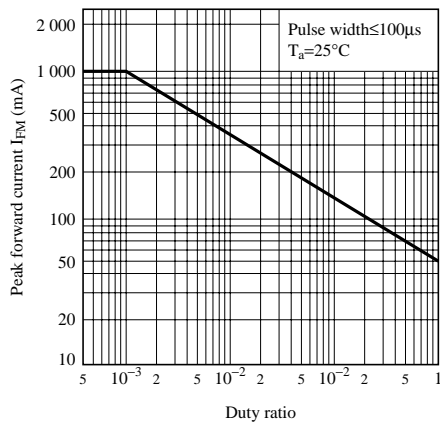
**Fig.3 Collector Power Dissipation vs. Ambient Temperature**



**Fig.4 Total Power Dissipation vs. Ambient Temperature**



**Fig.5 Peak Forward Current vs. Duty Ratio**



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