

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
PC3H5	Taping reel diameter 330mm (3 000pcs.)

■ Absolute Maximum Ratings (Ta=25°C)

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

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

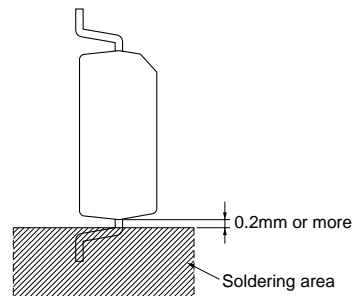
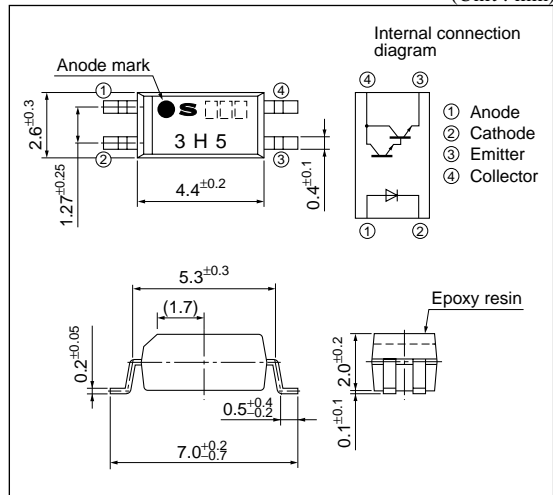
*2 Pulse width≤100μs, Duty ratio=0.001(shown in Fig.6)

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

*4 For 10 s

■ Outline Dimensions

(Unit : mm)



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	μA
	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	5×10^{10}	10^{11}	–	Ω
	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	μs

Fig.1 Forward Current vs. Ambient Temperature

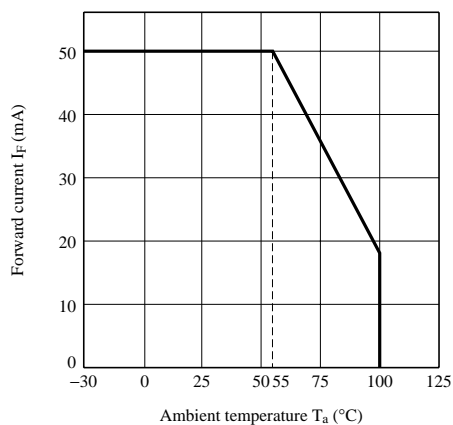


Fig.2 Diode Power Dissipation vs. Ambient Temperature

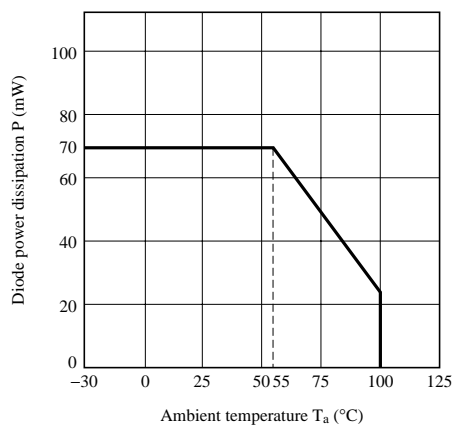


Fig.3 Collector Power Dissipation vs. Ambient Temperature

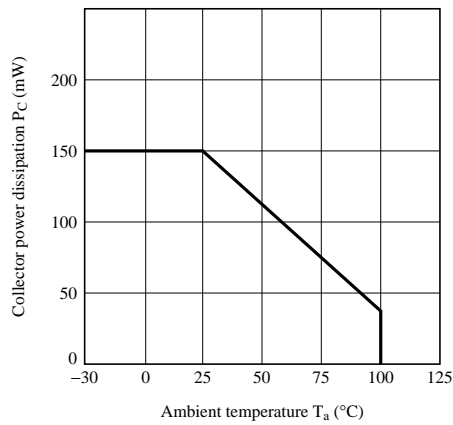


Fig.4 Total Power Dissipation vs. Ambient Temperature

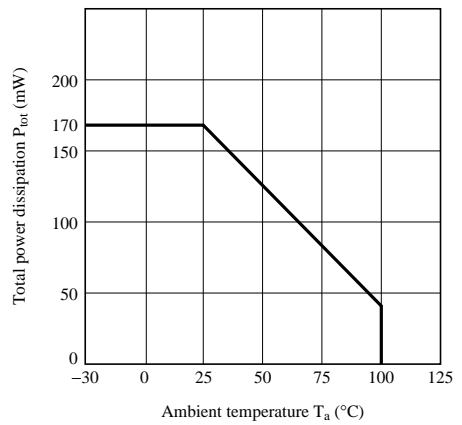
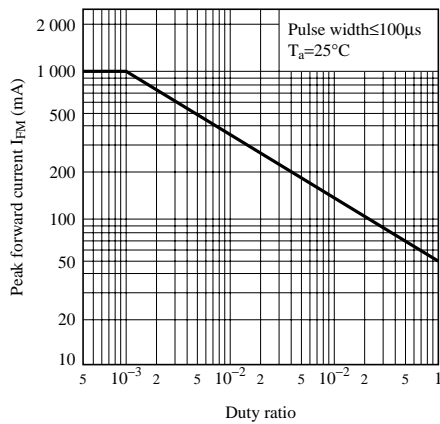


Fig.5 Peak Forward Current vs. Duty Ratio



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