

PC353T

Opaque*, Mini-flat Package Photocoupler with Base Terminal

■ Features

1. With base terminal
2. Applicable to infrared ray reflow (230°C, MAX. 30 seconds)
3. High isolation voltage ($V_{iso} : 3\ 750V_{rms}$)
4. Recognized by UL, file No. E64380
5. Mini-flat package

* Employs double transfer mold technology.

■ Applications

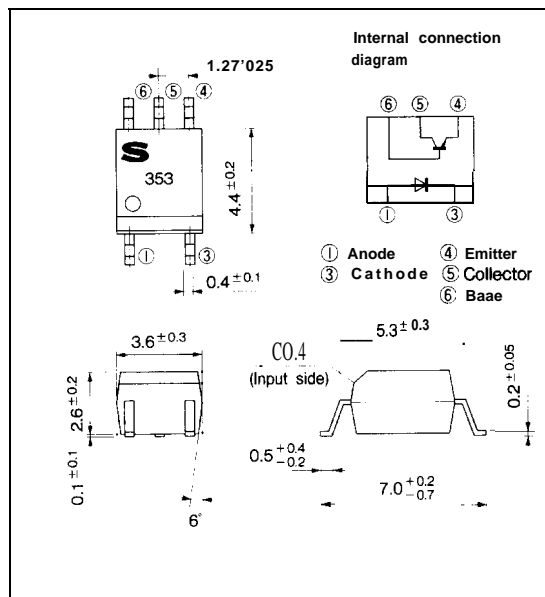
1. Hybrid substrates that require high density mounting
2. Programmable controllers

■ Package Specifications

Model No.	Taping specifications
PC353T	Taping reel diameter $\phi 178\text{mm}$ (750pcs.)

■ Outline Dimensions

(Unit : mm)

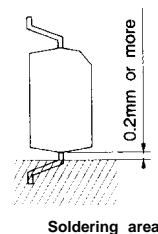


■ Absolute Maximum Ratings

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

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	*1 Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P	70	mW
output	Collector -emitter voltage	V_{CEO}	80	V
	Emitter -collector voltage	V_{ECO}	6	V
	Collector -base voltage	V_{CBO}	80	V
	Emitter -base voltage	V_{EBO}	6	V
	Collector current	I_C	50	mA
	Collector power dissipation	P_C	150	mW
Total power dissipation		P_{tot}	170	mW
Isolation voltage		V_{iso}	3.75	kV _{rms}
Operating temperature		T_{opr}	-30 to 100	°C
Storage temperature		T_{stg}	-40 to 125	°C
*1 Soldering temperature		T_{sol}	260	°C

- *1 Pulse width 100 μs , Duty ratio :0.001
 *2 AC for 1 min., 40 to 60%RH, $f=60\text{Hz}$
 *3 For 10 seconds



■ Electro-optical Characteristics

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

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F = 20\text{mA}$	-	-	-	
	Reverse current	I_R	$V_R = 4\text{V}$				
	Terminal capacitance	C_t	$V = 0, f = 1\text{kHz}$	-	30	250	pF
output	Collector dark current	I_{CEO}	$V_{CE} = 20\text{V}, I_F = 0$	-	-	100	nA
	Collector -emitter breakdown voltage	BV_{CEO}	$I_C = 0.1\text{mA}$ $I_F = 0$	80	-	-	V
	Emitter-collector breakdown voltage	BV_{ECO}	$I_E = 10\ \mu\text{A}$ $I_F = 0$	6	-	-	V
	Collector -base breakdown voltage	BV_{CBO}	$I_C = 0.1\text{mA}$ $I_F = 0$	80	-	-	V
Transfer characteristics	Collector current	I_C	$I_t = 5\text{mA}$ $V_{CF} = 5\text{V}$	2.5	-	30	mA
	Collector -emitter saturation voltage	$V_{CE(sat)}$	$I_F = 20\text{mA}$ $I_C = 1\text{mA}$	-	0.1	0.2	V
	Isolation resistance	R_{ISO}	DC500V 40 to 60% RH	1×10^{10}	10^{11}	=	Ω
	Floating capacitance	C_i	$V = 0, f = 1\text{MHz}$	-	0.6	1.0	pF
	Response time	Rise time	t_r	$V_{CF} = 2\text{V}, I_C = 2\text{mA}$ $R_L = 100\ \Omega$	-	4	18
Fall time		t_f		-	3	18	μs

Fig. 1 Forward Current vs. Ambient Temperature

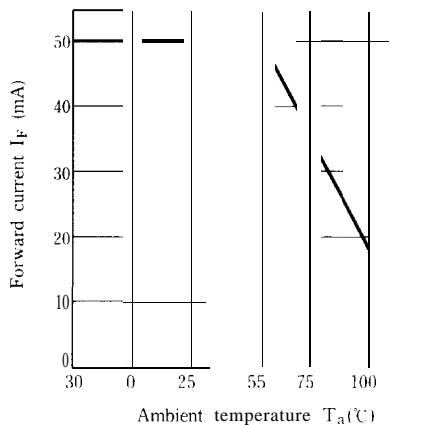


Fig. 2 Diode Power Dissipation vs. Ambient Temperature

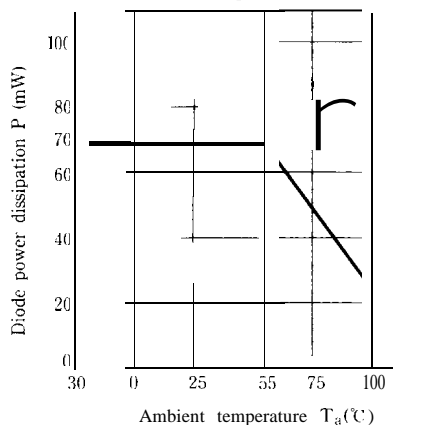


Fig. 3 Collector Power Dissipation vs. Ambient Temperature

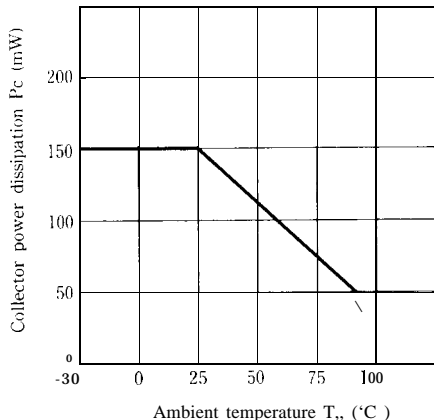


Fig. 4 Total Power Dissipation vs. Ambient Temperature

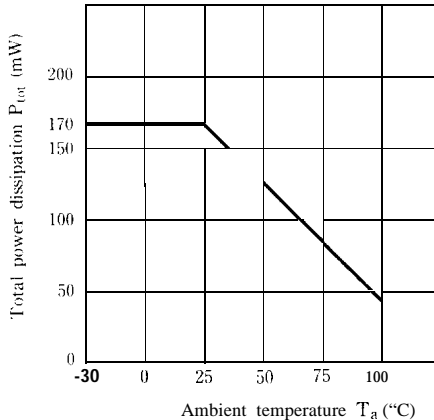


Fig. 5 Peak Forward Current vs. Duty Ratio

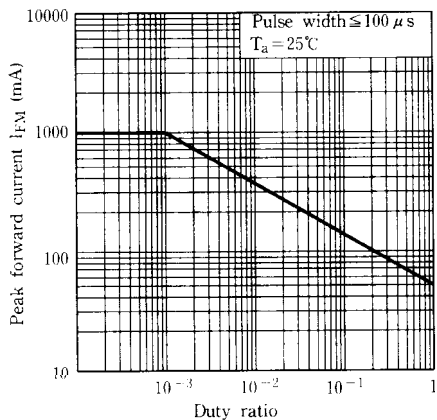


Fig. 6 Forward Current vs. Forward Voltage

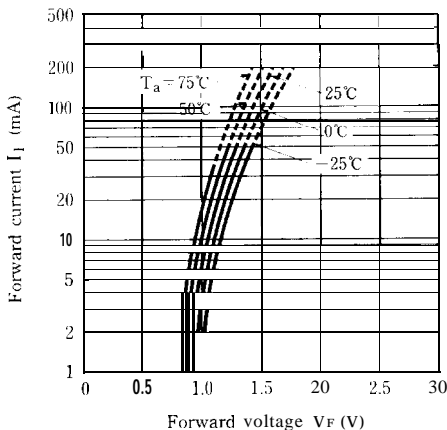


Fig. 7 Current Transfer Ratio vs. Forward Current

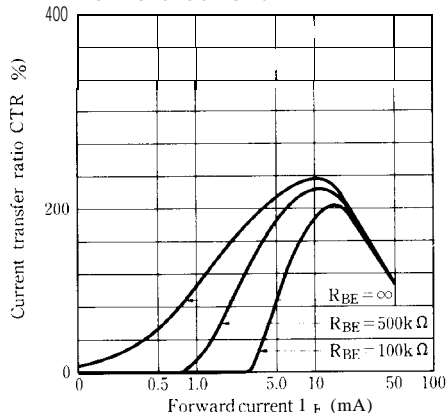


Fig. 8 Collector Current vs. Collector-emitter Voltage

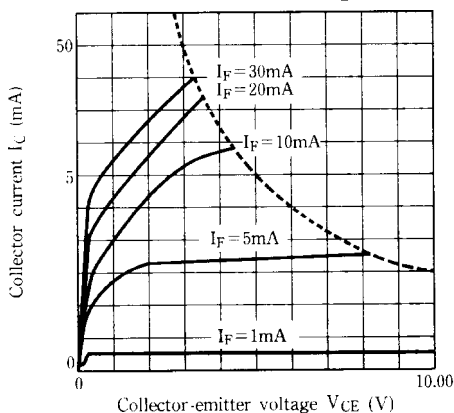


Fig. 9 Relative Current Transfer Ratio vs. Ambient Temperature

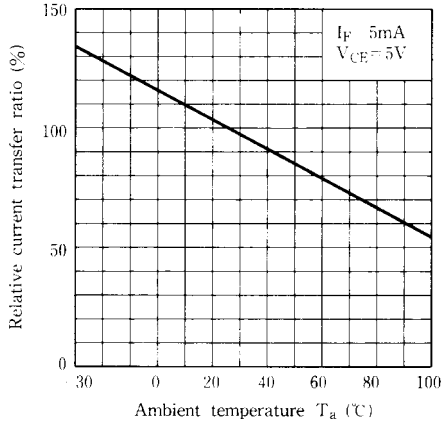


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

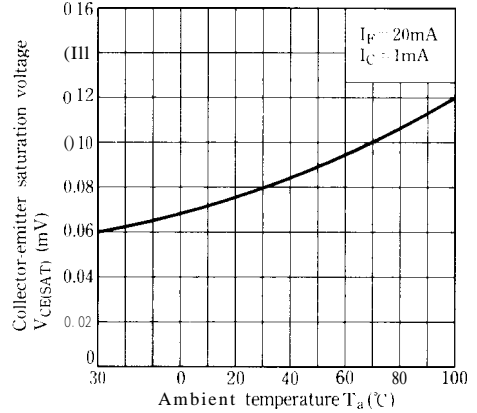


Fig.11 Collector Dark Current vs. Ambient Temperature

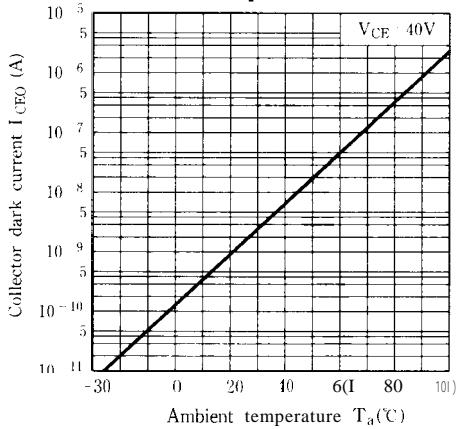


Fig.12 Response Time vs. Load Resistance

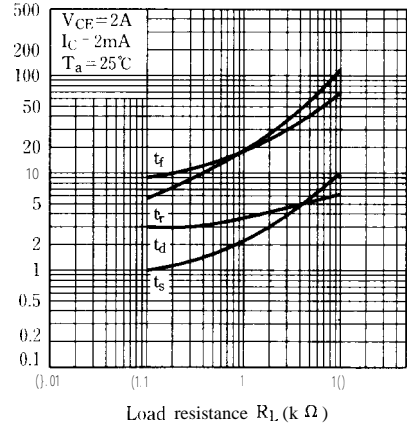
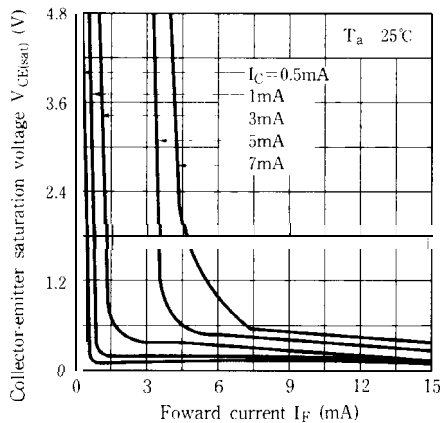


Fig.13 Collector-emitter Saturation Voltage vs. Forward Current



● Please refer to the chapter "Precautions for Use." (Page 78 to 93),