

PC353T

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 (No. E64380)
5. Mini-flat package

■ Applications

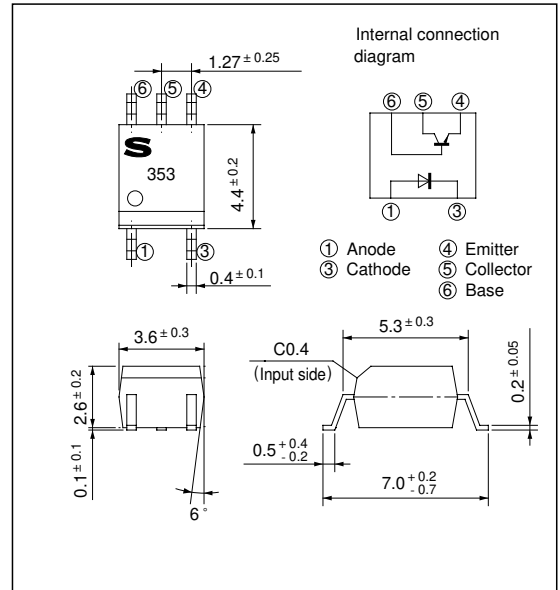
1. Hybrid substrates that require high density mounting
2. Programmable controllers

■ Package Specifications

Model No.	Taping specifications
PC353T	Taping reel diameter 178mm (750pcs.)

■ Outline Dimensions

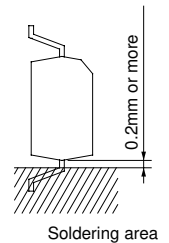
(Unit : mm)



■ Absolute Maximum Ratings

(Ta = 25°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
	*2 Isolation voltage	V_{iso}	3.75	kV _{rms}
	Operating temperature	T_{opr}	- 30 to + 100	°C
	Storage temperature	T_{stg}	- 40 to + 125	°C
	*3 Soldering temperature	T_{sol}	260	°C

*1 Pulse width $\leq 100\mu s$, Duty ratio : 0.001*2 AC for 1 min., 40 to 60% RH, $f = 60Hz$

*3 For 10 seconds

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 = 4V	-	-	10	μA
	Terminal capacitance	C _t	V = 0, f = 1kHz	-	30	250	pF
Output	Collector dark current	I _{CEO}	V _{CE} = 20V, I _F = 0	-	-	100	nA
	Collector-emitter breakdown voltage	BV _{CEO}	I _C = 0.1mA I _F = 0	80	-	-	V
	Emitter-collector breakdown voltage	BV _{ECO}	I _E = 10μA I _F = 0	6	-	-	V
	Collector-base breakdown voltage	BV _{CBO}	I _C = 0.1mA I _F = 0	80	-	-	V
Transfer characteristics	Collector current	I _C	I _F = 5mA V _{CE} = 5V	2.5	-	30	mA
	Collector-emitter saturation voltage	V _{CE(sat)}	I _F = 20mA I _C = 1mA	-	0.1	0.2	V
	Isolation resistance	R _{ISO}	DC500V 40 to 60% RH	5 x 10 ¹⁰	10 ¹¹	-	Ω
	Floating capacitance	C _f	V = 0, f = 1MHz	-	0.6	1.0	pF
	Response time	Rise time	t _r	V _{CE} = 2V, I _C = 2mA R _L = 100Ω	-	4	18
Fall time		t _f	-		3	18	μs

Fig. 1 Forward Current vs. Ambient Temperature

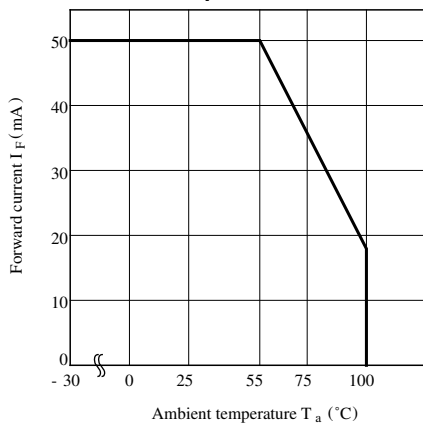


Fig. 2 Diode Power Dissipation vs. Ambient Temperature

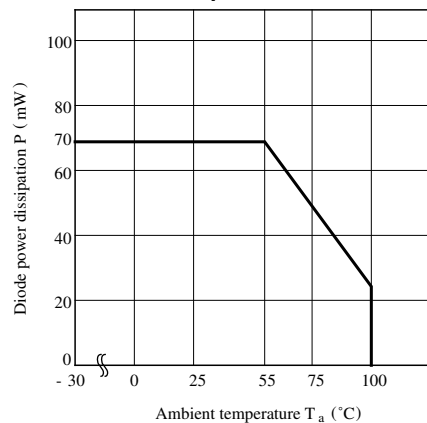


Fig. 3 Collector Power Dissipation vs. Ambient Temperature

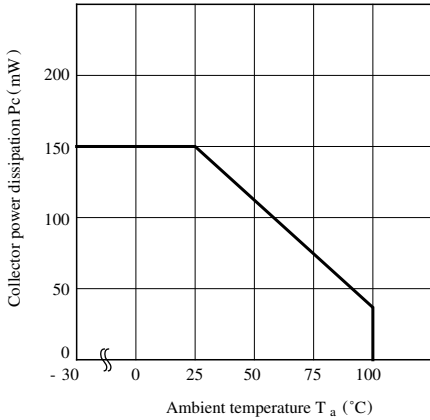


Fig. 4 Total Power Dissipation vs. Ambient Temperature

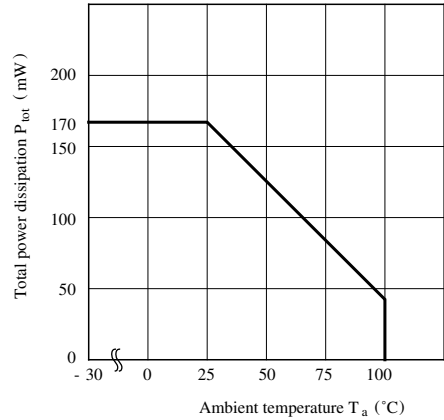


Fig. 5 Peak Forward Current vs. Duty Ratio

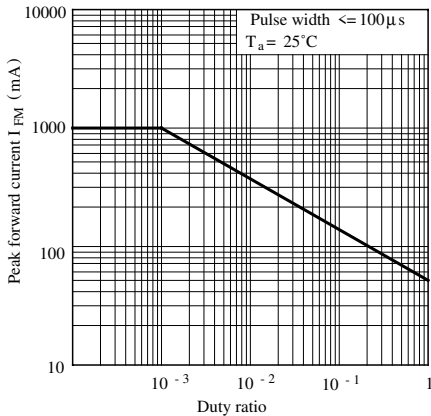


Fig. 6 Forward Current vs. Forward Voltage

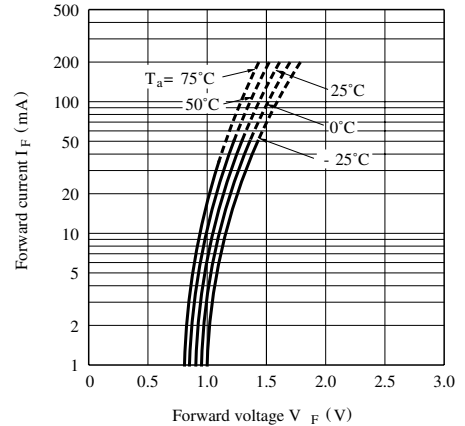


Fig. 7 Current Transfer Ratio vs. Forward Current

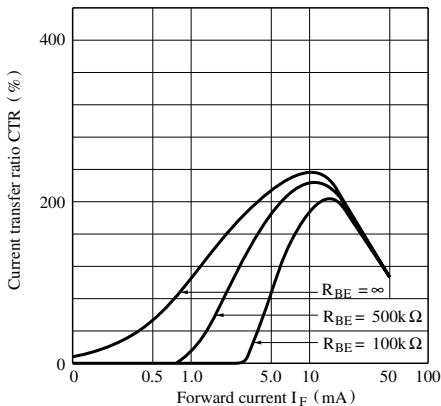


Fig. 8 Collector Current vs. Collector-emitter Voltage

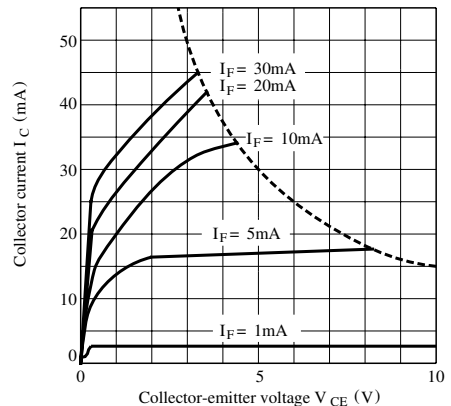


Fig. 9 Relative Current Transfer Ratio vs. Ambient Temperature

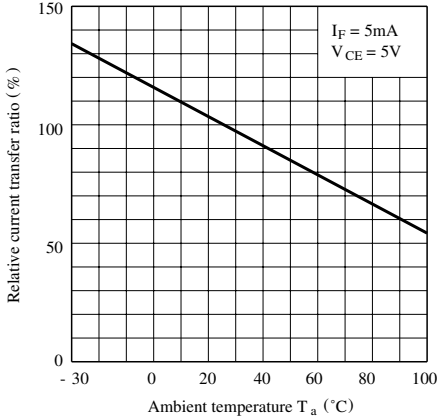


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

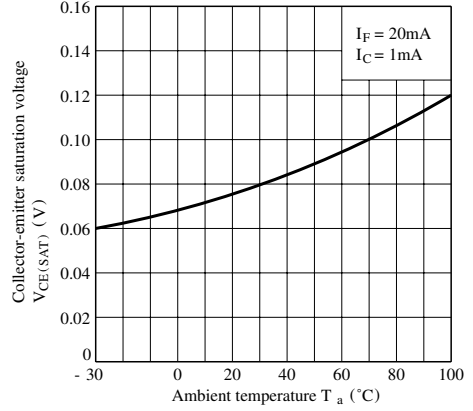


Fig.11 Collector Dark Current vs. Ambient Temperature

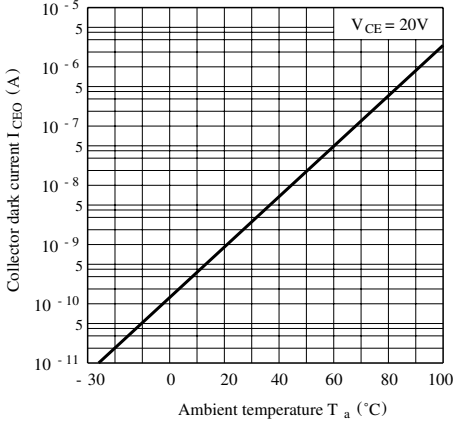


Fig.12 Response Time vs. Load Resistance

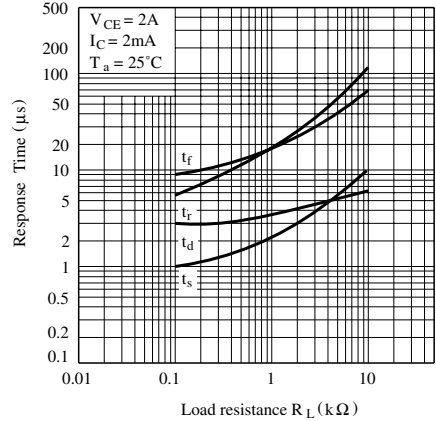


Fig.13 Collector-emitter Saturation Voltage vs. Forward Current

