

PC852 Series PC853/PC853H

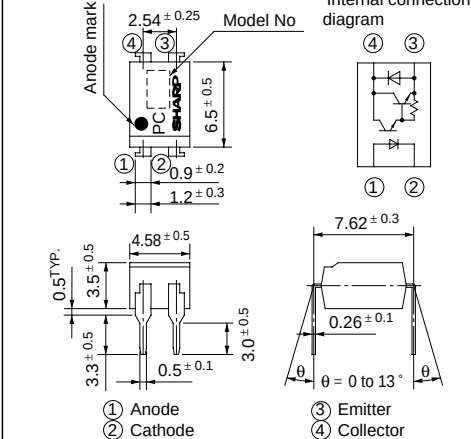
※ Lead forming type (I type) and taping reel type (P type) are also available. (PC852I/PC852P/PC853I/PC853P)

■ Features

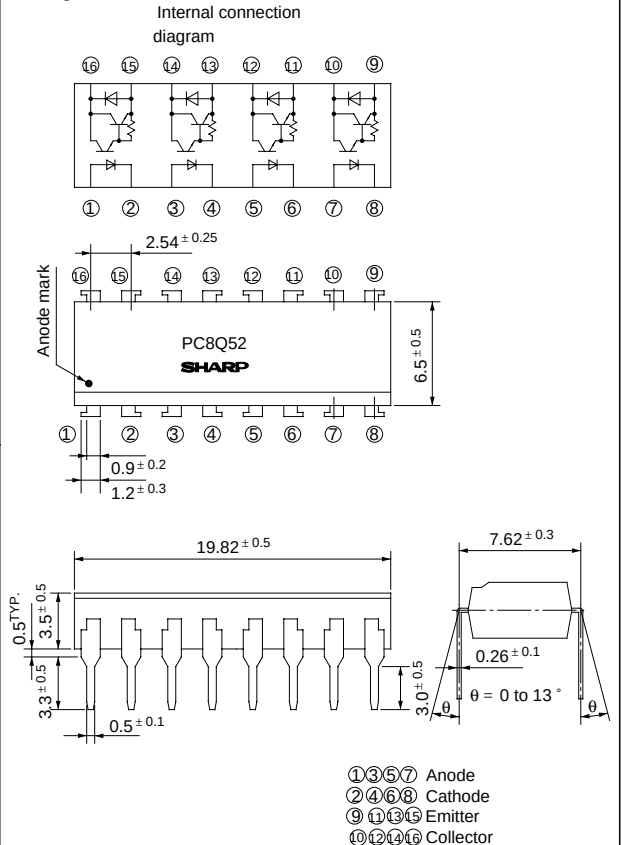
1. High collector-emitter voltage
PC852 Series, PC853 (V_{CEO} : 300V)
PC853H (V_{CEO} : 350V)
2. High current transfer ratio
(CTR: MIN. 1 000% at $I_F = 1\text{mA}$, $V_{CE} = 2\text{V}$)
3. High isolation voltage between input and output (V_{iso} : 5 000V_{rms})
4. Compact dual-in-line package
PC852, PC853, PC853H (1-channel type)

■ Outline Dimensions

PC852/PC853/PC853H



PC8Q52



(Note)

The diode of output side is not a protection diode of reverse voltage.

(Unit : mm)

Absolute Maximum Ratings

(Ta= 25°C)

Parameter		Symbol	Rating			Unit
			PC852 Series	PC853	PC853H	
Input	Forward current	I _F	50	50		mA
	*1Peak forward current	I _{FM}	1	1		A
	Reverse voltage	V _R	6	6		V
	Power dissipation	P	70	70		mW
Output	Collector-emitter voltage	V _{CEO}	300	300	350	V
	Emitter-collector voltage	V _{ECO}	0.1	0.1		V
	Collector current	I _C	150	150		mA
	Collector power dissipation	P _C	150	300		mW
Total power dissipation		P _{tot}	200	320		mW
*2Isolation voltage		V _{iso}	5 000	5 000		V _{rms}
Operating temperature		T _{opr}	- 30 to + 100	- 30 to + 100		°C
Storage temperature		T _{stg}	- 55 to + 125	- 55 to + 125		°C
*3Soldering temperature		T _{sol}	260	260		°C

*1 Pulse width<=100μs, Duty ratio : 0.001
*2 40 to 60% RH, AC for 1 minute
*3 For 10 seconds

Electro-optical Characteristics

(Ta= 25°C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V _F	I _F = 10mA	-	1.2	1.4	V
	Reverse current		I _R	V _R = 4V	-	-	10	μ A
	Terminal capacitance		C _t	V = 0, f= 1kHz	-	30	250	pF
Output	Collector dark current		I _{CEO}	V _{CE} = 200V, I _F = 0	-	-	2 x 10 ⁻⁷	A
Transfer charac- teristics	Current transfer ratio		CTR	I _F = 1mA, V _{CE} = 2V	1 000	4 000	15 000	%
	Collector-emitter saturation voltage		V _{CE(sat)}	I _F = 20mA, I _C = 100mA	-	-	1.2	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
	Cut-off frequency		f _c	V _{CE} = 2V, I _C = 20mA, R _L = 100 Ω, - 3dB	1	7	-	kHz
	Response time	Rise time	t _r	V _{CE} = 2V, I _C = 20mA	-	100	300	μ s
Fall time		t _f	R _L = 100 Ω	-	20	100	μ s	

Fig. 1 Forward Current vs. Ambient Temperature

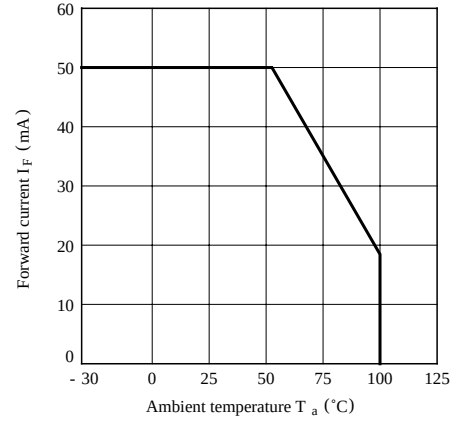


Fig. 2-a Collector Power Dissipation vs. Ambient Temperature (PC852 Series)

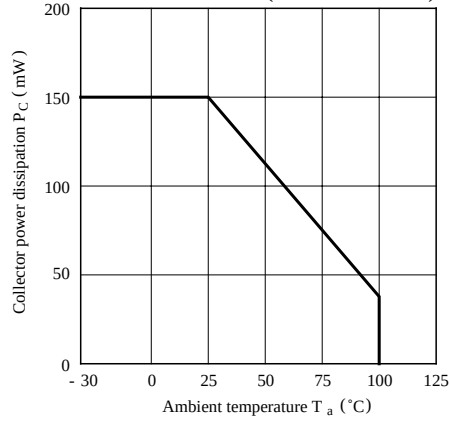


Fig. 2-b Collector Power Dissipation vs. Ambient Temperature (PC853/PC853H)

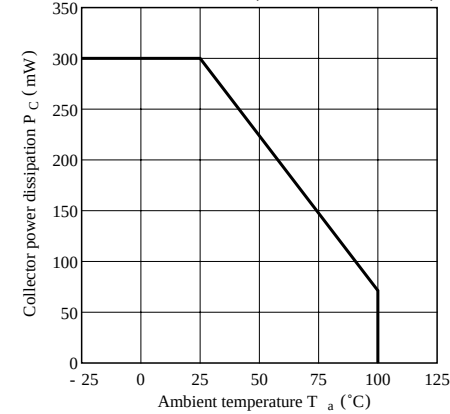


Fig. 3 Peak Forward Current vs. Duty Ratio

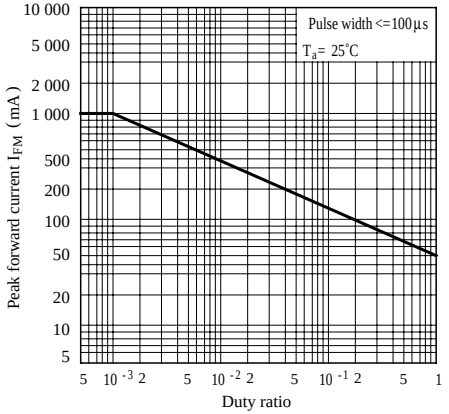


Fig. 4 Forward Current vs. Forward Voltage

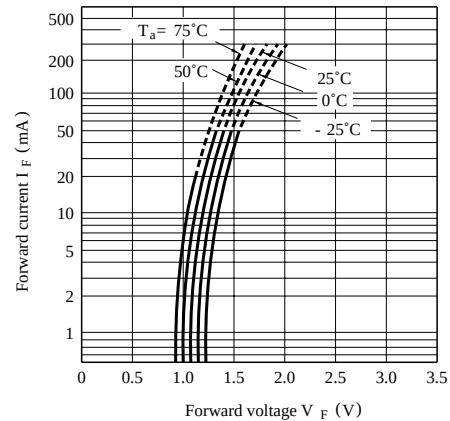
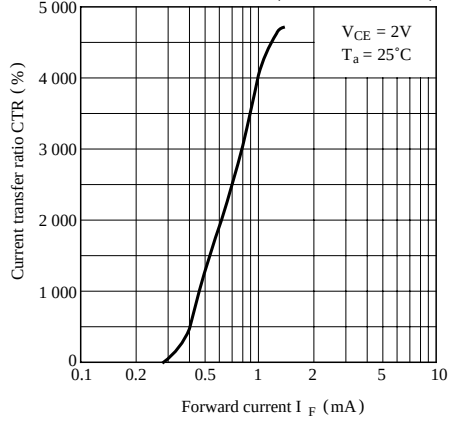
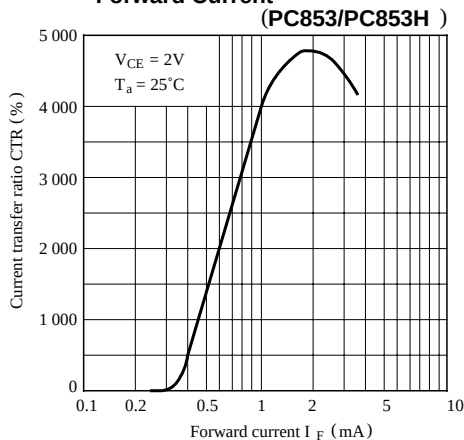


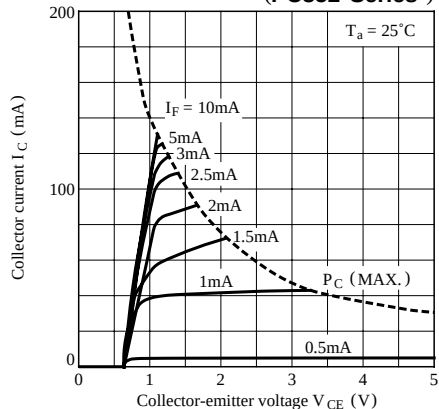
Fig. 5-a Current Transfer Ratio vs. Forward Current (PC852 Series)



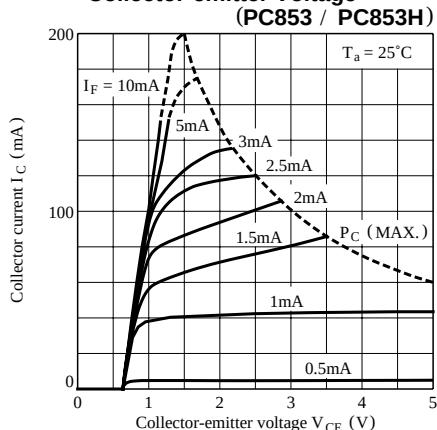
**Fig. 5-b Current Transfer Ratio vs.
Forward Current**



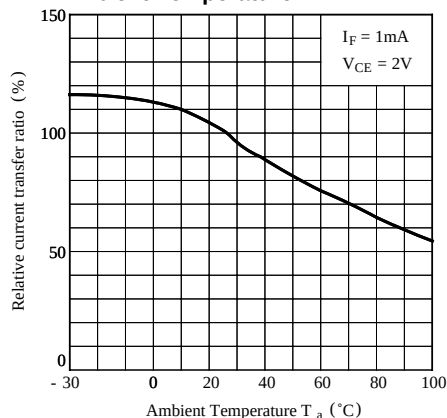
**Fig. 6-a Collector Current vs.
Collector-emitter Voltage**



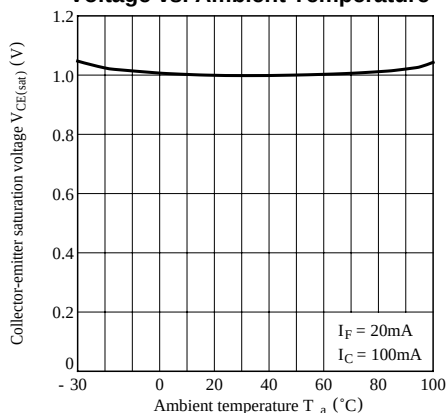
**Fig. 6-b Collector Current vs.
Collector-emitter Voltage**



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



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



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

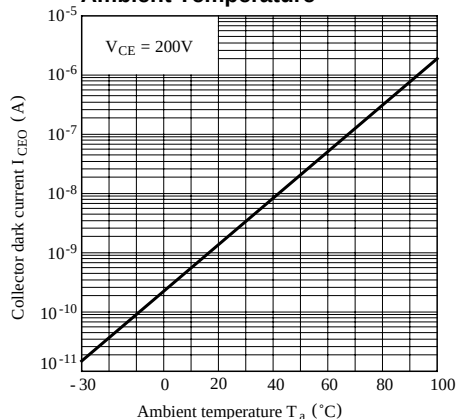


Fig.10 Response Time vs. Load Resistance

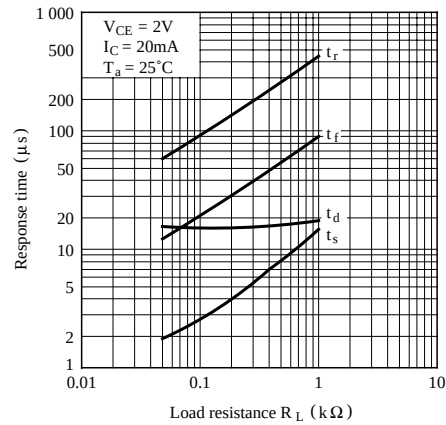


Fig.11 Frequency Response

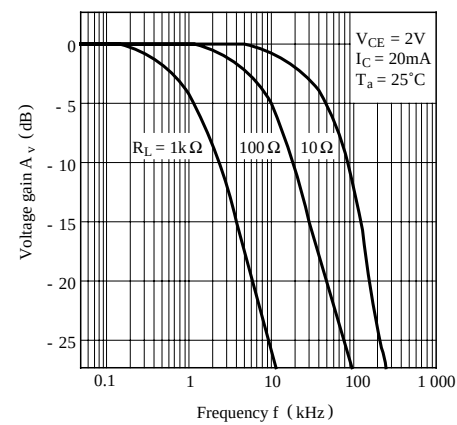
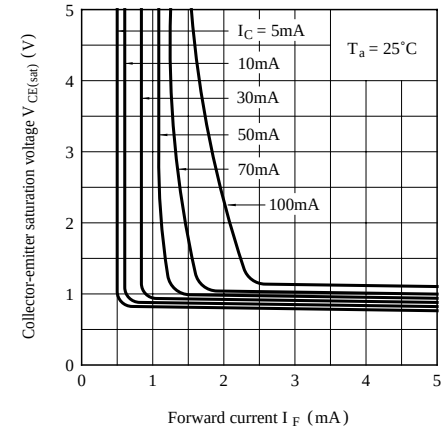


Fig.12 Collector-emitter Saturation Voltage vs. Forward Current



● Please refer to the chapter “Precautions for Use ”