

PC120 Series PC121 Series

Long Creepage Distance Type Photocoupler

*Lead forming type (L type) and taping reel type (P type) are also available (PC120I/PC120FI/PC121I/PC121FI, PC120P/PC120FP/PC121P/PC121FP) (page 656)

*DIN -VDE0884 approved type is also available as an option

Features

1. Conforms to European Safety Standards
2. Long creepage distance type
(Creepage distance : 6mm or more)
3. Internal isolation distance : 0.4mm or more
4. Compact dual-in-line package
5. High collector -emitter voltage
(V_{CEO} : 70V for PC121 series)
6. Recognized by UL file No. E64380
Approved by VDE (DIN -VDE0884; No. 76851)
Approved by BSI (BS415 : No. 7087,
BS7002 : No. 7409)

Approved by SEMKO (No. 9216212)

Approved by DEMKO (No. 108025)

Approved by EI (No. 155030-01)

Applications

1. Switching power supplies
2. OA equipment
3. TVS

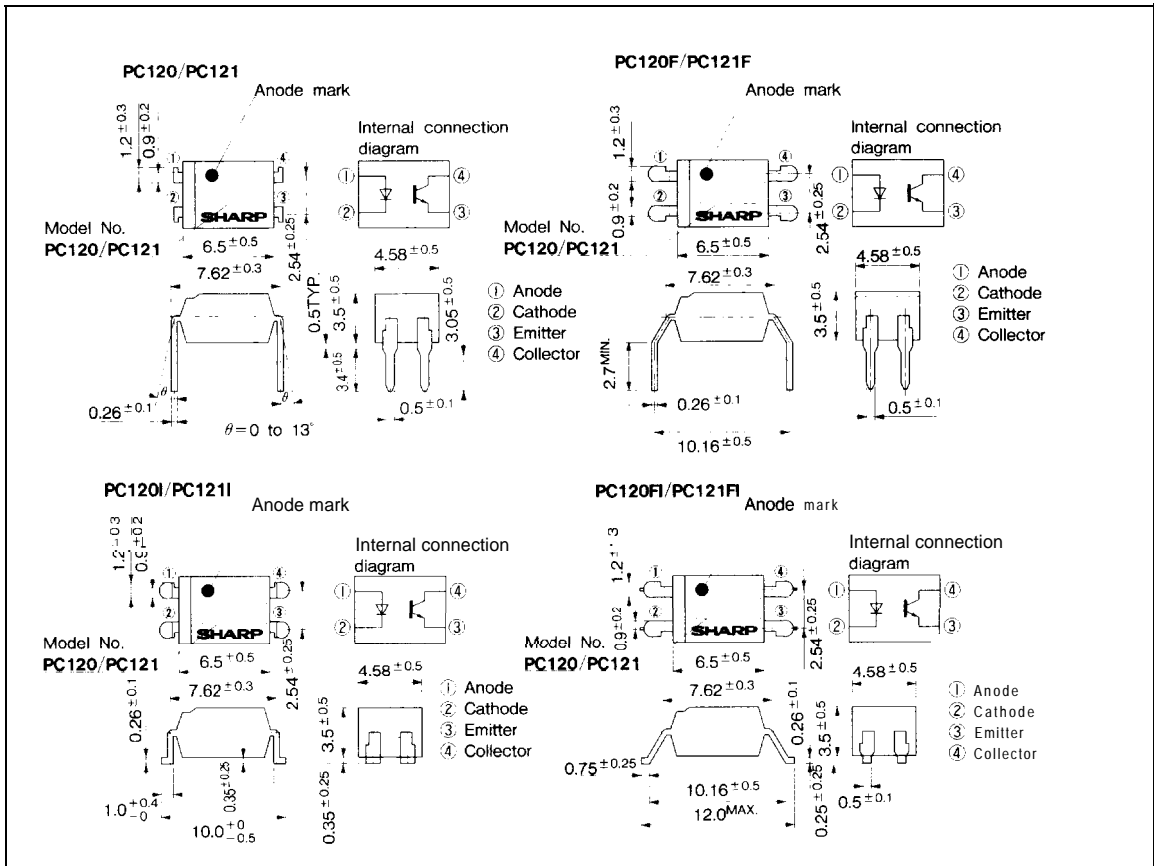
Modal tine-up

	Standard type		High collector-emitter voltage type	
DIP type	PC120	PC120F	PC121	PC121F
Surface mount type	PC120*	PC120F*	PC121*	PC121F*

*Lead forming type

(Unit : mm)

Outline Dimensions



Photocouplers

■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating		Unit
		PC120 Series	PC121 Series	
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}	35 70	v
	Emitter-collector voltage	V _{ECO}	6	v
	Collector current	I _C	50	mA
	Collector power dissipation	P _C	150	mW
Total power dissipation		P _{t.}	200	mW
*2 Isolation voltage		V _{iso}	5000	V _{rms}
Operating temperature		T _{opr}	-30 to +100	°C
Storage temperature		T _{stg}	-55 to +125	°C
*3 Soldering temperature		T _{sol}	260	°C

PC120 Series :
PC120/PC120I/
PC120F/PC120FI
PC121 Series :
PC121/PC121I/
PC121F/PC121FI

*1 Pulse width ≤ 100 μs, Duty ratio = 0.001

*2 40 to 60%RH, AC for 1 minute

*3 For 10 wends

■ Electro-optical Characteristics (Ta = 25°C)

Parameter		Symbol	Condition	MIN.	TYP.	MAX.	Unit	
Input	Forward voltage	V _F	I _F = 20mA	—	1.2	1.4	v	
	Reverse voltage	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	—	—	10 ⁻⁷	A	
	Collector -emitter breakdown voltage	BV _{CEO}	I _C = 0.1mA, I _F = 0	35	—	—	v	
			I _F = 0	70	—	—	v	
Emitter-collector breakdown voltage	BV _{ECO}	I _F = 10 μA, I _R = 0	6	—	—	v		
Current transfer ratio		CTR	I _F = 5mA, V _{CE} = 5V	50	—	400	%	
Collector emitter saturation voltage		V _{CE(sat)}	I _F = 20mA, I _C = 1mA	—	0.1	0.2	v	
Transfer characteristics	Isolation resistance		R _{ISO}	DC500V, 40 to 60%RH	5 × 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} = 5V, I _C = 2mA, R _L = 100Ω -3dB point	—	80	-	kHz
	Response time	Rise time	t _r	V _{CE} = 2V, I _C = 2mA	—	4	18	μs
Fall time		t _f	R _L = 100Ω	—	3	18	μs	

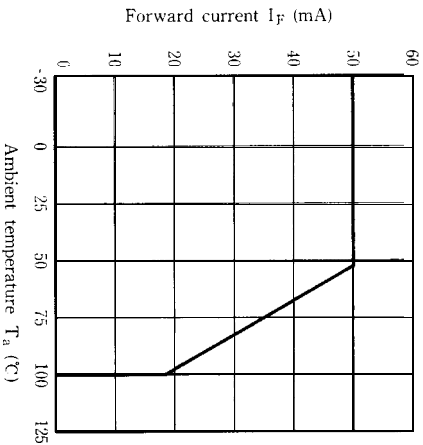
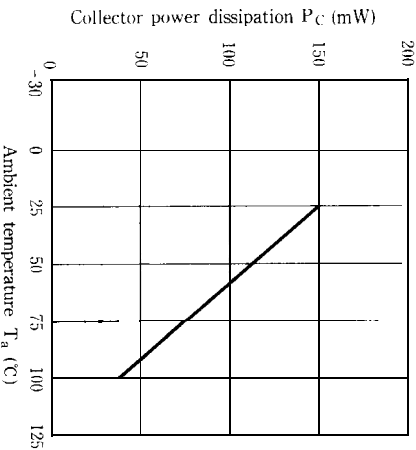
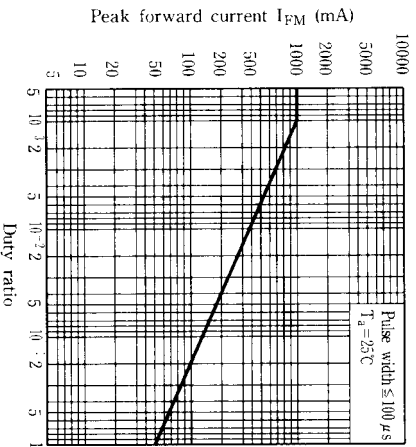
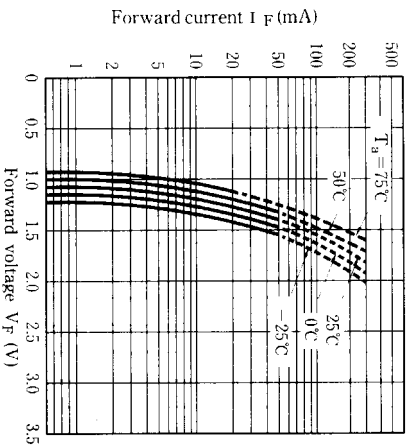
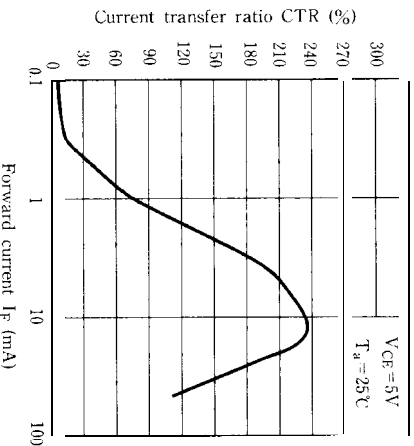
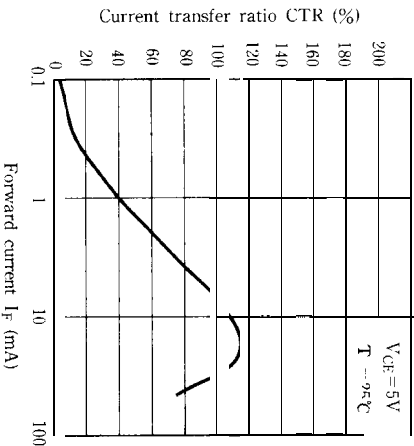
Fig. 1 Forward Current vs. Ambient Temperature**Fig. 2 Collector Power Dissipation vs. Ambient Temperature****Fig. 3 Peak Forward Current vs. Duty Ratio****Fig. 4 Forward Current vs. Forward Voltage****Fig. 5-a Current Transfer Ratio vs. Forward Current (PC120 Series)****Fig. 5-b Current Transfer Ratio vs. Forward Current (PC121 Series)**

Fig. 6-a Collector Current vs. Collector-emitter Voltage
(PC120 Series)

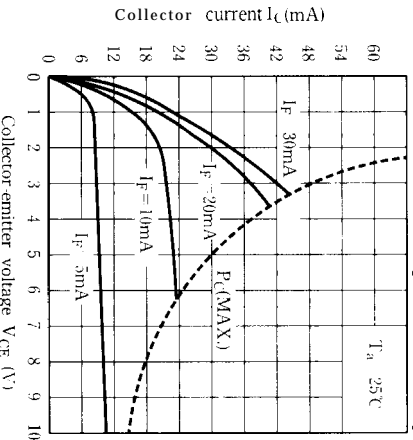


Fig. 7-a Relative Current Transfer Ratio vs. Ambient Temperature
(PC120 Series)

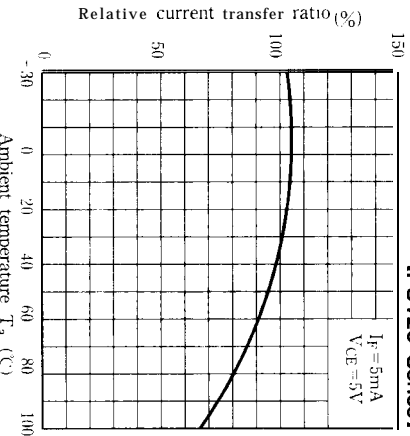


Fig. 8-a Collector-emitter Saturation Voltage vs. Ambient Temperature
(PC120 Series)

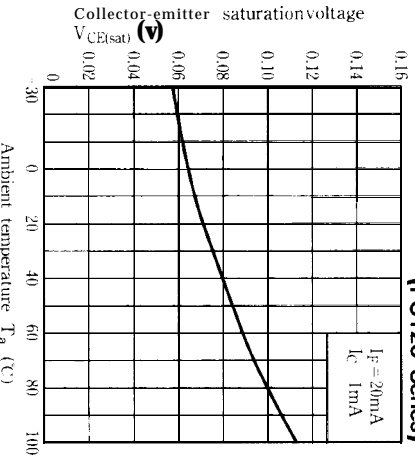


Fig. 6-b Collector Current vs. Collector-emitter Voltage
(PC121 Series)

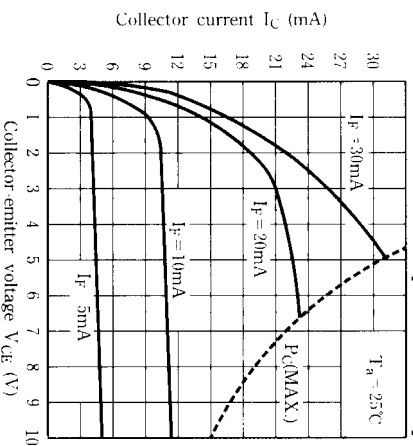


Fig. 7-b Relative Current Transfer Ratio vs. Ambient Temperature
(PC121 Series)

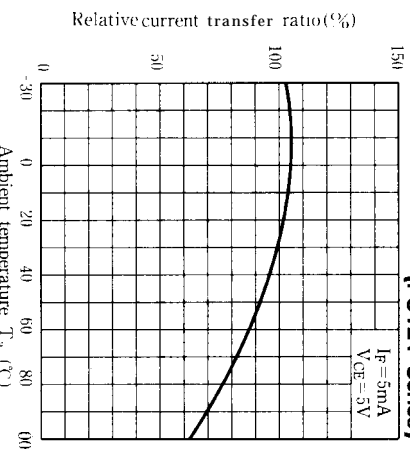


Fig. 8-b Collector-emitter Saturation Voltage vs. Ambient Temperature
(PC121 Series)

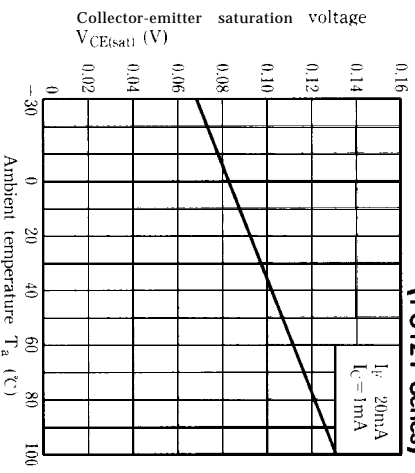


Fig. 9-a Collector Dark Current vs. Ambient Temperature (PC120 Series)

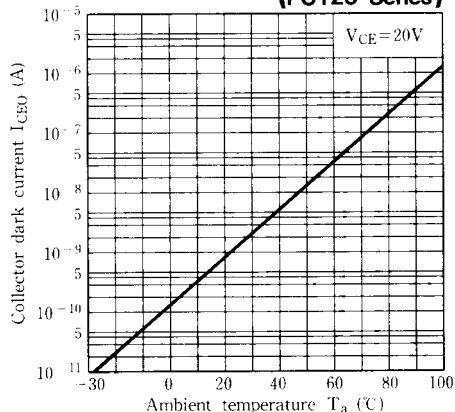


Fig. 9-b Collector Dark Current vs. Ambient Temperature (PC121 Series)

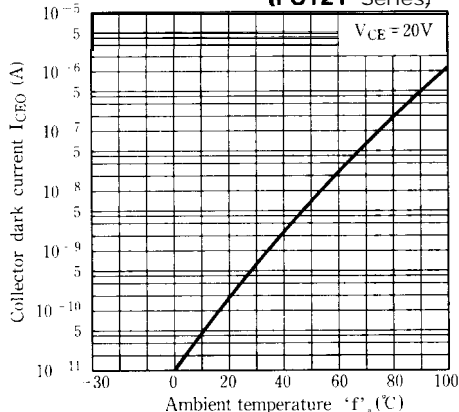


Fig.10-a Response Time vs. Load Resistance (PC120 Series)

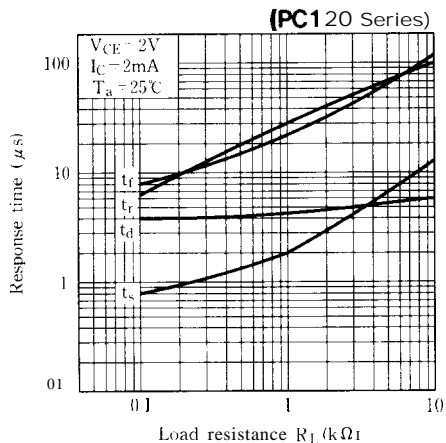


Fig.10-b Response Time vs. Load Resistance (PC121 Series)

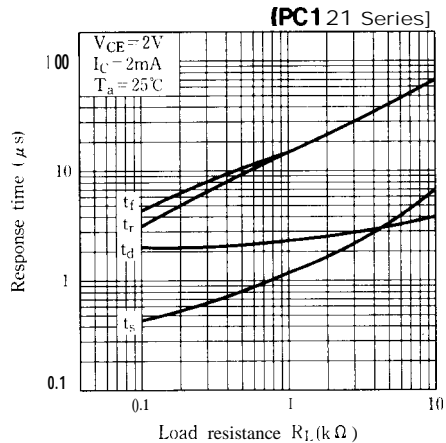


Fig.11 -a Frequency Response (PC120 Series)

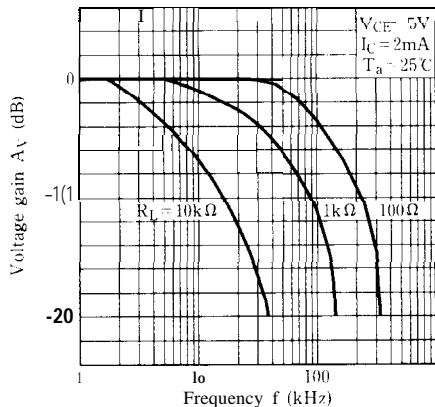


Fig. 11-b Frequency Response (PC121 Series)

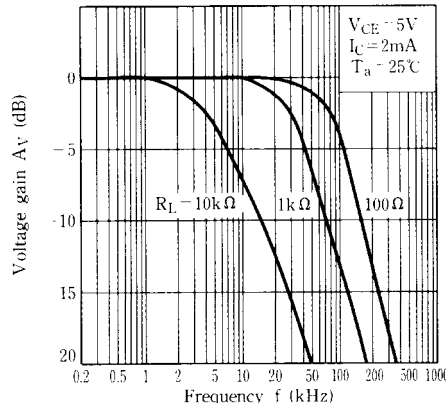


Fig.12-a Collector-emitter Saturation Voltage vs. Forward Current (PC120 Series)

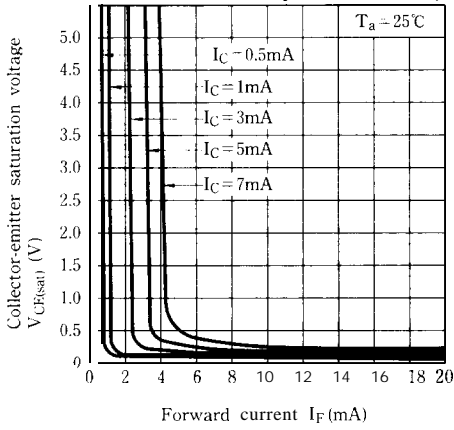
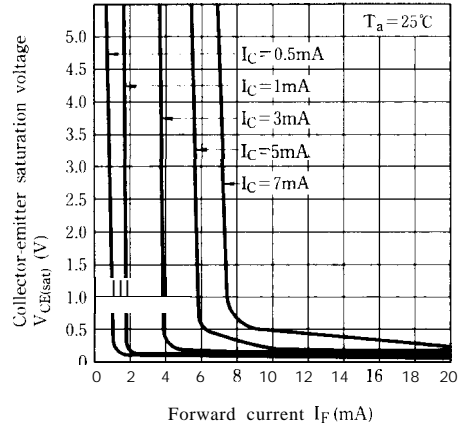


Fig.12-b Collector-emitter Saturation Voltage vs. Forward Current (PC121 Series)



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

Вы скачали этот файл с сайта «Сайт радиолюбителей»



Другие разделы сайта

Раздел БИБЛИОТЕКА

Книги для и журналы радиолюбителям

<http://radio-uchebnik.ru/library/>

Раздел РАДИОСХЕМЫ

Различные схемы как для начинающих так и для профессионалов:

Схемы бытовой техники, телевизоров, мониторов, автомагнитол, музыкальных центров, и для самостоятельной сборки

<http://radio-uchebnik.ru/shem/>

Раздел ФАЙЛОВОЕ ХРАНИЛИЩЕ

Различные файлы: Даташиты, схемы, прошивки и так далее

<http://radio-uchebnik.ru/downfiles/>

Раздел РАДИОКОМПАС

Если Вы занимаетесь ремонтом электроники на профессиональном уровне- то Вы можете сообщить о себе.

<http://radio-uchebnik.ru/radiomap/>

Раздел ДОСКА ОБЪЯВЛЕНИЙ

Здесь Вы можете разместить бесплатное объявление сроком до 120 дней (только радиотематика!!)

<http://radio-uchebnik.ru/ads/>

Раздел СПРАВОЧНИК ПО МИКРОСХЕМАМ

Справочные данные на микросхемы импортного и отечественного производства

<http://radio-uchebnik.ru/microbase/>

Раздел СТАТЬИ

Различные статьи радиолюбительской (и не только) тематики: секреты телемастера, практическая электроника, альтернативная энергия, расчеты по электронике, электронные устройства и так далее

<http://radio-uchebnik.ru/txt/>

ФОРУМ НАШЕГО САЙТА

<http://radio-uchebnik.ru/forum/>