

PC120 Series PC121 Series

Long Creepage Distance Type Photocoupler

Lead forming type (I type) and taping reel type (II type) are also available. (PC120I/PC120R/PC121I/PC121R, PC120F/PC120FR/PC121F/PC121FR) (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

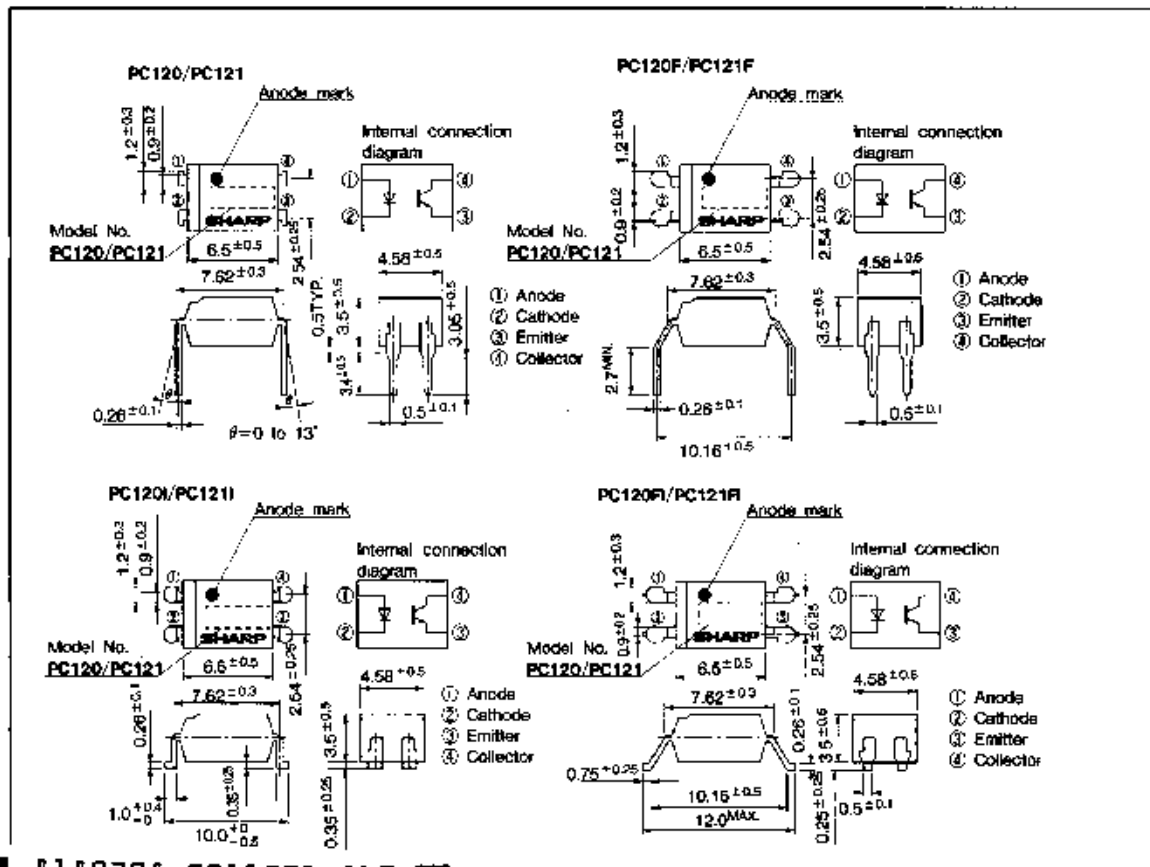
■ Model Line-up

	Standard type		High collector-emitter voltage type	
DIP type	PC120	PC120F	PC121	PC121F
Surface mount type	PC120R	PC120FR	PC121R	PC121FR

*Lead forming type

(Unit : mm)

■ Outline Dimensions



8180798 0011591 869

■ 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_{CE0}	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_{tot}	200		mW
	*2 Isolation voltage	V_{iso}	5 000		V _{rms}
Operating temperature	T_{op}	-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 $\leq 100 \mu s$, 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	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_{C50}	$V_{CE} = 20V, I_F = 0$	—	—	10^{-7}	A	
	Collector-emitter breakdown voltage	BV_{CE0}	$I_C = 0.1mA, I_F = 0$	35	—	—	V	
				70	—	—		
	Emitter-collector breakdown voltage	BV_{ECO}	$I_E = 10 \mu A, I_F = 0$	6	—	—	V	
Current transfer ratio	CTR	$I_F = 5mA, V_{CE} = 5V$	50	—	400	%		
Transfer characteristics	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	5×10^{10}	10^{12}	—	Ω	
	Floating capacitance	C_e	$V = 0, f = 1MHz$	—	0.6	1.0	pF	
	Cut-off frequency	f_c	$V_{\alpha} = 5V, I_C = 3mA, R_L = 100\Omega$ -3dB point	—	80	—	kHz	
	Response time	Rise time	t_r	$V_{CE} = 2V, I_C = 2mA$	—	4	18	μs
		Fall time	t_f	$R_L = 100\Omega$	—	3	18	μs