

PC724V

High Input Current Type Photocoupler

※ Lead forming type (W type) and taping reel type (P type) are also available. (PC724W/PC724VP)

■ Features

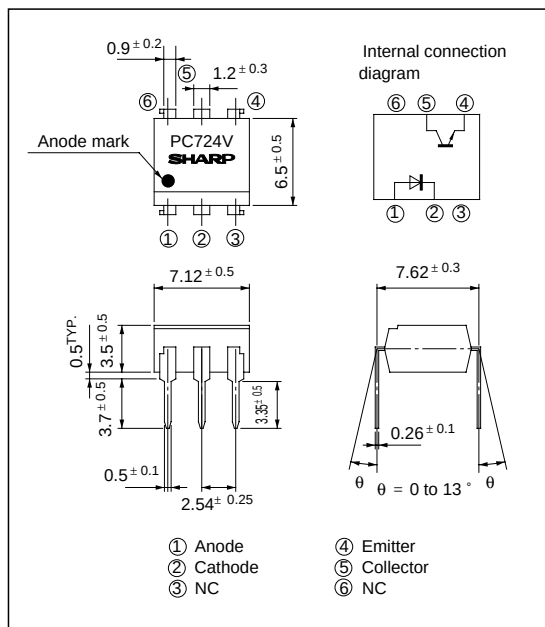
1. High input current (I_F : MAX. 150mA)
2. High isolation voltage between input and output
(V_{iso} : 5 000V_{rms})
3. Standard dual-in-line package
4. Recognized by UL, file no. E64380

■ Applications

1. Telephone sets
2. I/O interfaces for microcomputer
3. System appliances, measuring instruments
4. Signal transmission between circuits of different potentials and impedances

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

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

	Parameter	Symbol	Rating	Unit
Input	Forward current	I_F	150	mA
	*1 Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P	230	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	80	mA
	Collector power dissipation	P_C	160	mW
	Total power dissipation	P_{tot}	320	mW
	*2 Isolation voltage	V_{iso}	5 000	V _{rms}
	Operating temperature	T_{opr}	- 25 to + 100	$^\circ\text{C}$
	Storage temperature	T_{sig}	- 55 to + 125	$^\circ\text{C}$
	*3 Soldering temperature	T_{sol}	260	$^\circ\text{C}$

*1 Pulse width $\leq 100\mu\text{s}$, 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	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V _F	I _F = 100mA	-	1.4	1.7	V
	Peak forward voltage		V _{FM}	I _{FM} = 0.5A	-	-	3.0	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} = 20V, I _F = 0	-	-	10 ⁻⁷	A
Transfer charac- teristics	Current tranfer ratio		CTR	I _F = 100mA, V _{CE} = 2V	20	-	80	%
	Collector-emitter saturation voltage		V _{CE(sat)}	I _F = 100mA, I _C = 1mA	-	0.1	0.2	V
	Isolation resistance		R _{ISO}	DC500V, 40 to 60% RH	5 x 10 ¹⁰	1 x 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	-	100	-	kHz
	Response time	Rise time	t _r	V _{CE} = 5V, I _C = 2mA	-	4	18	μ s
Fall time		t _f	R _L = 100Ω	-	3	18	μ s	

Fig. 1 Forward Current vs. Ambient Temperature

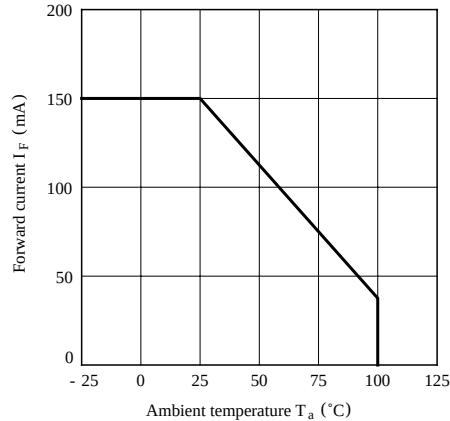


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

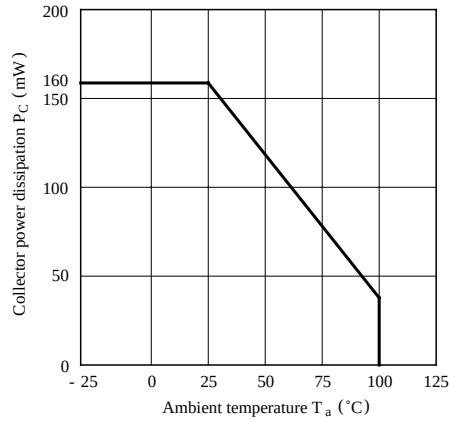


Fig. 3 Peak Forward Current vs. Duty Ratio

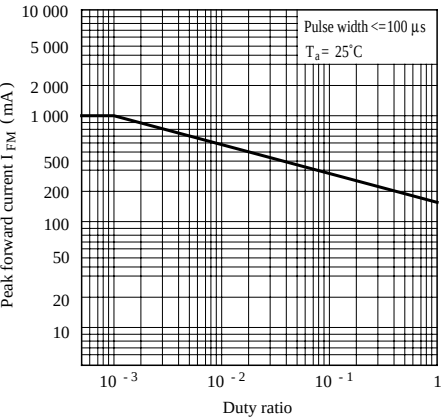


Fig. 4 Forward Current vs. Forward Voltage

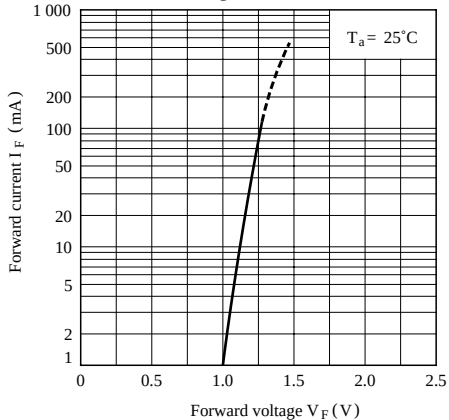


Fig. 5 Current Transfer Ratio vs. Forward Current

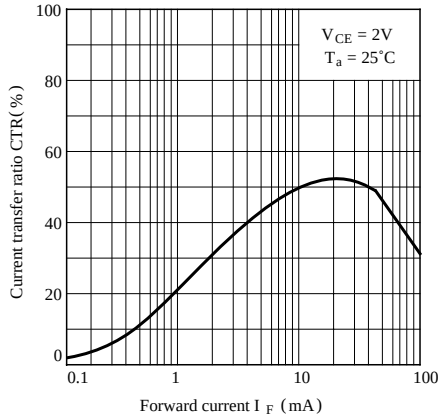


Fig. 6 Collector Current vs. Collector-emitter Voltage

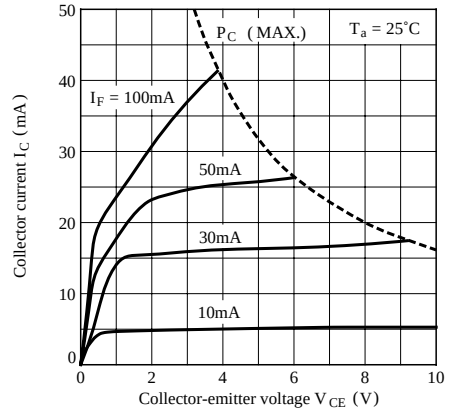


Fig. 7 Collector Dark Current vs. Ambient Temperature

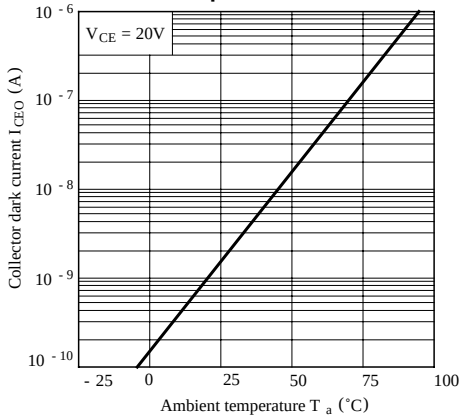


Fig. 8 Response Time vs. Load Resistance

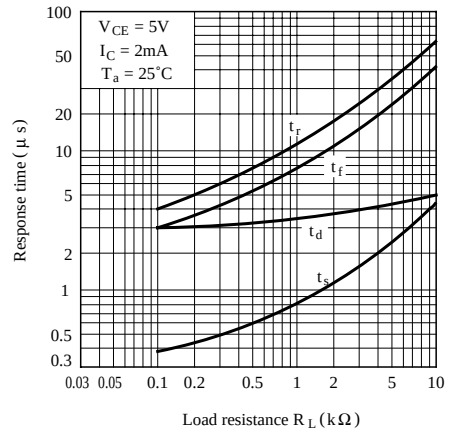
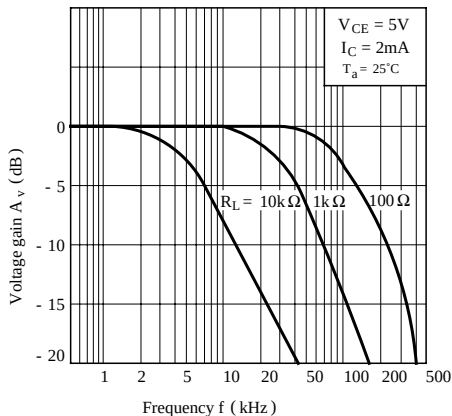
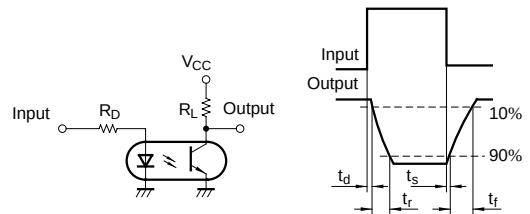


Fig. 9 Frequency Response



Test Circuit for Response Time



Test Circuit for Frequency Response

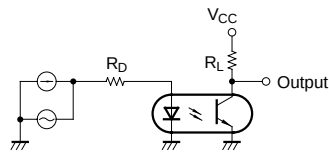
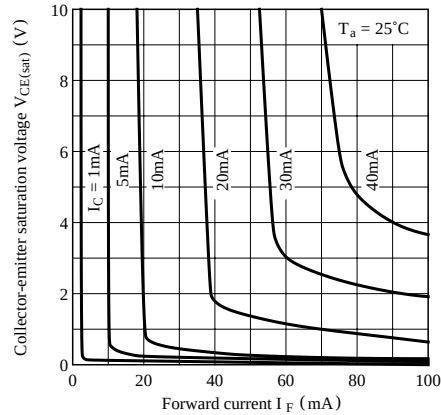


Fig.10 Collector-emitter Saturation Voltage vs. Forward Current



● Please refer to the chapter “Precautions for Use”.