

PC724V0NSZX

Large Input Current Type Photocoupler

■ Features

1. Large input current type (I_F :MAX. 150mA)
2. Isolation voltage (Viso (rms)):5kV
3. Recognized by UL, file No.E64380
4. 6-pin DIP package
5. Sleeve packing

■ Applications

1. Programmable controllers
2. Facsimiles
3. Telephones

■ Absolute Maximum Ratings (Ta=25°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} (rms)	5	kV
	Operating temperature	T_{opr}	-25 to +100	°C
	Storage temperature	T_{stg}	-55 to +125	°C
	*3 Soldering temperature	T_{sol}	260	°C

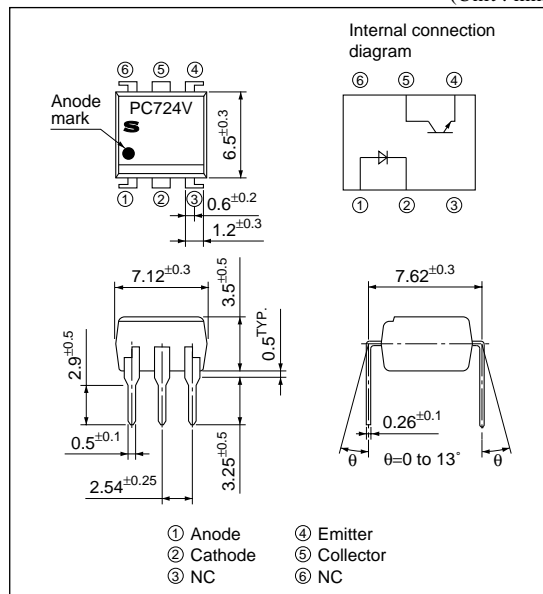
*1 Pulse widths \leq 100 μ s, Duty ratio=0.001

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

*3 For 10 s

■ Outline Dimensions

(Unit : mm)



■ Electro-optical Characteristics

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

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F=100\text{mA}$	—	1.4	1.7	V
	Peak forward voltage	V_{FM}	$I_{FM}=0.5\text{A}$	—	—	3.0	V
	Reverse current	I_R	$V_R=4\text{V}$	—	—	10	μA
	Terminal capacitance	C_t	$V=0, f=1\text{kHz}$	—	30	250	pF
Output	Collector dark current	I_{CEO}	$V_{CE}=20\text{V}, I_F=0$	—	—	10^{-7}	A
Transfer characteristics	Collector current	I_C	$I_F=100\text{mA}, V_{CE}=2\text{V}$	20	—	80	mA
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F=100\text{mA}, I_C=1\text{mA}$	—	0.1	0.2	V
	Isolation resistance	R_{ISO}	DC500V, 40 to 60%RH	5×10^{10}	1×10^{11}	—	Ω
	Floating capacitance	C_f	$V=0, f=1\text{MHz}$	—	0.6	1.0	pF
	Cut-off frequency	f_c	$V_{CE}=5\text{V}, I_C=2\text{mA}, R_L=100\Omega, -3\text{dB}$	—	100	—	kHz
	Response time	Rise time	t_r	$V_{CE}=5\text{V}, I_C=2\text{mA}, R_L=100\Omega$	—	4	18
Fall time		t_f	—		3	18	μs

Fig.1 Forward Current vs. Ambient Temperature

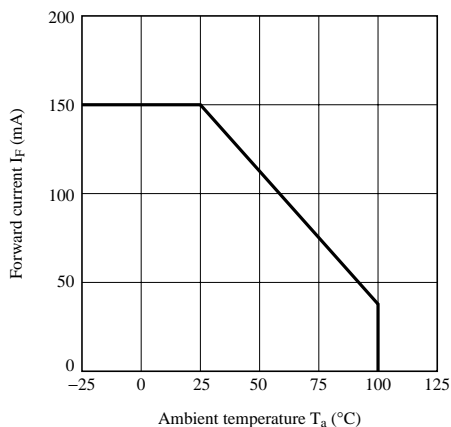


Fig.2 Collector Power Dissipation vs. Ambient Temperature

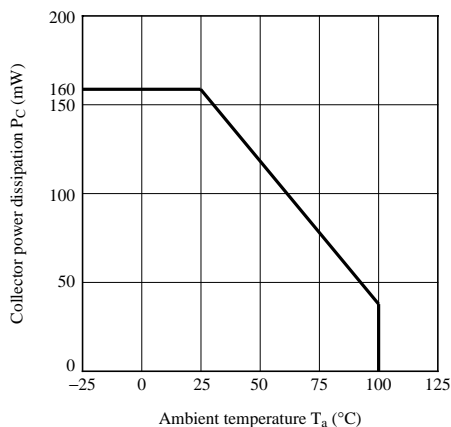


Fig.3 Peak Forward Current vs. Duty Ratio

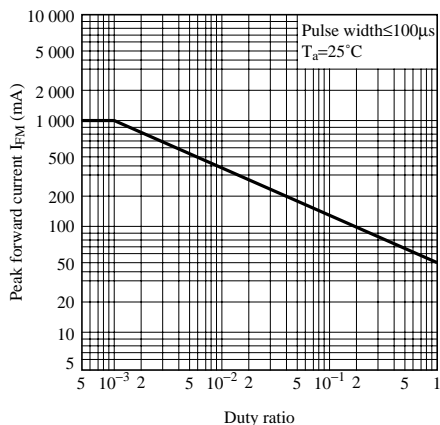


Fig.4 Forward Current vs. Forward Voltage

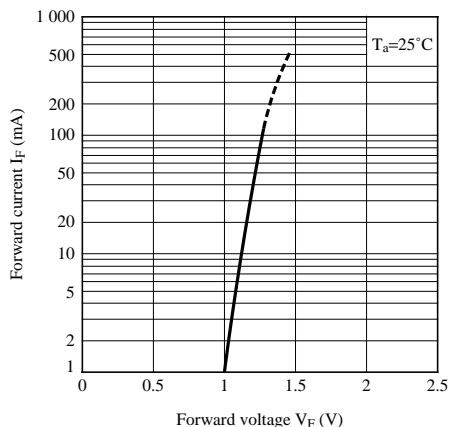


Fig.5 Current Transfer Ratio vs. Forward Current

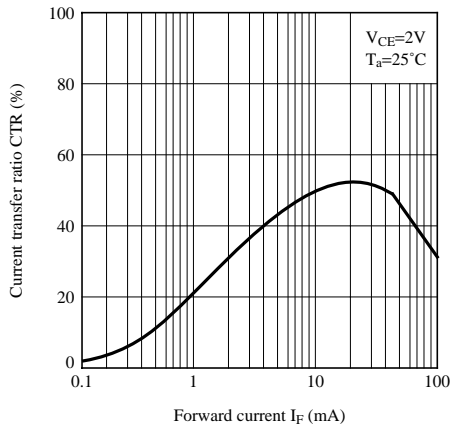


Fig.6 Collector Current vs. Collector-emitter Voltage

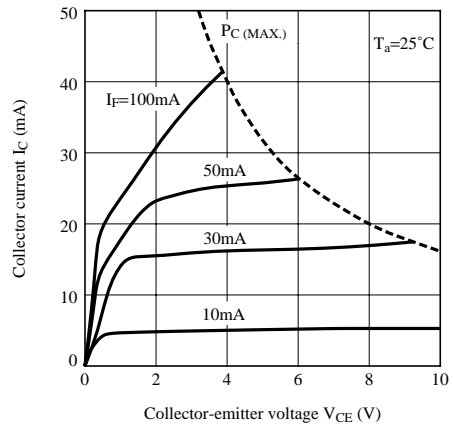


Fig.7 Collector Dark Current vs. Ambient Temperature



Fig.8 Collector-emitter Saturation Voltage vs. Forward Current

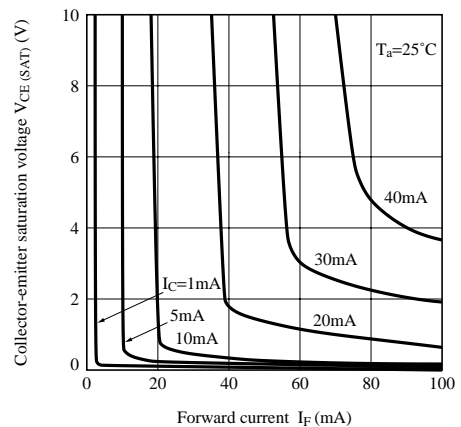


Fig.9 Response Time vs. Load Resistance

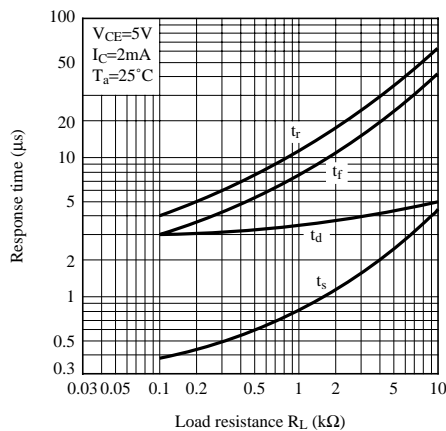


Fig.10 Test Circuit for Response Time

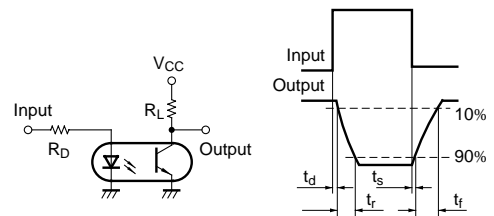


Fig.11 Frequency Response

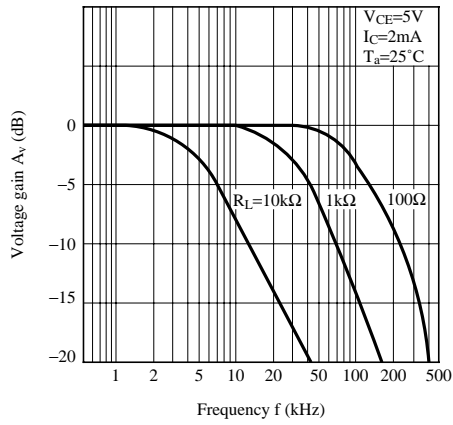
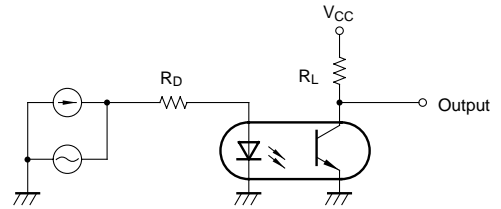


Fig.12 Test Circuit for Frequency Response



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 - Test and measurement equipment
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 - (ii) Measures such as fail-safe function and redundant design should be taken to ensure reliability and safety when SHARP devices are used for or in connection with equipment that requires higher reliability such as:
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 - (iii) SHARP devices shall not be used for or in connection with equipment that requires an extremely high level of reliability and safety such as:
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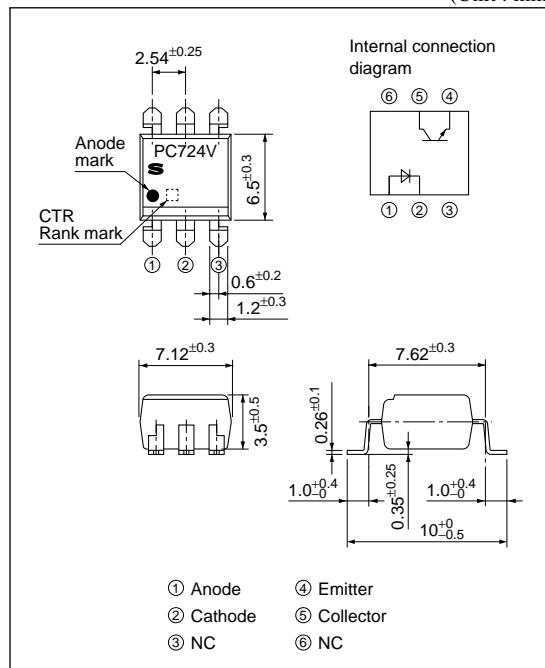
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Fig.1 Forward Current vs. Ambient Temperature

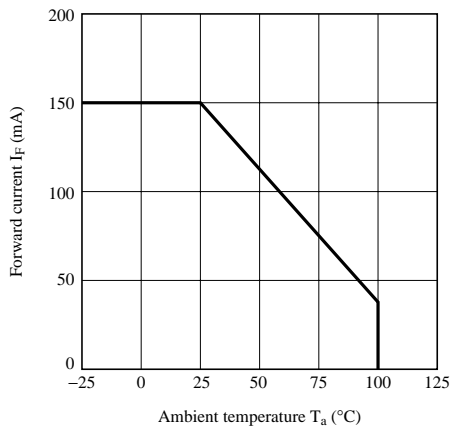


Fig.2 Collector Power Dissipation vs. Ambient Temperature

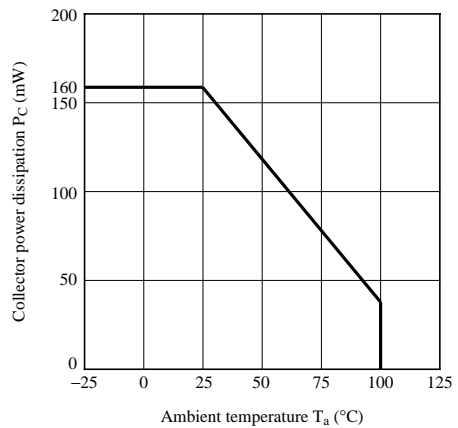


Fig.3 Peak Forward Current vs. Duty Ratio

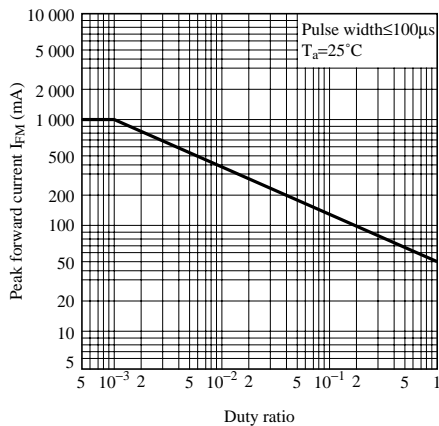


Fig.4 Forward Current vs. Forward Voltage

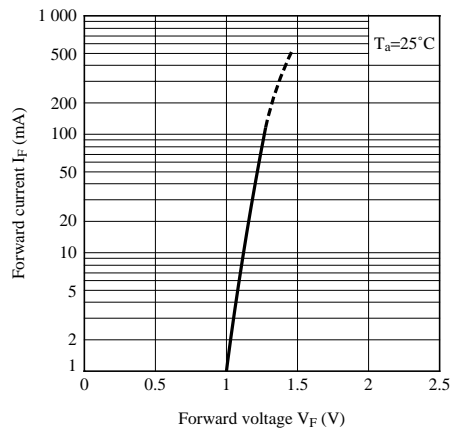


Fig.5 Current Transfer Ratio vs. Forward Current

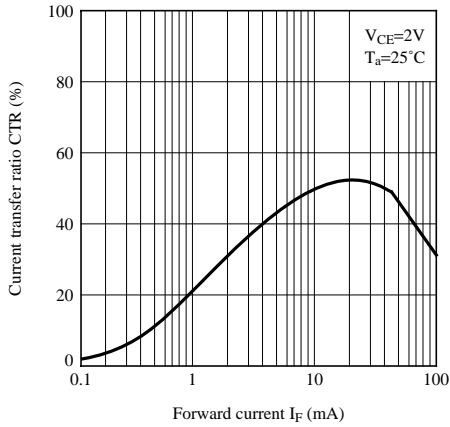


Fig.6 Collector Current vs. Collector-emitter Voltage

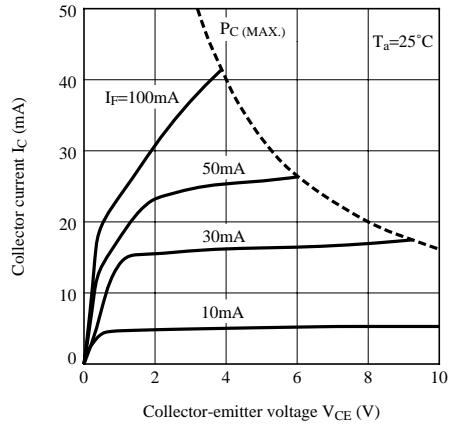


Fig.7 Collector Dark Current vs. Ambient Temperature

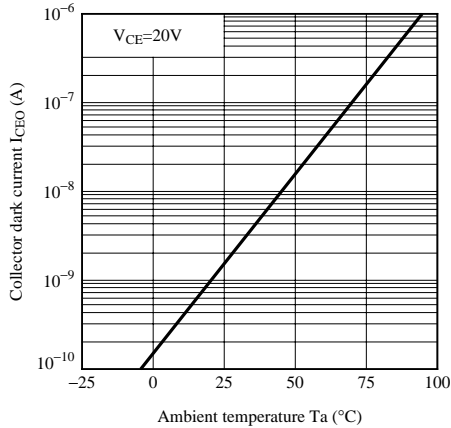


Fig.8 Collector-emitter Saturation Voltage vs. Forward Current

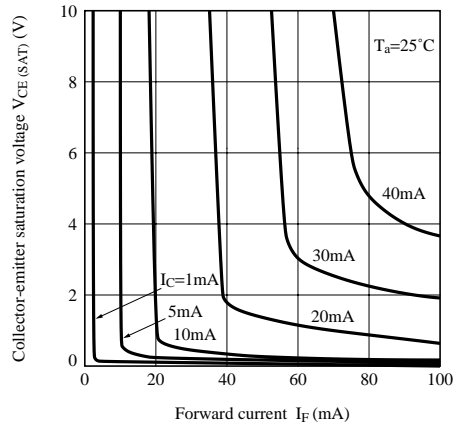


Fig.9 Response Time vs. Load Resistance

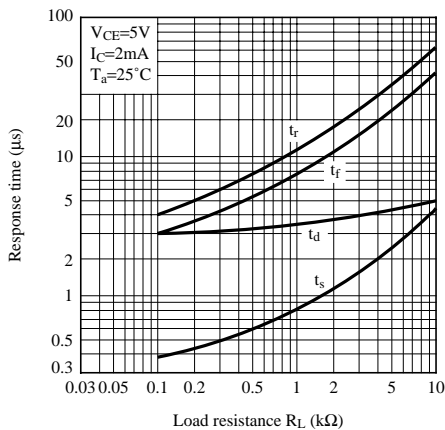


Fig.10 Test Circuit for Response Time

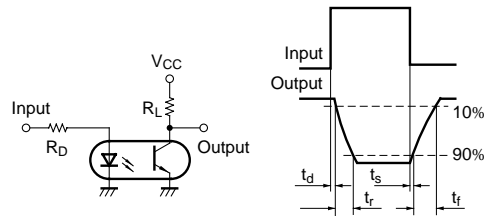


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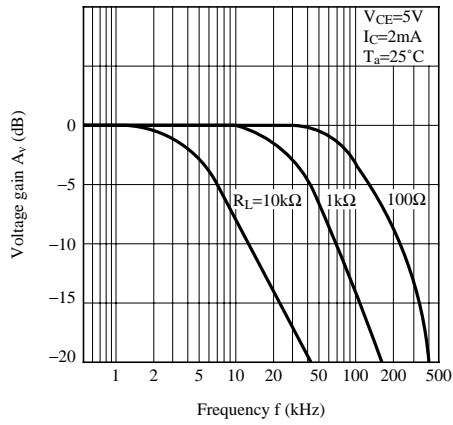
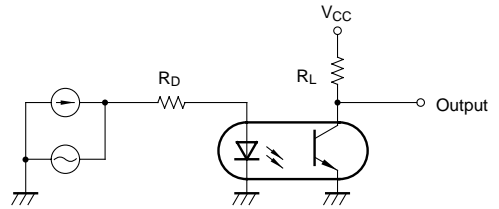


Fig.12 Test Circuit for Frequency Response



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