

PC716V0NSZX/ PC716V0YSZX

■ Features

1. High collector current (I_c:MAX. 200mA)
2. High sensitivity (CTR:MIN. 1 000%)
3. Isolation voltage (Viso (rms):5kV)
4. Recognized by UL, file No.E64380
Approved by TÜV (VDE0884)(PC716V0YSZX)
5. 6-pin DIP package

■ Applications

1. Home appliances
2. Programmable controllers
3. Peripheral equipment of personal computers

■ Model Line-up

Model No.	* Safty Standard Approval	
	UL	TÜV(VDE0884)
PC716V0NSZX	○	—
PC716V0YSZX	○	○

* Application Model No. PC716V

■ Absolute Maximum Ratings (Ta=25°C)

	Parameter	Symbol	Rating	Unit
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	V
	Emitter-collector voltage	V _{ECO}	6	V
	Collector current	I _C	200	mA
	Collector power dissipation	P _C	300	mW
	Total power dissipation	P _{tot}	350	mW
	*2 Isolation voltage	V _{iso (rms)}	5	kV
	Operating temperature	T _{opr}	-25 to +100	°C
	Storage temperature	T _{stg}	-40 to +125	°C
	*3 Soldering temperature	T _{sol}	260	°C

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

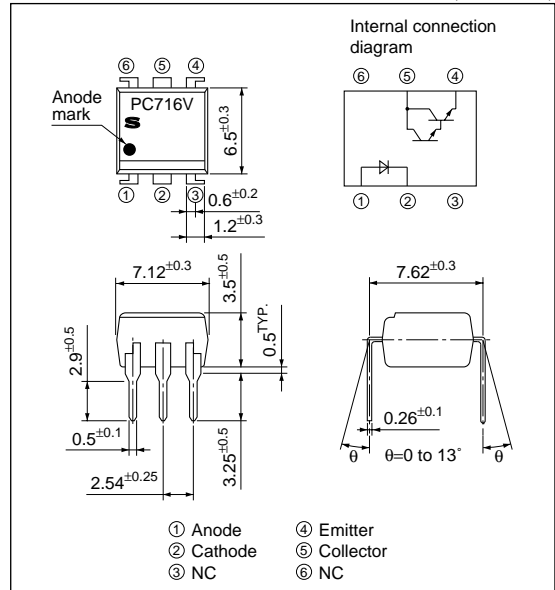
*2 40 to 60%RH, AC for 1 min

*3 For 10 s

High Sensitivity and High Collector Current Type Photocoupler

■ 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	$I_F=10\text{mA}$	—	1.2	1.4	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}	$V_{CE}=10\text{V}, I_F=0$	—	—	10^{-6}	A
Transfer characteristics	Collector current	I_C	$I_F=1\text{mA}, V_{CE}=2\text{V}$	10	60	150	mA
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F=20\text{mA}, I_C=10\text{mA}$	—	—	1.2	V
	Isolation resistance	R_{ISO}	DC500V, 40 to 60%RH	5×10^{10}	10^{11}	—	Ω
	Floating capacitance	C_f	$V=0, f=1\text{MHz}$	—	0.6	1.0	pF
	Cut-off frequency	f_c	$V_{CE}=2\text{V}, I_C=10\text{mA}, R_L=100\Omega, -3\text{dB}$	—	3	—	kHz
	Response time	Rise time	t_r	$V_{CE}=2\text{V}, I_C=20\text{mA}, R_L=100\Omega$	—	130	400
Fall time		t_f	—		60	350	μs

Fig.1 Forward Current vs. Ambient Temperature

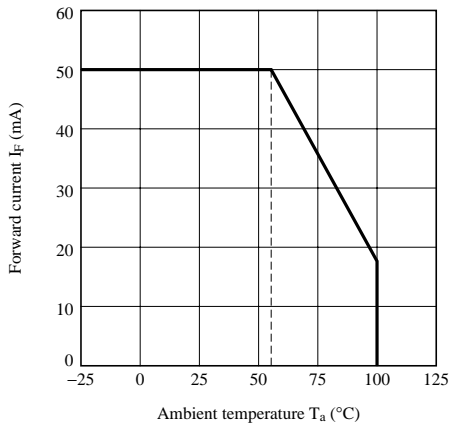


Fig.2 Collector Power Dissipation vs. Ambient Temperature

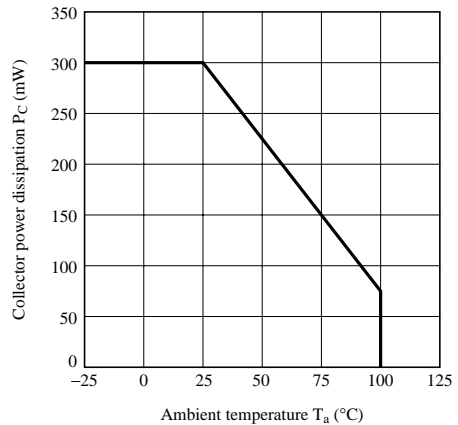


Fig.3 Peak Forward Current vs. Duty Ratio

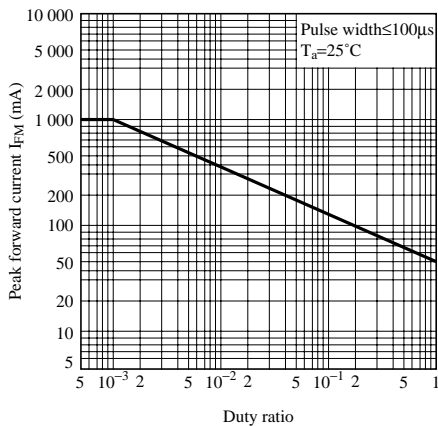


Fig.4 Forward Current vs. Forward Voltage

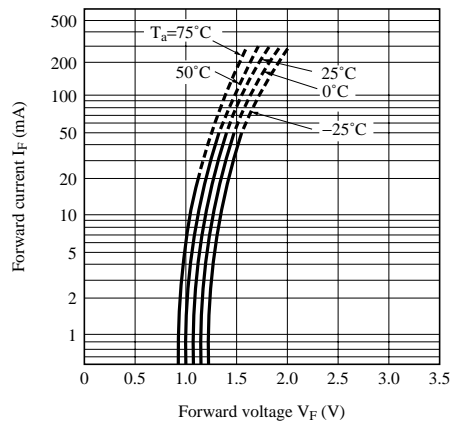


Fig.5 Current Transfer Ratio vs. Forward Current

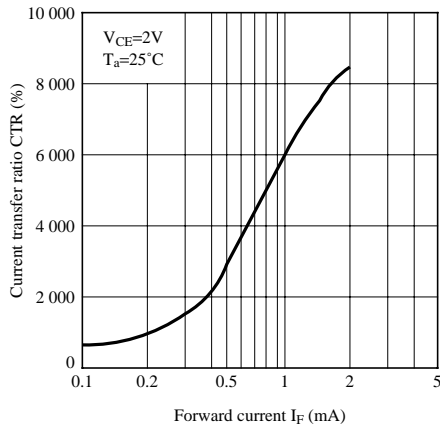


Fig.6 Collector Current vs. Collector-emitter Voltage

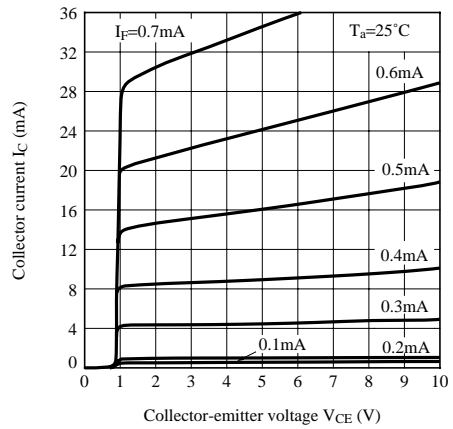


Fig.7 Collector Current vs. Collector-emitter Voltage

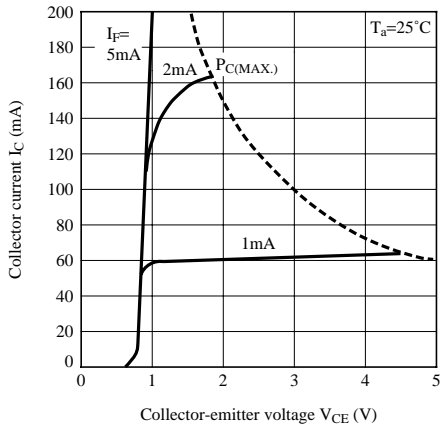


Fig.8 Relative Current Transfer Ratio vs. Ambient Temperature

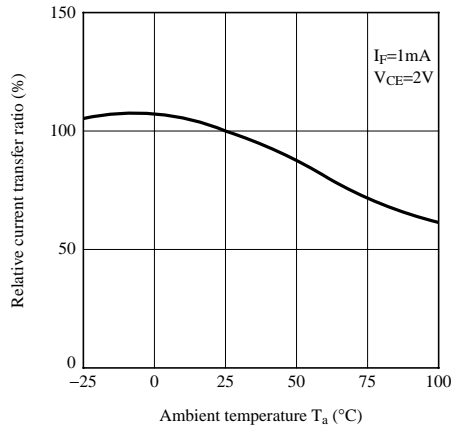


Fig.9 Collector - emitter Saturation Voltage vs. Ambient Temperature

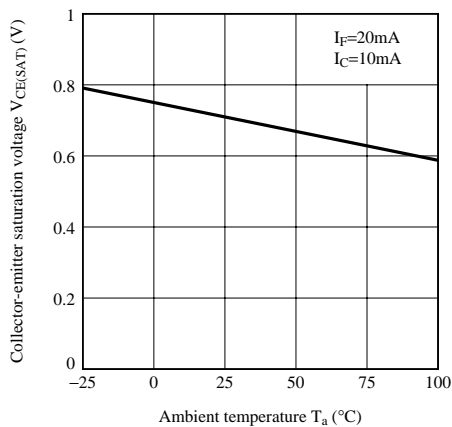


Fig.10 Collector Dark Current vs. Ambient Temperature

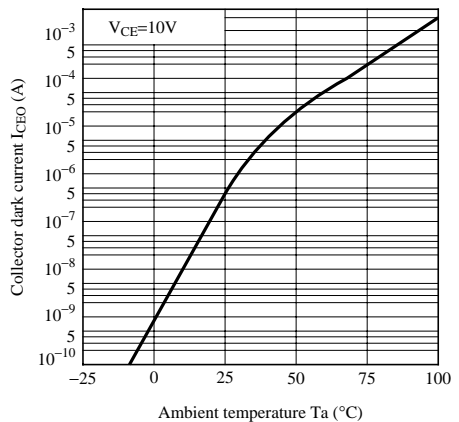


Fig.11 Response Time vs. Load Resistance

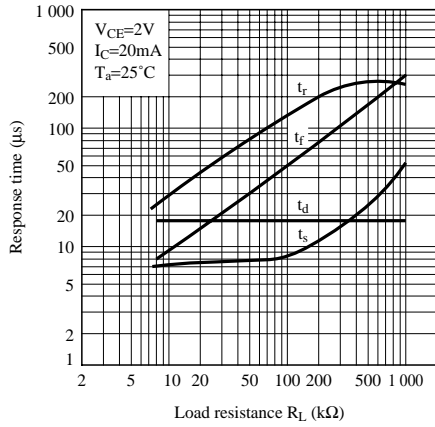


Fig.12 Test Circuit for Response Time

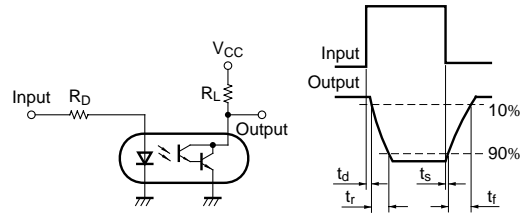


Fig.13 Frequency Response

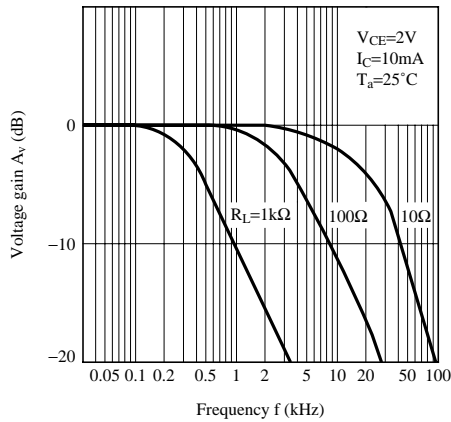
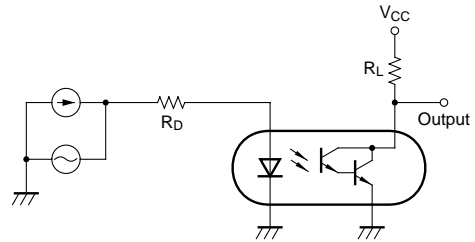


Fig.14 Test Circuit for Frequency Response



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