PC716V0NSZX Datasheet

DiGi Electronics Part Number	PC716V0NSZX-DG
Manufacturer	Sharp Microelectronics
Manufacturer Product Number	PC716V0NSZX
Description	OPTOISOLTR 5KV DARLINGTON 6-DIP
Detailed Description	Optoisolator Darlington Output 5000Vrms 1 Channel 6-DIP

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Manufacturer Product Number:	Manufacturer:
PC716V0NSZX	Sharp Microelectronics
Series:	Product Status:
-	Obsolete
Number of Channels:	Voltage - Isolation:
1	5000Vrms
Current Transfer Ratio (Min):	Current Transfer Ratio (Max):
-	-
Turn On / Turn Off Time (Typ):	Rise / Fall Time (Typ):
-	130µs, 60µs
Input Type:	Output Type:
DC	Darlington
Voltage - Output (Max):	Current - Output / Channel:
35V	200mA
Voltage - Forward (Vf) (Typ):	Current - DC Forward (If) (Max):
1.2V	50 mA
Vce Saturation (Max):	Operating Temperature:
1.2V	-25°C ~ 100°C
Mounting Type:	Package / Case:
Through Hole	6-DIP (0.300", 7.62mm)
Supplier Device Package:	
6-DIP	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
RoHS non-compliant	1 (Unlimited)
ECCN:	HTSUS:
EAR99	8541.49.8000

PC716V0NSZX/ PC716V0YSZX

High Sensitivity and High Collector Current Type Photocoupler

■ 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

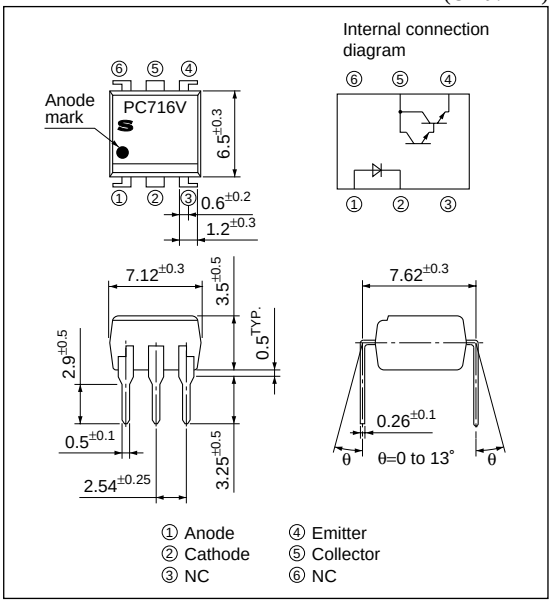
■ Model Line-up

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

* Application Model No. PC716V

■ Outline Dimensions

(Unit : mm)



■ 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

■ Electro-optical Characteristics

(Ta=25˚C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V_F	I_F=10mA	–	1.2	1.4	V
	Peak forward voltage		V_{FM}	I_{FM}=0.5A	–	–	3.0	V
	Reverse current		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}=10V, I_F=0	–	–	10^{-6}	A
Transfer characteristics	Collector current		I_C	I_F=1mA, V_{CE}=2V	10	60	150	mA
	Collector-emitter saturation voltage		$V_{CE(sat)}$	I_F=20mA, I_C=10mA	–	–	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=1MHz	–	0.6	1.0	pF
	Cut-off frequency		f_C	V_{CE}=2V, I_C=10mA, R_L=100Ω, −3dB	–	3	–	kHz
	Response time	Rise time	t_r	V_{CE}=2V, I_C=20mA R_L=100Ω	–	130	400	μs
		Fall time	t_f		–	60	350	μs

Fig.1 Forward Current vs. Ambient Temperature

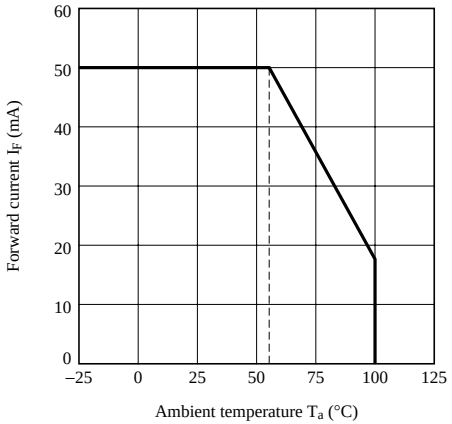


Fig.2 Collector Power Dissipation vs. Ambient Temperature

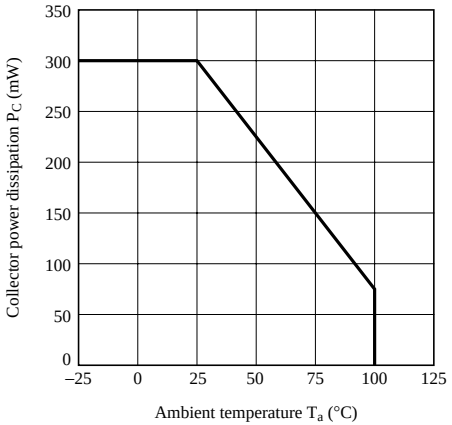


Fig.3 Peak Forward Current vs. Duty Ratio

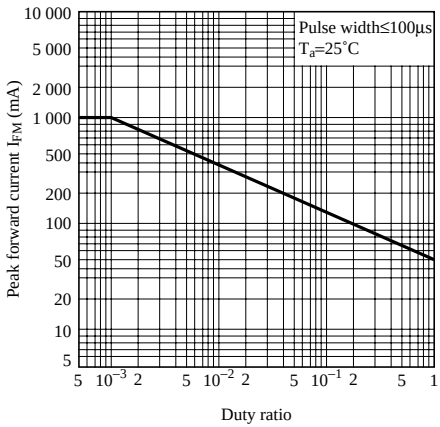


Fig.4 Forward Current vs. Forward Voltage

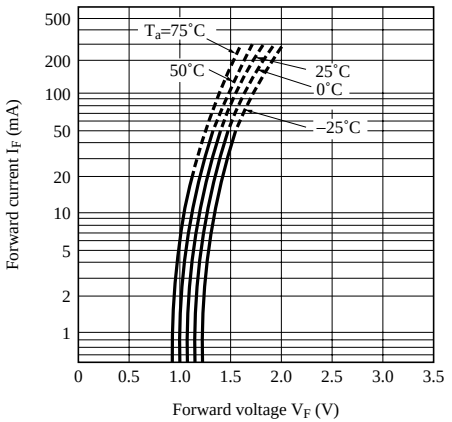


Fig.5 Current Transfer Ratio vs. Forward Current

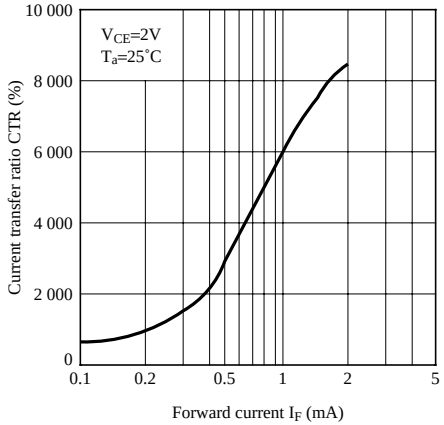


Fig.6 Collector Current vs. Collector-emitter Voltage

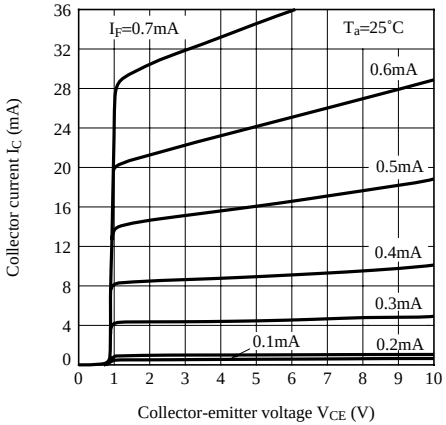


Fig.7 Collector Current vs. Collector-emitter Voltage

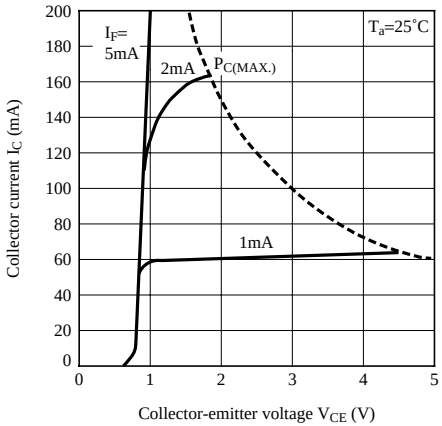


Fig.8 Relative Current Transfer Ratio vs. Ambient Temperature

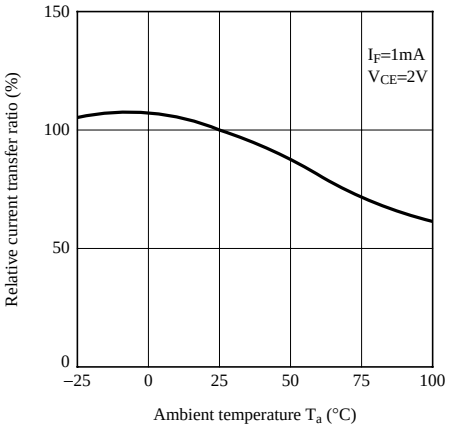


Fig.9 Collector - emitter Saturation Voltage vs. Ambient Temperature

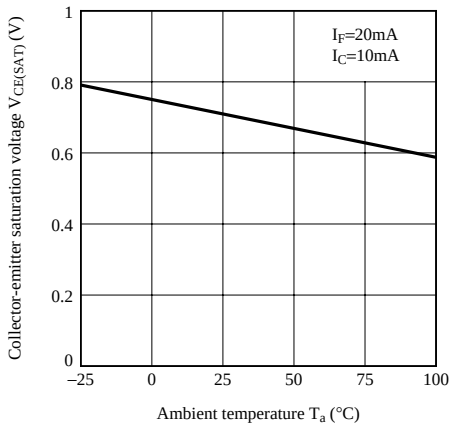


Fig.10 Collector Dark Current vs. Ambient Temperature

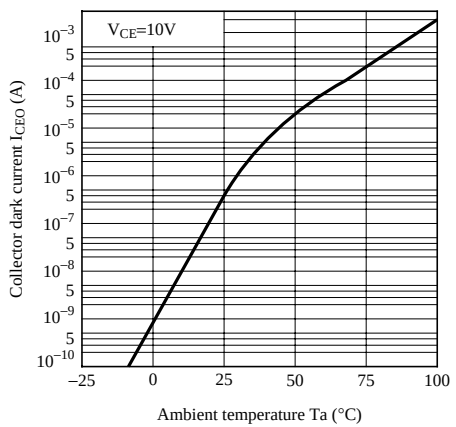


Fig.11 Response Time vs. Load Resistance

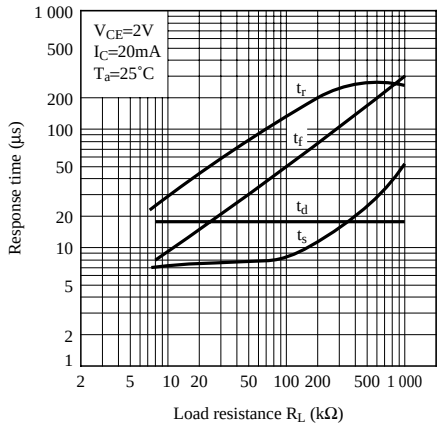


Fig.12 Test Circuit for Response Time

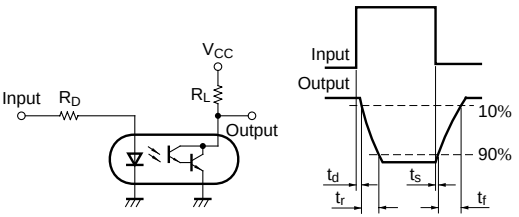


Fig.13 Frequency Response

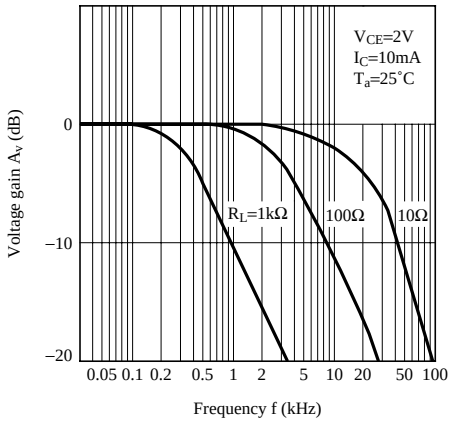
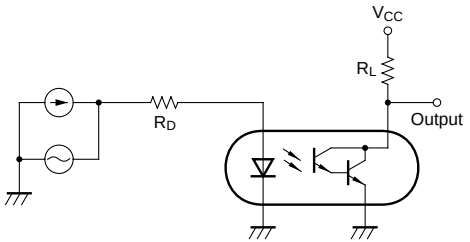


Fig.14 Test Circuit for Frequency Response



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