PC723V0YSZX Datasheet

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DiGi Electronics Part Number	PC723V0YSZX-DG
Manufacturer	Sharp Microelectronics
Manufacturer Product Number	PC723V0YSZX
Description	OPTOISO 5KV TRANS W/BASE 6DIP
Detailed Description	Optoisolator Transistor with Base Output 5000Vrms 1 Channel 6-DIP

This model PC723V0YSZX is available at DiGi Electronics.

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Manufacturer Product Number:	Manufacturer:
PC723V0YSZX	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):
-	6µs, 7µs
Input Type:	Output Type:
DC	Transistor with Base
Voltage - Output (Max):	Current - Output / Channel:
80V	50mA
Voltage - Forward (Vf) (Typ):	Current - DC Forward (If) (Max):
1.2V	50 mA
Vce Saturation (Max):	Operating Temperature:
300mV	-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

PC723V0NSZX/ PC723V0YSZX

High Collector-emitter Voltage Type Photocoupler

■ Features

1. TTL compatible output
2. High collector-emitter voltage (V_{CEO}:80V)
3. Isolation voltage (Viso (rms):5kV)
4. Recognized by UL, file No.E64380
   Approved by TÜV (VDE0884)(**PC723V0YSZX**)
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)
PC723V0NSZX	○	–
PC723V0YSZX	○	○

* Application Model No. PC723V

■ Absolute Maximum Ratings

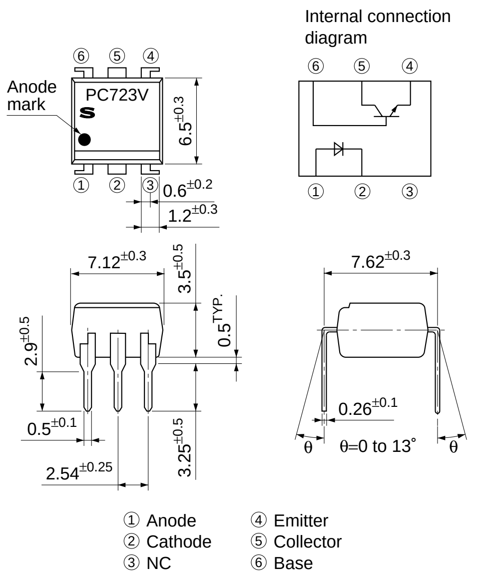
(Ta=25°C)

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}	80	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector-base voltage	V_{CBO}	130	V
	Emitter-base voltage	V_{EBO}	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		$V_{iso\ (rms)}$	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

■ Outline Dimensions

(Unit : mm)



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Internet Internet address for Electronic Components Group http://www.sharp.co.jp/ecg/

■ Electro-optical Characteristics

(Ta=25˚C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V_F	I_F=20mA	–	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}=40V, I_F=0, R_{BE}=∞	–	–	10^{-7}	A
Transfer charac- teristics	Collector current		I_C	I_F=5mA, V_{CE}=5V, R_{BE}=∞	2.5	5	20	mA
	Collector-emitter saturation voltage		$V_{CE(sat)}$	I_F=20mA, I_C=1mA, R_{BE}=∞	–	0.1	0.3	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}=5V, I_C=2mA, R_L=100Ω, R_{BE}=∞, -3dB	–	50	–	kHz
	Response time	Rise time	t_r	V_{CE}=2V, I_C=2mA R_L=100Ω, R_{BE}=∞	–	6	20	μs
		Fall time	t_f		–	7	20	μs

Fig.1 Forward Current vs. Ambient Temperature

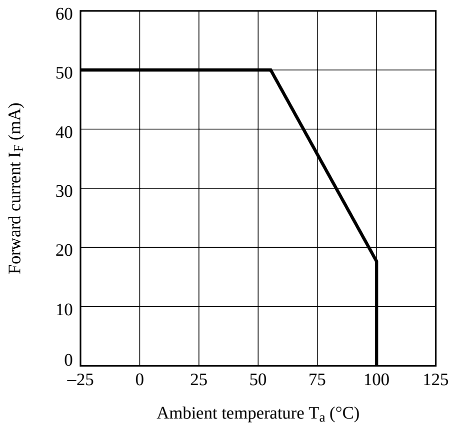


Fig.2 Collector Power Dissipation vs. Ambient Temperature

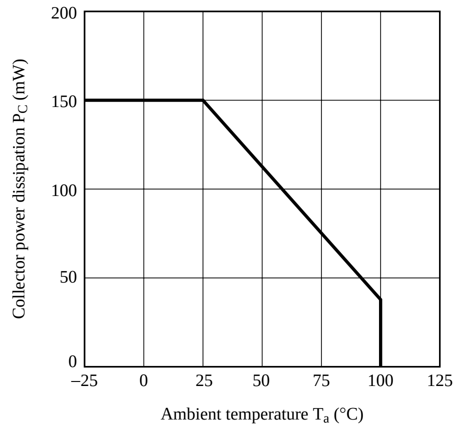


Fig.3 Peak Forward Current vs. Duty Ratio

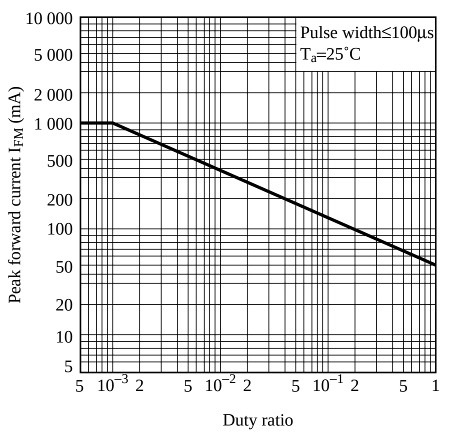
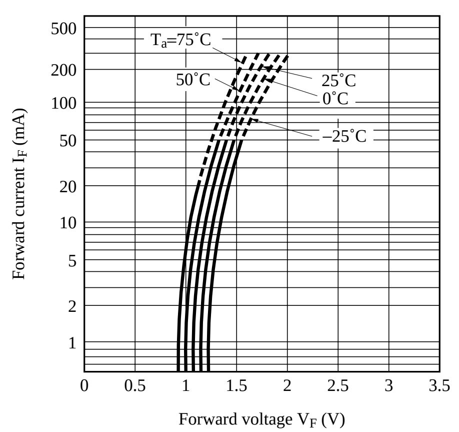


Fig.4 Forward Current vs. Forward Voltage



PC723V0YSZX Sharp Microelectronics OPTOISO 5KV TRANS W/BASE 6DIP

Fig.5 Current Transfer Ratio vs. Forward Current

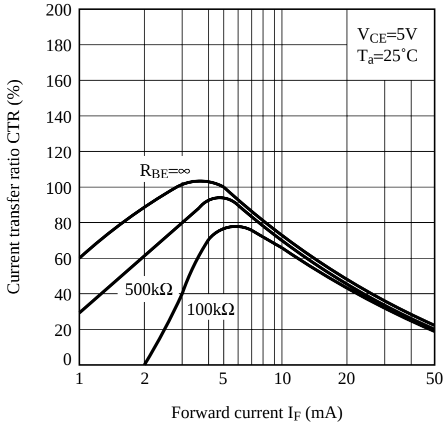


Fig.6 Collector Current vs. Collector-emitter Voltage

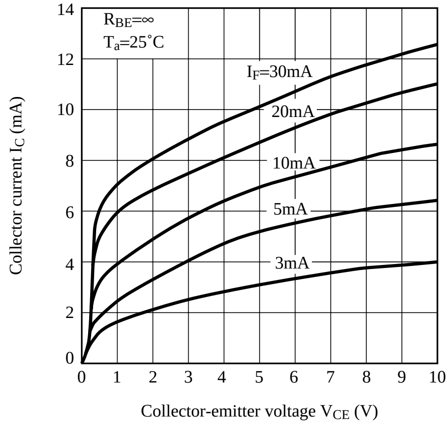


Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

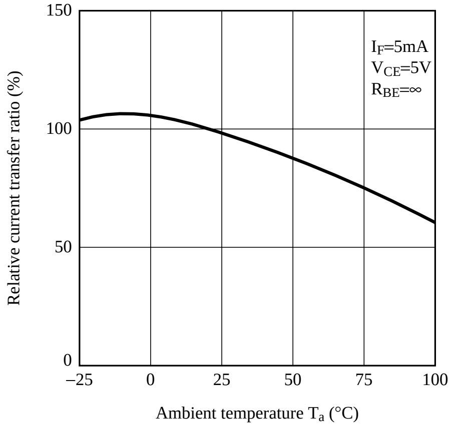


Fig.8 Collector - emitter Saturation Voltage vs. Ambient Temperature

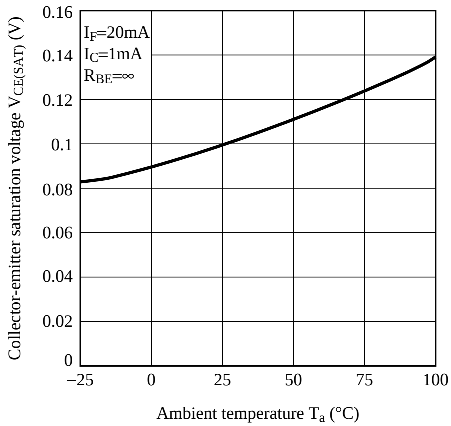


Fig.9 Collector Dark Current vs. Ambient Temperature

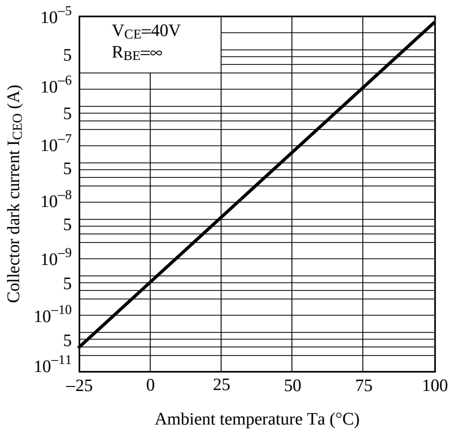


Fig.10 Collector-emitter Saturation Voltage vs. Forward Current

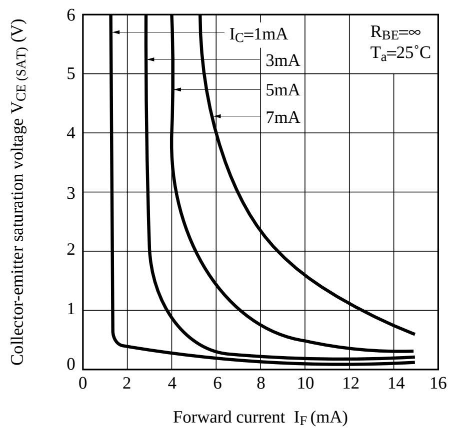


Fig.11 Response Time vs. Load Resistance

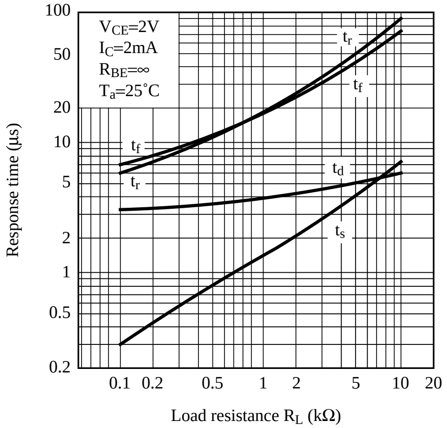


Fig.12 Test Circuit for Response Time

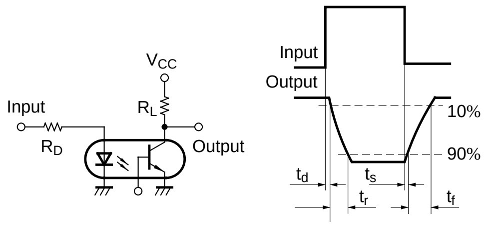


Fig.13 Frequency Response

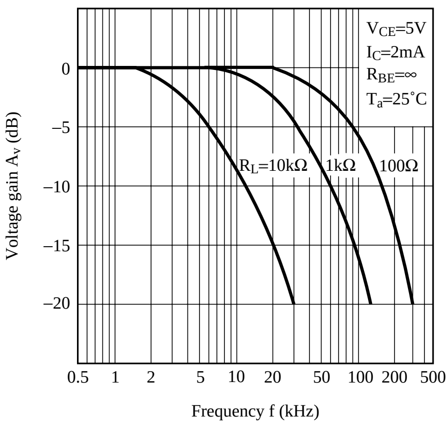
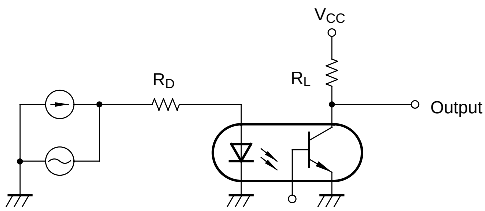


Fig.14 Test Circuit for Frequency Response



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