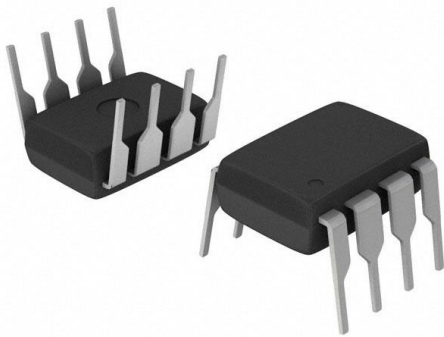


PC824A Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	PC824A-DG
Manufacturer	Sharp Microelectronics
Manufacturer Product Number	PC824A
Description	OPTOISOLATOR 5KV 2CH TRANS 8DIP
Detailed Description	Optoisolator Transistor Output 5000Vrms 2 Channel 8-DIP

This model PC824A is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:

PC824A

Series:

-

Number of Channels:

2

Current Transfer Ratio (Min):

50% @ 1mA

Turn On / Turn Off Time (Typ):

-

Input Type:

AC, DC

Voltage - Output (Max):

35V

Voltage - Forward (Vf) (Typ):

1.2V

Vce Saturation (Max):

200mV

Mounting Type:

Through Hole

Supplier Device Package:

8-DIP

Manufacturer:

Sharp Microelectronics

Product Status:

Obsolete

Voltage - Isolation:

5000Vrms

Current Transfer Ratio (Max):

150% @ 1mA

Rise / Fall Time (Typ):

4µs, 3µs

Output Type:

Transistor

Current - Output / Channel:

50mA

Current - DC Forward (If) (Max):

50 mA

Operating Temperature:

-30°C ~ 100°C

Package / Case:

8-DIP (0.300", 7.62mm)

Environmental & Export classification

RoHS Status:

RoHS non-compliant

ECCN:

EAR99

Moisture Sensitivity Level (MSL):

1 (Unlimited)

HTSUS:

8541.49.8000

PC824/PC844

AC Input Photocoupler

* Lead forming type (I type) and taping reel type (P type) are also available.

Features

1. AC input
2. High isolation voltage between input and output ($V_{iso(rms)}$:5kV)
3. Compact dual-in-line package
PC824 (2-channel type)
PC844 (4-channel type)
4. Current transfer ratio
 CTR:MIN. 20% at $I_F=\pm 1mA, V_{CE}=5V$
5. Recognized by UL, file No. E64380

Applications

1. Programmable controllers
2. Telephones
3. Facsimiles

Absolute Maximum Ratings (T_a=25°C)

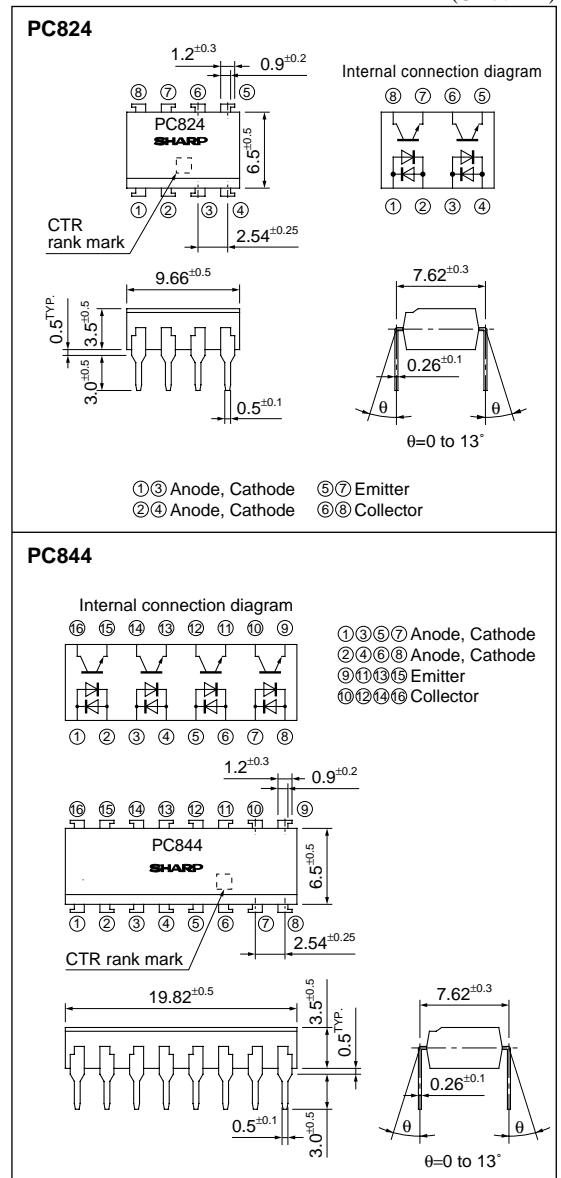
	Parameter	Symbol	Rating	Unit
Input	Forward current	I_F	± 50	mA
	*1 Peak forward current	I_{FM}	± 1	A
	Power dissipation	P	70	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	50	mA
	Collector power dissipation	P_C	150	mW
	Total power dissipation	P_{tot}	200	mW
	*2 Isolation voltage	$V_{iso(rms)}$	5	kV
	Operating temperature	T_{opr}	-30 to +100	°C
	Storage temperature	T_{stg}	-55 to +125	°C
*3 Soldering temperature	T_{sol}	260	°C	

*1 Pulse width $\leq 100\mu s$, Duty ratio:0.001

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

*3 For 10s

Outline Dimensions (Unit : mm)



■ Electro-optical Characteristics

(T_a=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} =±0.5V	–	–	3.0	V
	Terminal capacitance	C _t	V=0, f=1kHz	–	50	250	pF
Output	Collector dark current	I _{CEO}	V _{CE} =20V, I _F =0	–	–	100	nA
Transfer characteristics	Collector current	I _C	I _F =±1mA, V _{CE} =5V	0.2	–	3.0	mA
	Collector-emitter saturation voltage	V _{CE(sat)}	I _F =±20mA, I _C =1mA	–	0.1	0.2	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} =5V, I _C =2mA, R _L =100Ω, -3dB	15	80	–	kHz
	Response time	Rise time	t _r	V _{CE} =2V, I _C =2mA, R _L =100Ω	–	4	18
Fall time		t _f	–		3	18	μs

■ Rank Table

(I_F=±1mA, V_{CE}=5V, T_a=25°C)

Model No.	Rank mark	I _C (mA)
PC824A	A	0.5 to 1.5
PC844A		
PC824	A or no mark	0.2 to 3.0
PC844		

Fig.1 Forward Current vs. Ambient Temperature

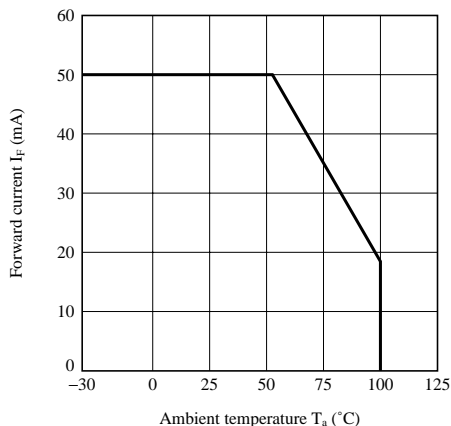


Fig.2 Collector Power Dissipation vs. Ambient Temperature

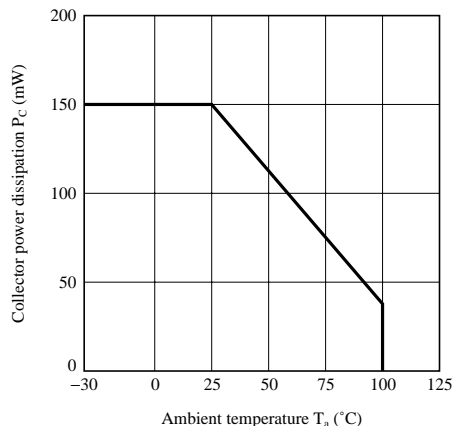


Fig.3 Peak Forward Current vs. Duty Ratio

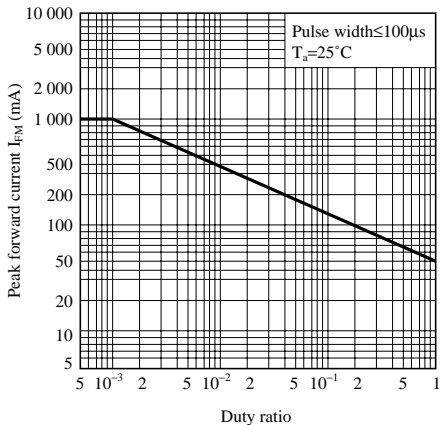


Fig.4 Forward Current vs. Forward Voltage

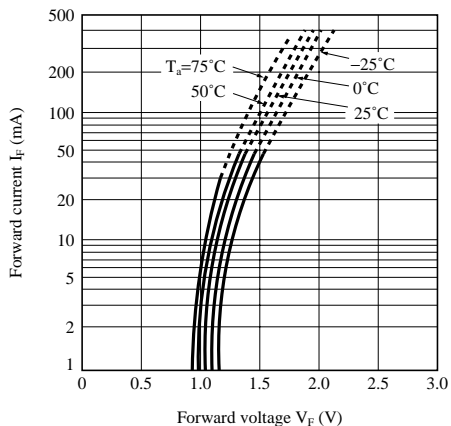


Fig.5 Current Transfer Ratio vs. Forward Current

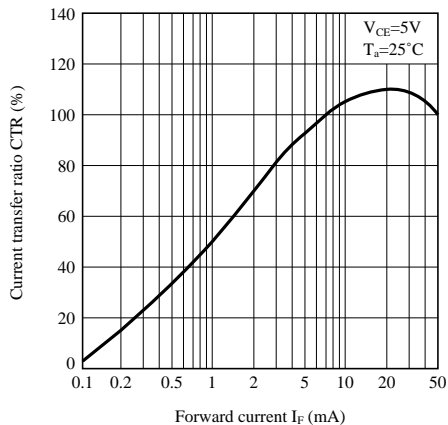


Fig.6 Collector Current vs. Collector-emitter Voltage

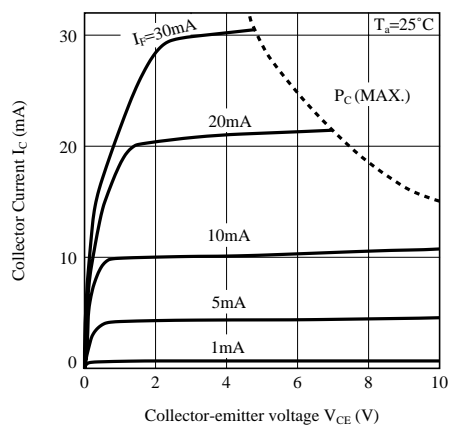


Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

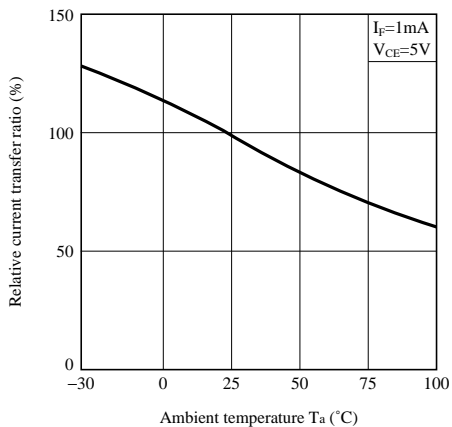


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

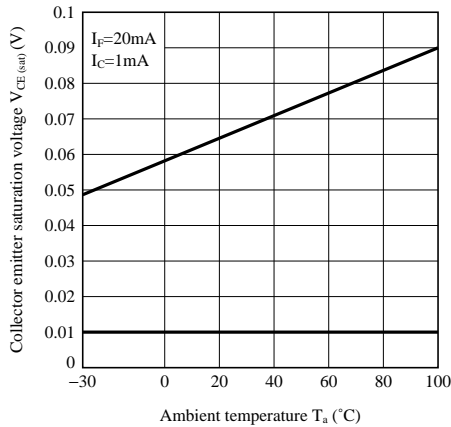


Fig.9 Collector Dark Current vs. Ambient Temperature

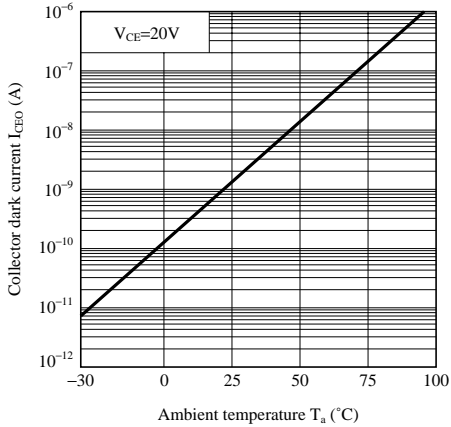


Fig.10 Collector-emitter Saturation Voltage vs. Forward Current

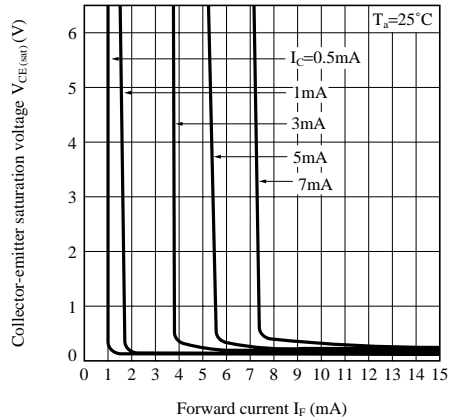
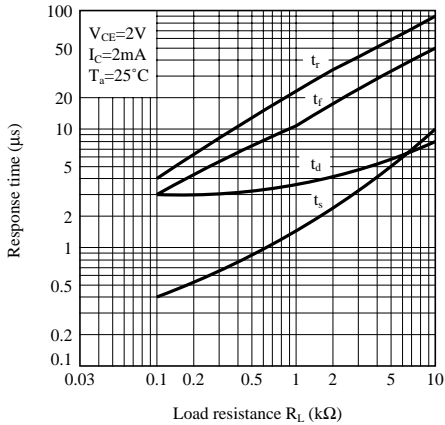


Fig.11 Response Time vs. Load Resistance



Test Circuit for Response Time

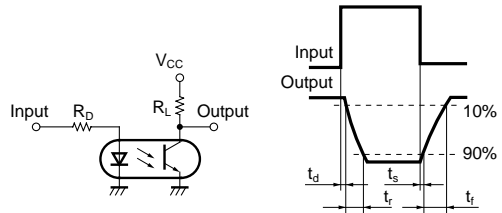
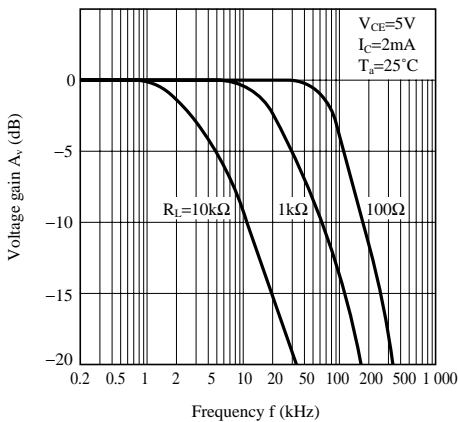
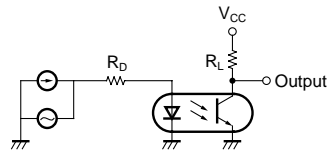


Fig.12 Frequency Response



Test Circuit for Frequency Response



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