PC829 Series

High Density Mounting Type Photocoupler

❋ TÜV (VDE0884) approved type is also available as an option.

■ Features

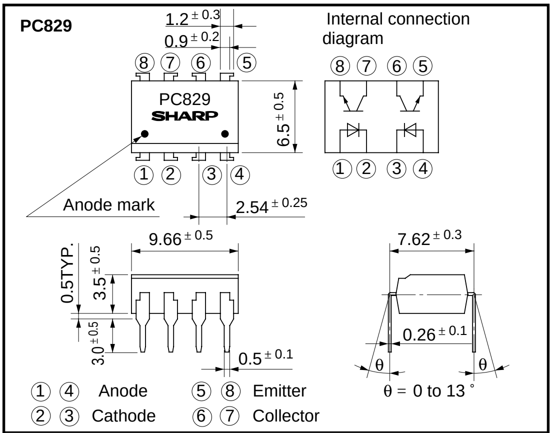
1. Symmetrical terminal configuration
   PC829 : 2-channel type
   PC849 : 4-channel type
2. High current transfer ratio
   (CTR : MIN. 50% at I_F = 5mA, V_{CE} = 5V)
3. High isolation voltage between input and output (V_{iso} : 5 000V_{rms})
4. Recognized by UL, file No. E64380

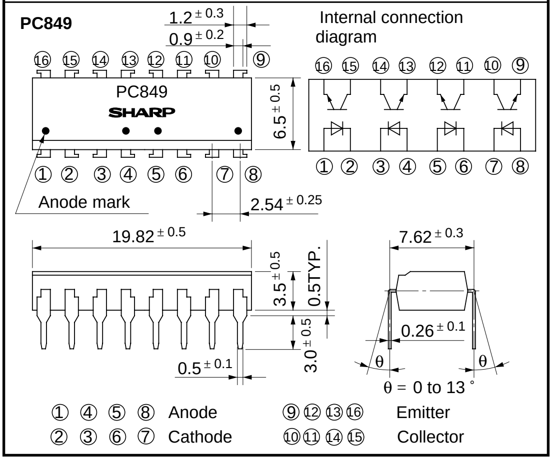
■ Applications

1. Telephone exchangers
2. Computer terminals
3. System appliances, measuring instruments
4. Signal transmission between circuits of different potentials and impedances

■ 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	50	mA
	Collector power dissipation	P_C	150	mW
Total power dissipation		P_{tot}	170	mW
*2 Isolation voltage		V_{iso}	5 000	V_{rms}
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 minute
*3 For 10 seconds

■ 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
Input	Peak forward voltage		V_{FM}	I_{FM} = 0.5A	-	-	3.0	V
Input	Reverse current		I_R	V_R = 4V	-	-	10	μA
Input	Terminal capacitance		C_t	V= 0, f= 1kHz	-	30	250	pF
Output	Collector dark current		I_{CEO}	V_{CE} = 20V, I_F = 0	-	-	10^{-7}	A
Transfer charac-teristics	Current transfer ratio		CTR	I_F = 5mA, V_{CE} = 5V	50	-	400	%
Transfer charac-teristics	Collector-emitter saturation voltage		$V_{CE(sat)}$	I_F = 20mA, I_C = 1mA	-	0.1	0.2	V
Transfer charac-teristics	Isolation resistance		R_{ISO}	DC500V, 40 to 60% RH	5×10^{10}	10^{11}	-	Ω
Transfer charac-teristics	Floating capacitance		C_f	V= 0, f= 1MHz	-	0.6	1.0	pF
Transfer charac-teristics	Cut-off frequency		f_c	V_{CE} = 5V, I_C = 2mA, R_L = 100Ω, - 3dB	-	80	-	kHz
Transfer charac-teristics	Response time	Rise time	t_r	V_{CE} = 2V, I_C = 2mA, R_L = 100Ω	-	4	-	μs
Transfer charac-teristics	Response time	Fall time	t_f	V_{CE} = 2V, I_C = 2mA, R_L = 100Ω	-	3	-	μs

Fig. 1 Forward Current vs. Ambient Temperature

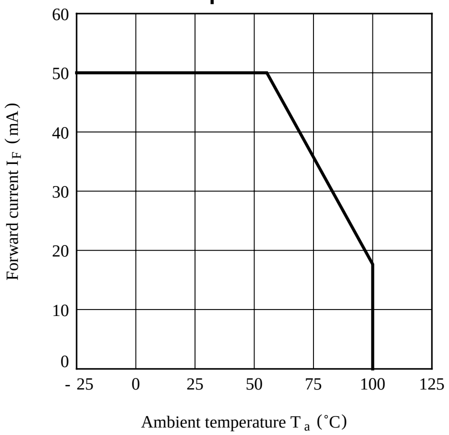


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

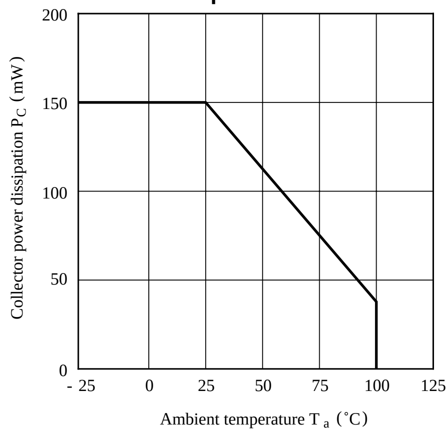


Fig. 3 Peak Forward Current vs. Duty Ratio

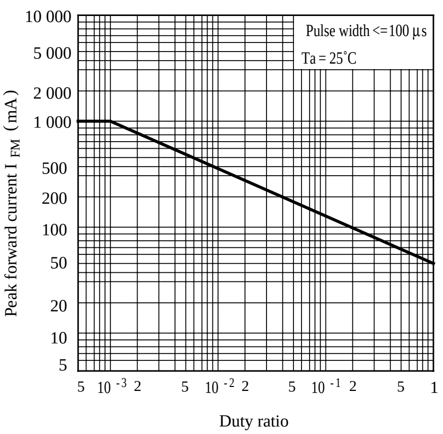


Fig. 4 Forward Current vs. Forward Voltage

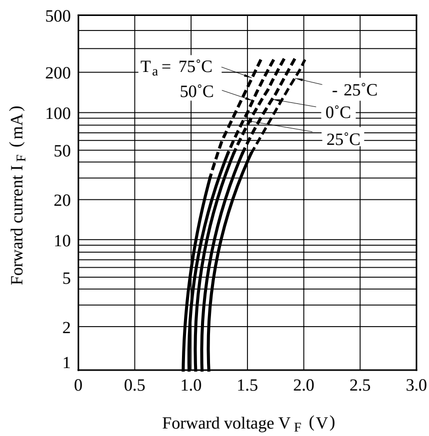


Fig. 5 Current Transfer Ratio vs. Forward Current

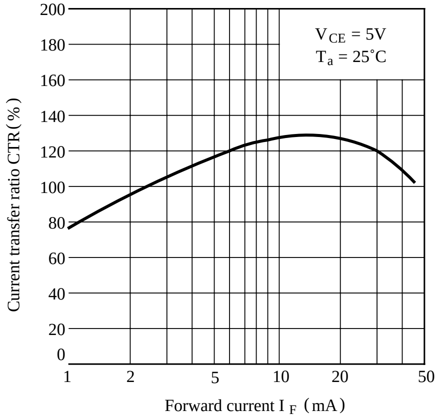


Fig. 6 Collector Current vs. Collector-emitter Voltage

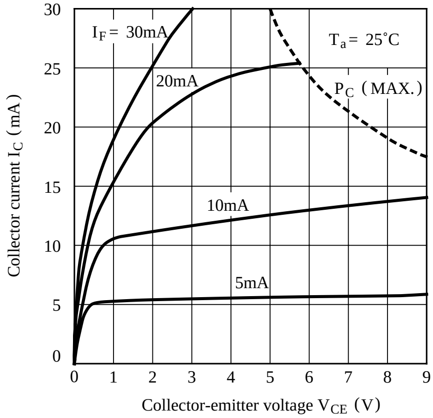


Fig. 7 Relative Current Transfer Ratio vs. Ambient Temperature

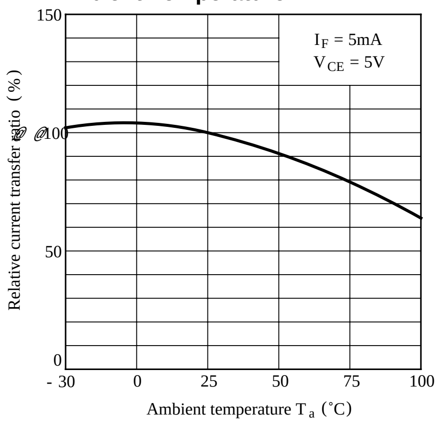


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

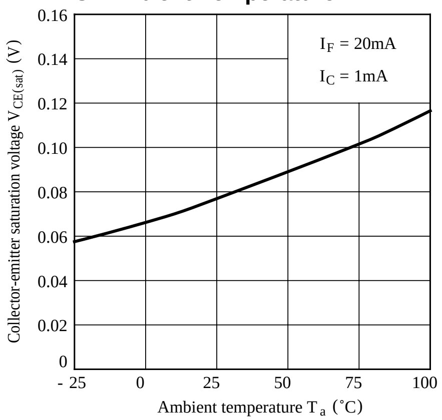


Fig. 9 Collector Dark Current vs. Ambient Temperature

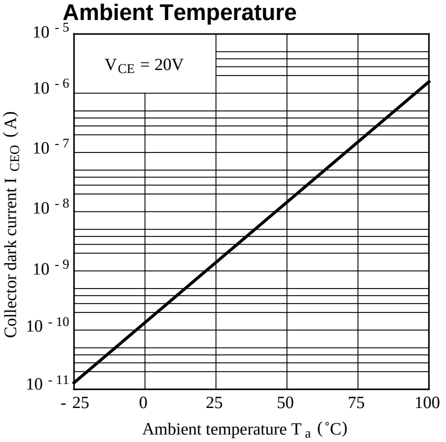


Fig.10 Response Time vs. Load Resistance

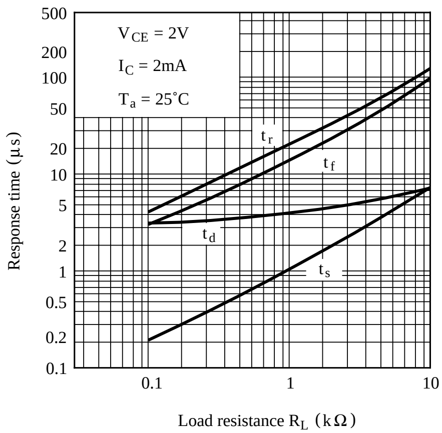
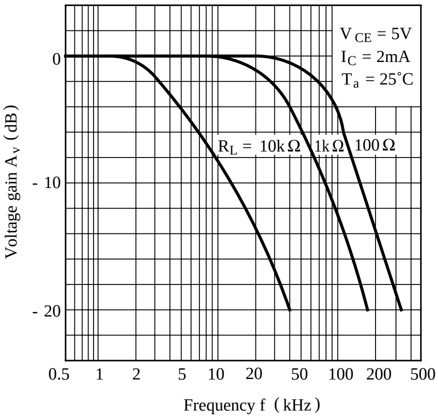


Fig.11 Frequency Response



Test Circuit for Response Time

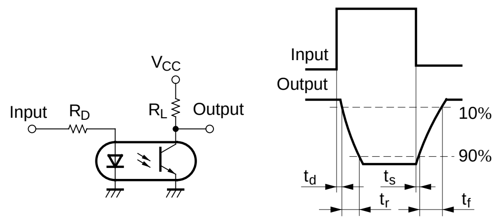
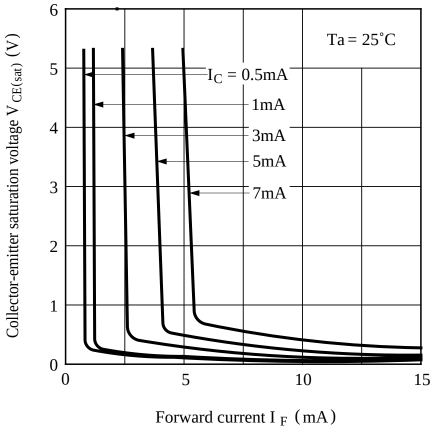
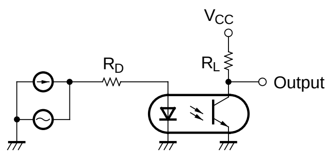


Fig.12 Collector-emitter Saturation Voltage vs. Forward Current



Test Circuit for Frepuency Response



● Please refer to the chapter "Precautions for Use"

NOTICE