

PC829 Series

※ 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 $I_F = 5\text{mA}$, $V_{CE} = 5\text{V}$)

3. High isolation voltage between input and output ($V_{iso} : 5000\text{V}_{rms}$)

4. Recognized by UL, file No. E64380

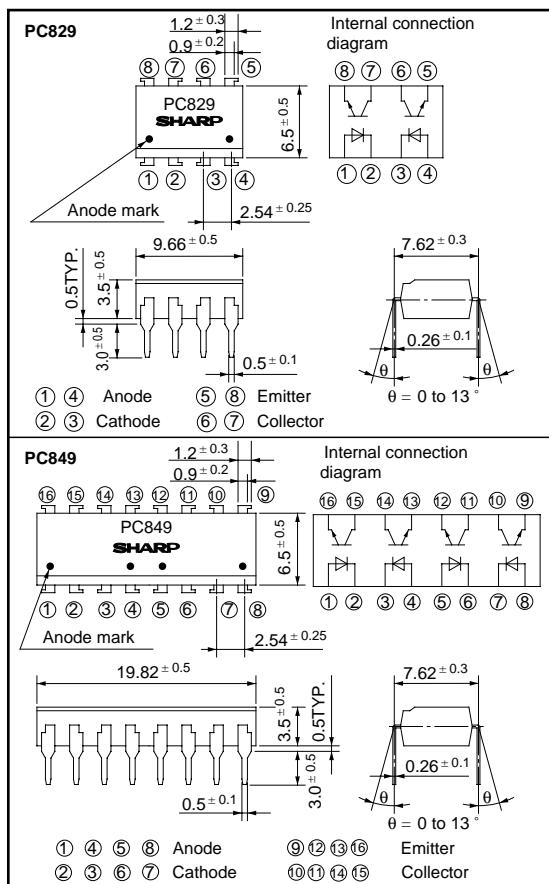
■ Applications

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

High Density Mounting Type Photocoupler

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings (Ta = 25°C)

| | Parameter | Symbol | Rating | Unit |
|-------------------------|-----------------------------|-----------|--------|------|
| Input | Forward current | I_F | 50 | mA |
| | *1Peak 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} | | | | |
| *2Isolation voltage | | | | |
| V_{iso} | | | | |
| Operating temperature | | | | |
| T_{opr} | | | | |
| Storage temperature | | | | |
| T_{stg} | | | | |
| *3Soldering temperature | | | | |
| T_{sol} | | | | |

*1 Pulse width <= 100μs, Duty ratio : 0.001

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

*3 For 10 seconds

¹ In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that occur in equipment using any of SHARP's devices, shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest version of the device specification sheets before using any SHARP's device."

■ 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} = 20V, I _F = 0 | - | - | 10 ⁻⁷ | A |
| Transfer characteristics | Current transfer ratio | CTR | I _F = 5mA, V _{CE} = 5V | 50 | - | 400 | % |
| | 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 | - | 80 | - | kHz |
| | Response time | t _r | V _{CE} = 2V, I _C = 2mA, R _L = 100Ω | - | 4 | - | μs |
| | Fall time | t _f | | - | 3 | - | μs |

Fig. 1 Forward Current vs.
Ambient Temperature

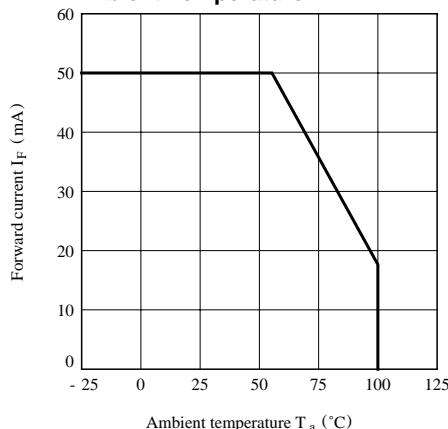


Fig. 2 Collector Power Dissipation vs.
Ambient Temperature

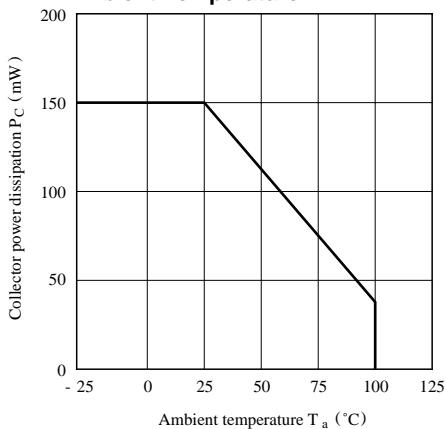


Fig. 3 Peak Forward Current vs. Duty Ratio

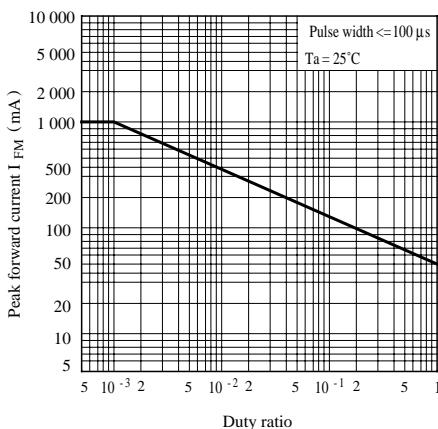


Fig. 4 Forward Current vs. Forward Voltage

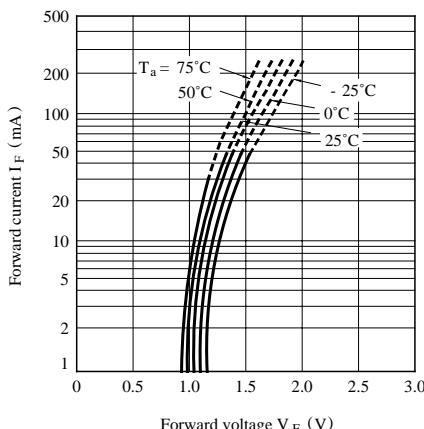


Fig. 5 Current Transfer Ratio vs. Forward Current

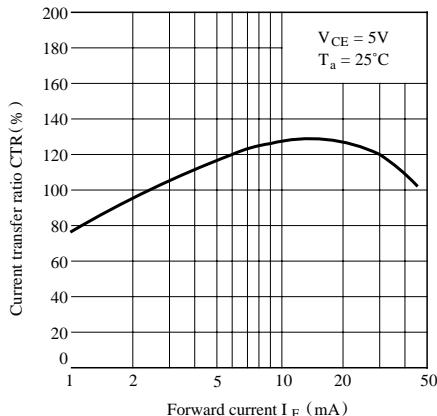


Fig. 7 Relative Current Transfer Ratio vs. Ambient Temperature

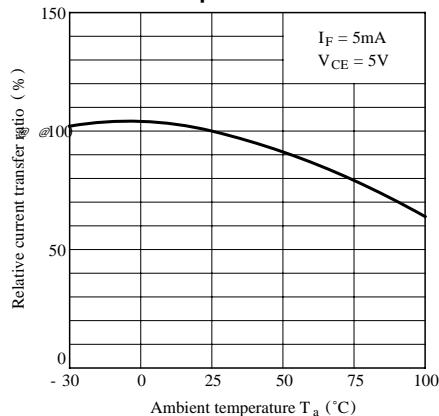


Fig. 9 Collector Dark Current vs. Ambient Temperature

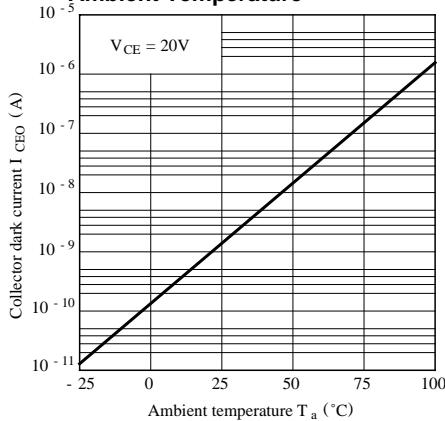


Fig. 6 Collector Current vs. Collector-emitter Voltage

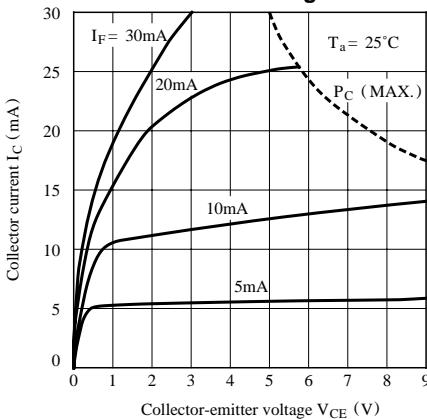


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

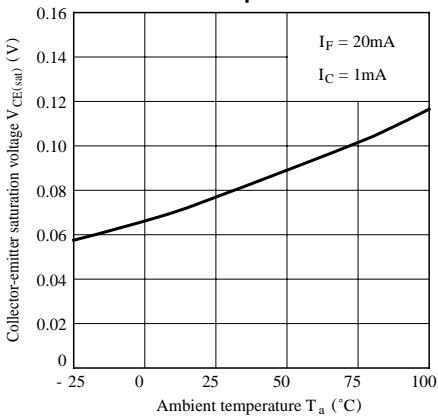


Fig.10 Response Time vs. Load Resistance

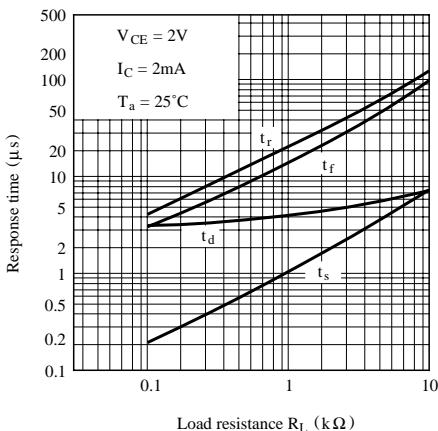
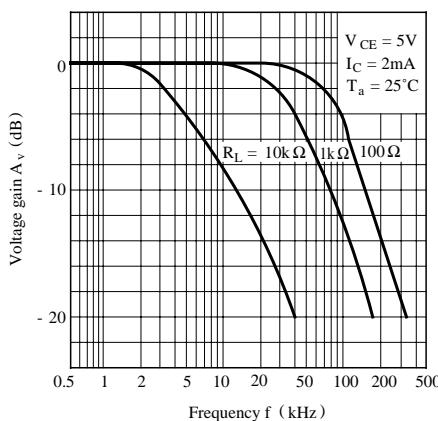
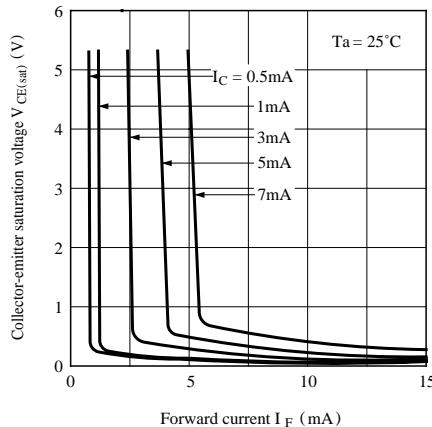
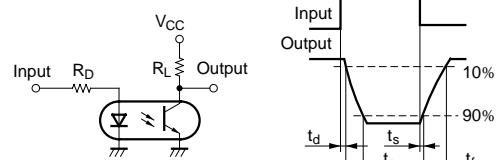
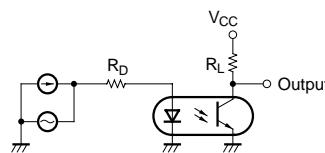


Fig.11 Frequency Response**Fig.12 Collector-emitter Saturation Voltage vs. Forward Current****Test Circuit for Response Time****Test Circuit for Frequency Response**

- Please refer to the chapter "Precautions for Use"

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 - Alarm equipment
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