PC219 Mini-Flat Package, Bi-Directional Linear Output Type Photocoupler

T-41-83

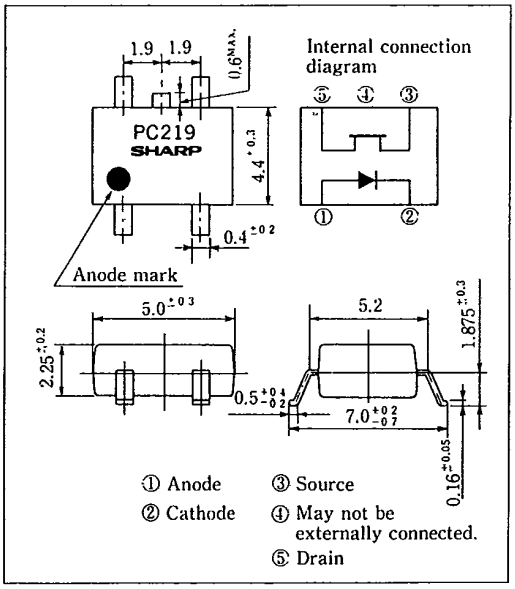
■ Features

1. Bi-directional linear output
2. High output reverse voltage (V_{BR}: MIN. 120V)
3. Low collector dark current (Id : MAX. 10nA)
4. Mini-flat package type

■ Applications

1. Programmable controllers
2. Analog switches
3. Audio equipment such as VCRs, radio-cassette tape recorders and stereo components, etc.
4. Signal transmission between circuits of differential potentials and impedances

■ Outline Dimensions (Unit : mm)



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■ 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	Output current	I_o	10	mA
	Reverse voltage	V_{BR}	120	V
	Power dissipation	P_o	100	mW
Total power dissipation		P_{tot}	120	mW
*2Isolation voltage		V_{iso}	2,000	Vrms
Operating temperature		T_{opr}	−25～+100	°C
Storage temperature		T_{stg}	−40～+125	°C
*3Soldering temperature		T_{sol}	260	°C

*1 Pulse width≦100μs, Duty ratio=0.001
*2 RH=40～60%, 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=16mA	—	1.2	1.4	V
	Reverse current	I_R	V_R=6V	—	—	10	μA
	Terminal capacitance	C_{t1}	V=0, f=1kHz	—	50	250	pF
Output	Terminal capacitance	C_{t2}	V_{35}=0, f=1MHz	—	—	25	pF
	*4Reverse voltage	V_{BR}	I_{35}=100μA, I_F=0	120	—	—	V
	*4Collector dark current	I_d	V_{35}=100V, I_F=0	—	—	10	nA
	*4Off-state resistance	R_{OFF}	V_{35}=100V, I_F=0	10^{10}	—	—	Ω
Transfer characteristics	*4On-state resistance	R_{ON}	I_F=16mA, I_{35}=100μA	—	—	200	Ω
	Isolation resistance	R_{ISO}	DC500V, RH=40~60%	5×10^{10}	10^{11}	—	Ω
	Floating capacitance	C_f	V=0, f=1MHz	—	—	2.5	pF
	Turn-on time	t_{on}	I_F=16mA, V_{35}=5V, R_L=50Ω	—	—	50	μs
	Turn-off time	t_{off}		—	—	50	μs

*4 Applies to forward and reverse directions between terminals 3 and 5.
(Note) Measurement of each characteristics shall be carried out in opaque condition.

Fig. 1 Forward Current vs. Ambient Temperature

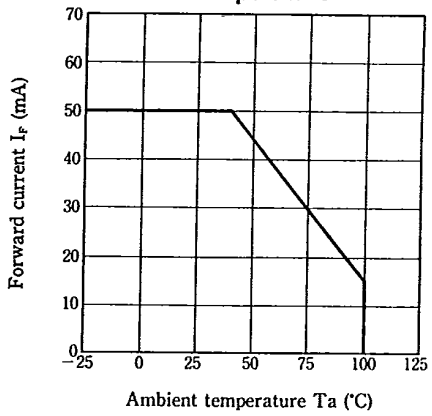

Fig. 2 Output Power Dissipation vs. Ambient Temperature

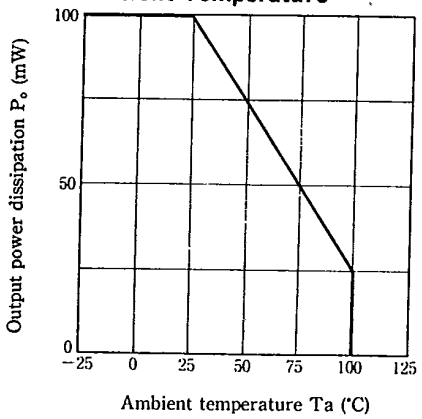

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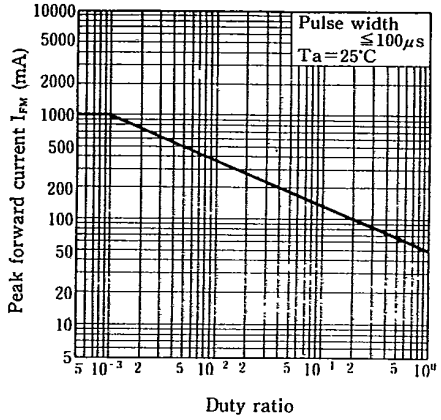
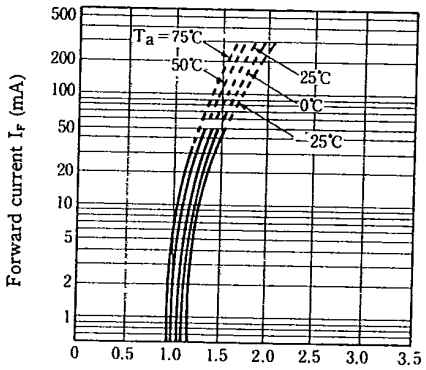
Fig. 3 Peak Forward Current vs. Duty Ratio



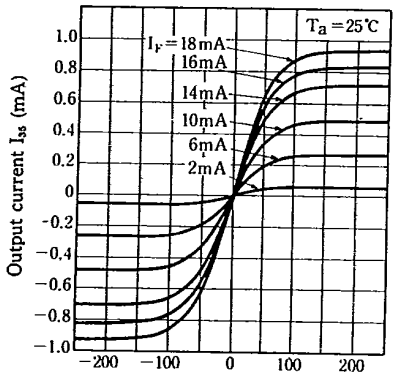
Duty ratio

Fig. 4 Forward Current vs. Forward Voltage



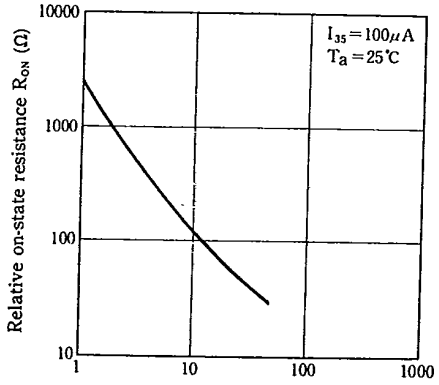
Forward voltage V_F (V)

Fig. 5 Output Current vs. Output Voltage



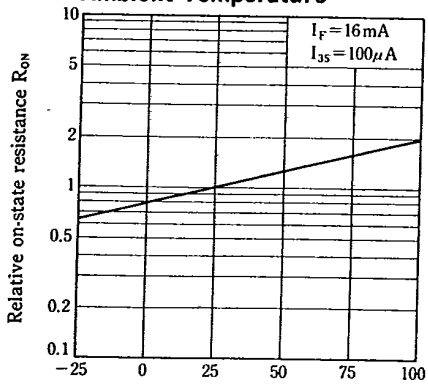
Output voltage V_{35} (mV)

Fig. 6 Relative On-state Resistance vs. Forward Current



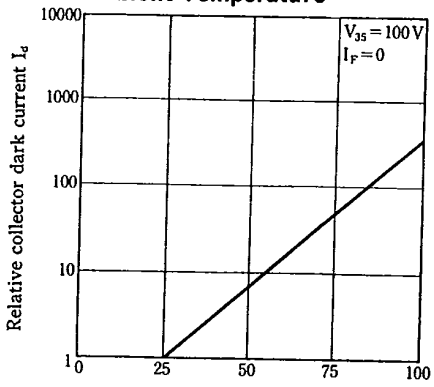
Forward current I_F (mA)

Fig. 7 Relative On-state Resistance vs. Ambient Temperature



Ambient temperature Ta (°C)

Fig. 8 Relative Collector Dark Current vs. Ambient Temperature



Ambient temperature Ta (°C)

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