

PC219

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

T-41-83

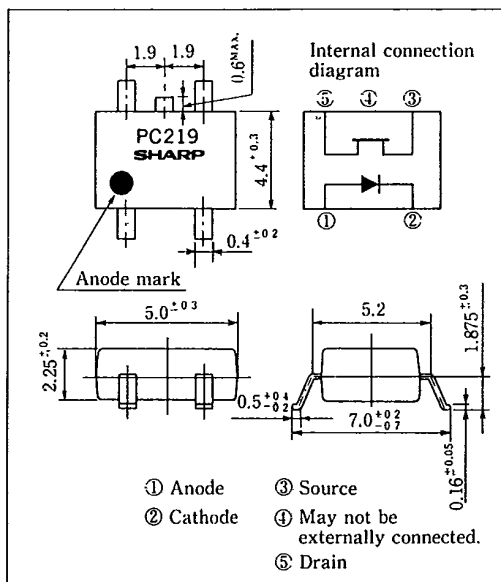
Features

1. Bi-directional linear output
2. High output reverse voltage (V_{BR} : MIN. 120V)
3. Low collector dark current (I_d : 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

($T_a = 25^\circ\text{C}$)

	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	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
	*2 Isolation voltage	V_{iso}	2,000	Vrms
	Operating temperature	T_{opr}	-25 ~ +100	°C
	Storage temperature	T_{stg}	-40 ~ +125	°C
	*3 Soldering temperature	T_{sol}	260	°C

*1 Pulse width $\leq 100\mu\text{s}$, Duty ratio = 0.001

*2 RH = 40 ~ 60%, AC for 1 minute

*3 For 10 seconds

SHARP

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_{11} $V=0, f=1kHz$	—	50	250	pF
Output	Terminal capacitance	C_{12} $V_{35}=0, f=1MHz$	—	—	25	pF
	**Reverse voltage	V_{BR} $I_{35}=100\mu A, I_F=0$	120	—	—	V
	**Collector dark current	I_d $V_{35}=100V, I_F=0$	—	—	10	nA
	**Off-state resistance	R_{OFF} $V_{35}=100V, I_F=0$	10^{10}	—	—	Ω
Transfer characteristics	**On-state resistance	R_{ON} $I_F=16mA, I_{35}=100\mu A$	—	—	200	Ω
	Isolation resistance	R_{ISO} $DC500V, RH=40\sim60\%$	5×10^{10}	10^{11}	—	Ω
	Floating capacitance	C_f $V=0, f=1MHz$	—	—	2.5	pF
	Turn-on time	t_{on} $I_F=16mA, V_{35}=5V, R_L=50\Omega$	—	—	50	μs
	Turn-off time	t_{off} $I_F=16mA, V_{35}=5V, R_L=50\Omega$	—	—	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

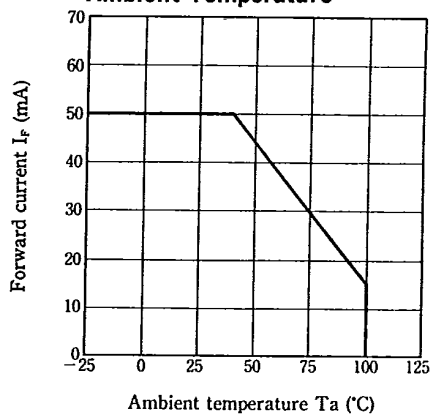


Fig. 2 Output Power Dissipation vs. Ambient Temperature

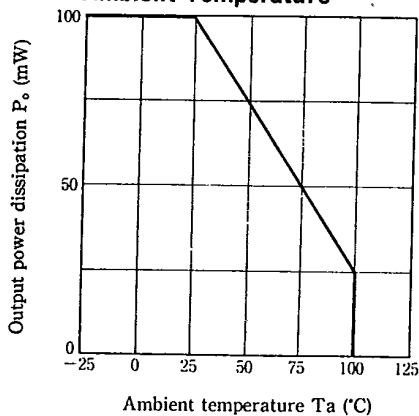


Fig. 3 Peak Forward Current vs. Duty Ratio

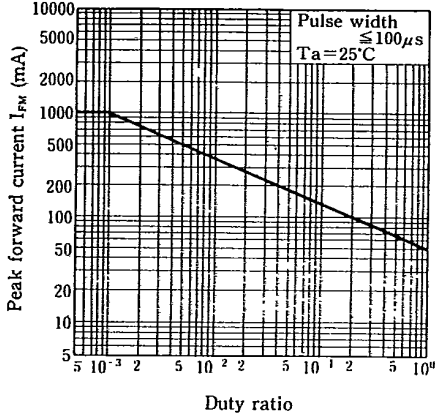
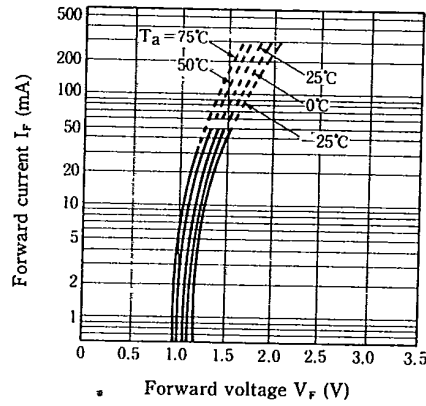


Fig. 4 Forward Current vs. Forward Voltage



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Fig. 5 Output Current vs. Output Voltage

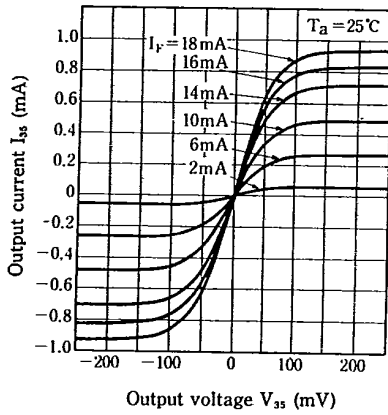
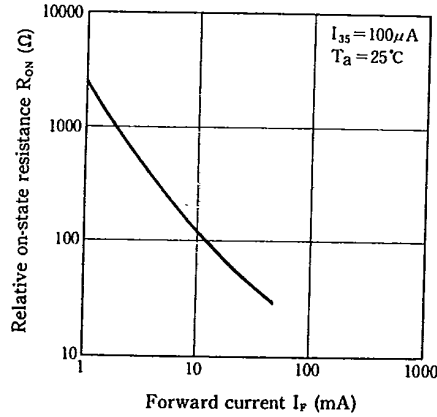


Fig. 6 Relative On-state Resistance vs. Forward Current



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

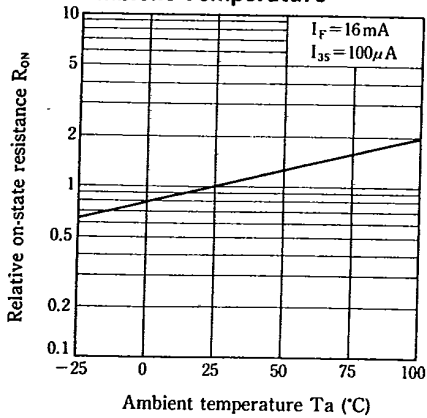


Fig. 8 Relative Collector Dark Current vs. Ambient Temperature

