

T-41-83

PC619

Bi-directional Linear Output Type Photocoupler

■ Features

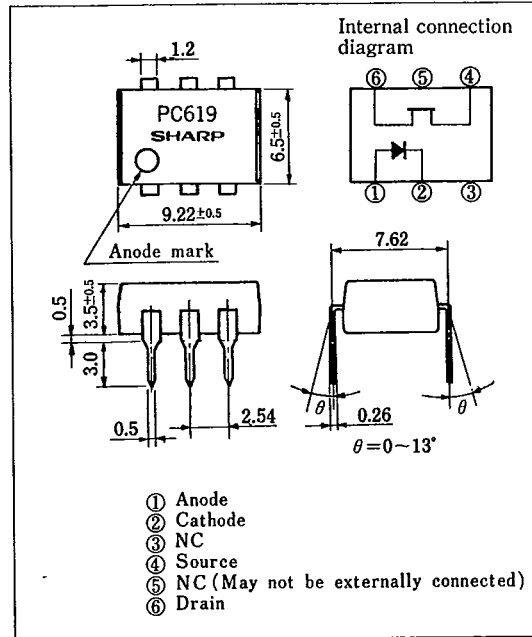
1. On-state resistance MAX. 200Ω, Off-state resistance: MIN. 300MΩ
2. Resistance linearity: 99.9%
3. Response time t_{on} , t_{off} : MAX. 15μs at $I_F=16mA$, $V_{46}=5V$, $R_L=50Ω$
4. Isolation voltage between input and output V_{iso} : 2,000Vrms
5. UL recognized, file No. E64380

■ Applications

1. Analog switches
2. Audio equipment, such as VCRs, radio-cassette tape recorders, and stereo components, etc.
3. 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	60	mA
	*1Peak forward current	I_{FM}	0.5	A
	Reverse voltage	V_R	6	V
	Power dissipation	P_1	150	mW
Output	Output current	I_O	100	mA
	*2Breakdown voltage	V_{BR}	30	V
	Power dissipation	P_2	300	mW
	*3Isolation voltage	V_{iso}	2,000	Vrms
	Operating temperature	T_{opr}	-25 ~ +100	°C
	Storage temperature	T_{stg}	-40 ~ +125	°C
	*4Soldering temperature	T_{sol}	260	°C

*1 Pulse width ≤ 100μs, Duty ratio = 0.01

*2 Applies to forward and reverse directions between terminals 4 and 6

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

*4 For 10 seconds

SHARP

■ Electro-optical Characteristics

(Ta=25°C)

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F=16\text{mA}$	—	1.2	1.4	V
	Peak forward voltage	V_{FM}	$I_{FM}=0.5\text{A}$	—	—	3.0	V
	Reverse current	I_R	$V_R=6\text{V}$	—	—	10	μA
	Terminal capacitance	C_{t1}	$V=0, f=1\text{MHz}$	—	50	250	pF
Output	*2Collector dark current	I_d	$V_{46}=15\text{V}, I_F=0$	—	—	50	nA
	*2Off-state resistance	R_{OFF}	$V_{46}=15\text{V}, I_F=0$	300	—	—	$\text{M}\Omega$
	*2On-state resistance	R_{ON}	$I_F=16\text{mA}, I_{46}=100\mu\text{A}$	—	—	200	Ω
	Terminal capacitance	C_{t2}	$V_{46}=0, f=1\text{MHz}$	—	—	15	pF
Transfer characteristics	Isolation resistance	R_{ISO}	DC500V, RH=40~60%	10^{11}	—	—	Ω
	Floating capacitance	C_f	$V=0, f=1\text{MHz}$	—	—	2.5	pF
	Turn-on time	t_{on}	$I_F=16\text{mA}, V_{46}=5\text{V}, R_L=50\Omega$	—	—	15	μs
	Turn-off time	t_{off}		—	—	15	μs
	Resistance linearity	—	$I_F=16\text{mA}, I_{46}=25\mu\text{Arms}, f=1\text{kHz}$	—	99.9	—	%

*2 Applies to forward and reverse directions between terminals 4 and 6

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Fig. 1 Forward Current vs. Ambient Temperature

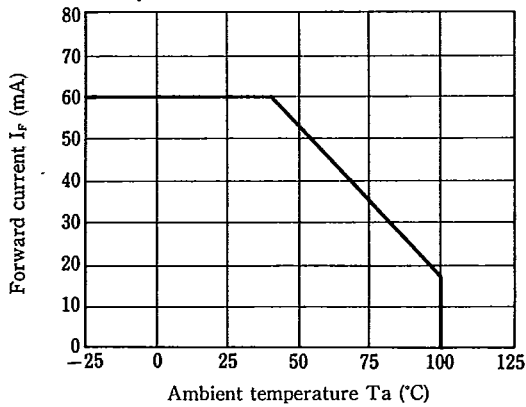


Fig. 2 Output Power Dissipation vs. Ambient Temperature

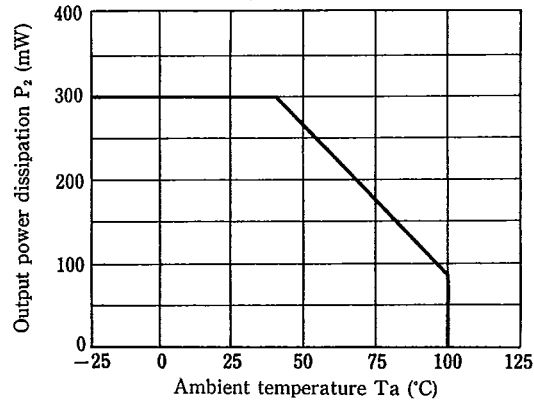


Fig. 3 Peak Forward Current vs. Duty Ratio

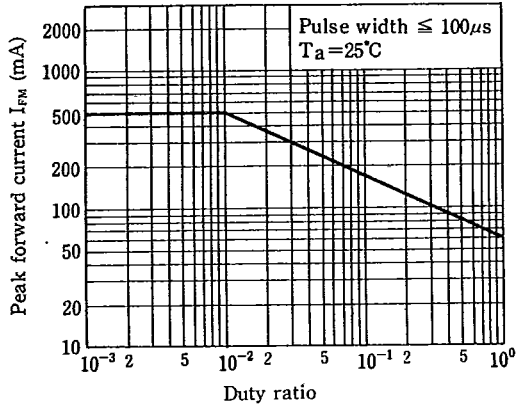


Fig. 4 Forward Current vs. Forward Voltage

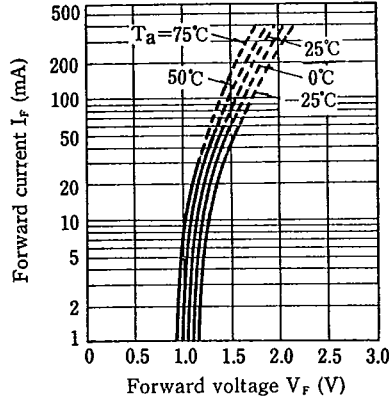


Fig. 5 Output Current vs. Output Voltage

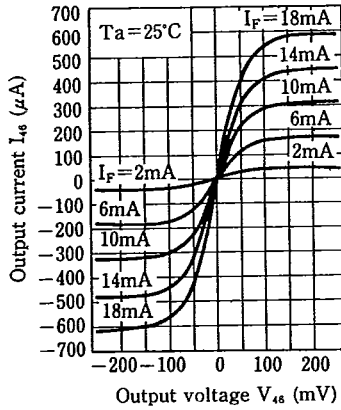


Fig. 6 Relative On-state Resistance vs. Forward Current

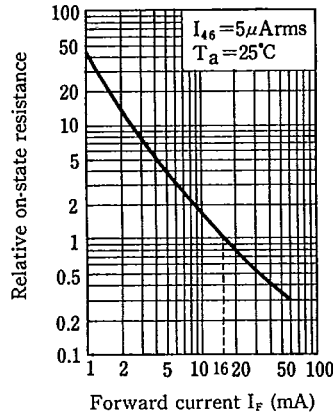


Fig. 7 Relative On-state Resistance vs. Ambient Temperature

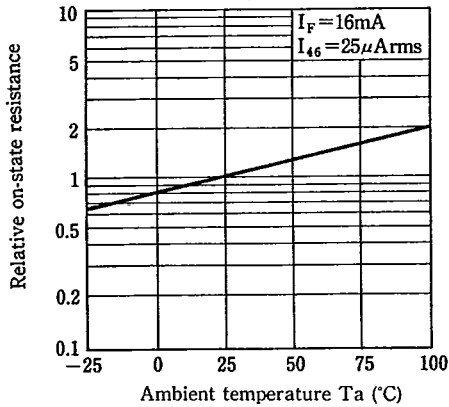


Fig. 8 Relative Dark Current vs. Ambient Temperature

