

PC419

Compact Surface Mounted, Bi-directional Linear Output Type Photocoupler

■ Features

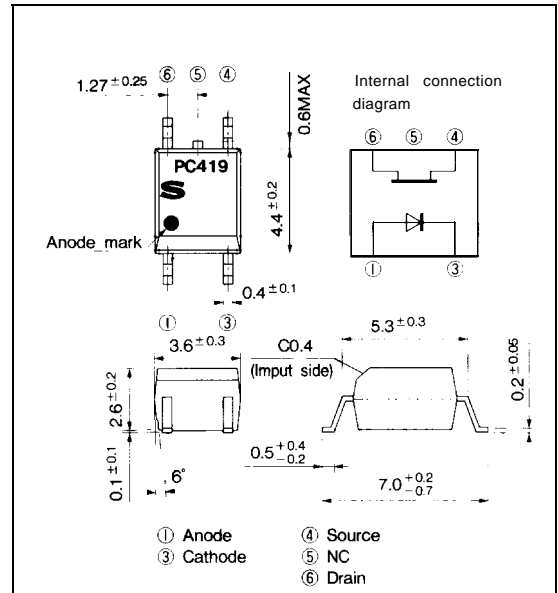
1. Bi-directional linear output
2. High breakdown voltage
(V_{BR} : 120V)
3. Low collector dark current
(I_d : MAX. 10nA)
4. High isolation voltage between input and output (v_{i-o} : 3 750V_{rms})

■ Applications

1. Board testers
2. Programmable controllers
3. Analog switch
4. Hybrid substrates which require high density mounting

■ Outline Dimensions

(Unit : mm)



■ Package Specifications

Model No.	Package specifications	Diameter of reel	Tape width
PC419	Taping package (Net 3 000pcs.)	φ370mm	12mm
PC419T	Taping package (Net : 750pcs.)	φ178mm	12mm
PC419Z	Sleeve package (Net : 100 Pcs.)	—	—

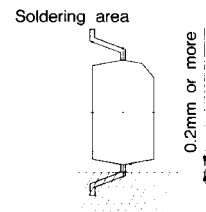
■ Absolute Maximum Ratings

(Ta = 25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Reverse voltage	V_R	6	v
	*1 Power dissipation	P	70	mW
output	Output current	I_O	10	mA
	Breakdown voltage	V_{BR}	120	v
	*1 Power dissipation	P_O	100	mW
Total power dissipation		P_{tot}	120	mW
*1 Isolation voltage ----		V_{iso}	3 750	v _{rms}
Operating temperature		T_{opr}	-25 to + 100	°C
Storage temperature		T_{stg}	-40 to +125	°C
*2 Soldering temperature		T_{sol}	260	°C

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

*2 10 wends or less, 0.2mm or more from the root of lead.



■ Electro-optical Characteristics

(T_a = 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 = 6 V	—	—	10	μ A
	Terminal capacitance	C _{t1}	V = 0, f = 1kHz	—	50	250	pF
output	*breakdown voltage	V _{BR}	I ₄₆ = 100 μ A, I _F = 0	120	—	—	v
	Collector dark current	I _d	V ₄₆ = 100V, I _F = 0	—	—	10	nA
	*OFF-state resistance	R _{OFF}	V ₄₆ = 100V, I _F = 0	10 ¹⁰	—	—	Ω
	Terminal capacitance	C _{t2}	V ₄₆ = 0, f = 1MHz	—	—	25	pF
Transfer charac- teristics	*ON-state resistance	R _{ON}	I _F = 16mA, I ₄₆ = 100 μ A	—	—	200	Ω
	Isolation resistance	R _{ISO}	DC500V, 40 to 60%RH	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 ₄₆ = 5V	—	—	50	μ s
	Turn-off time	t _{off}		—	—	50	

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

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Fig. 1 Forward Current vs. Ambient Temperature

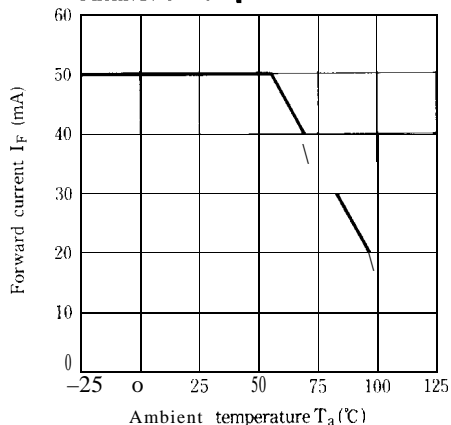


Fig. 2 Power Dissipation vs. Ambient Temperature

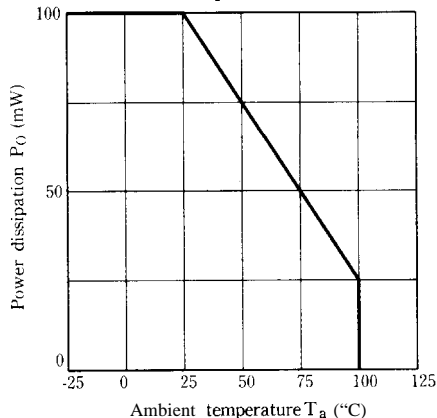


Fig. 3 Peak Forward Current vs. Duty Ratio

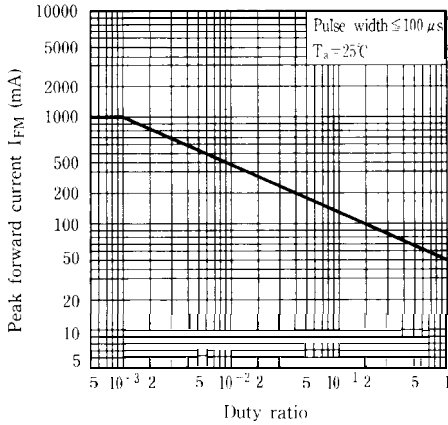


Fig. 4 Forward Current vs. Forward Voltage

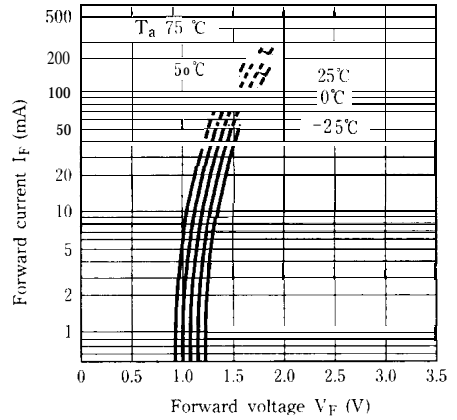


Fig. 5 output current vs. Output voltage

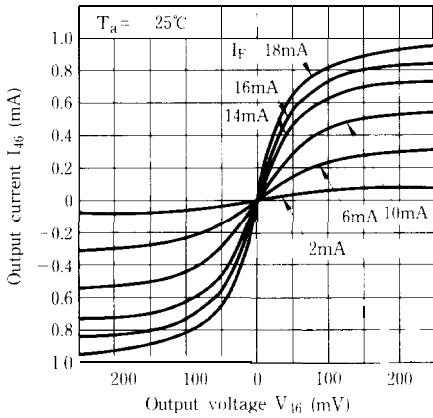


Fig. 6 ON-state Resistance vs. Forward Current

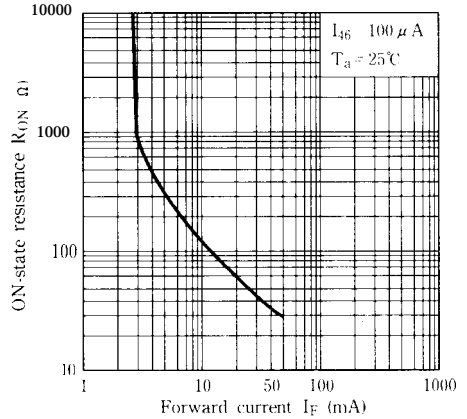


Fig. 7 Relative ON-state Resistance vs. Ambient Temperature

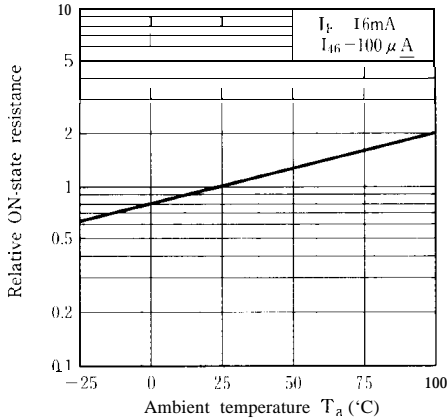
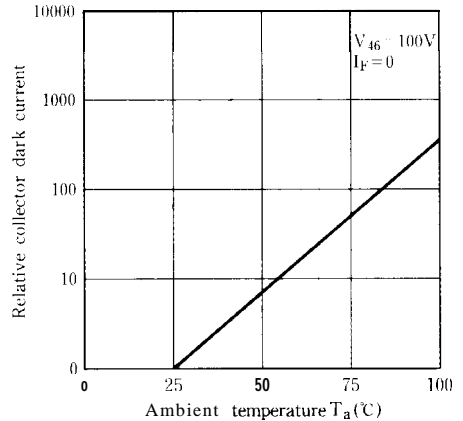


Fig. 8 Relative Collector Dark Current vs. Ambient Temperature



● Please refer to the chapter “Precautions for Use” .(Page 78 to 93)