PC729

Bi-directional Output Type Photocoupler

■ Features

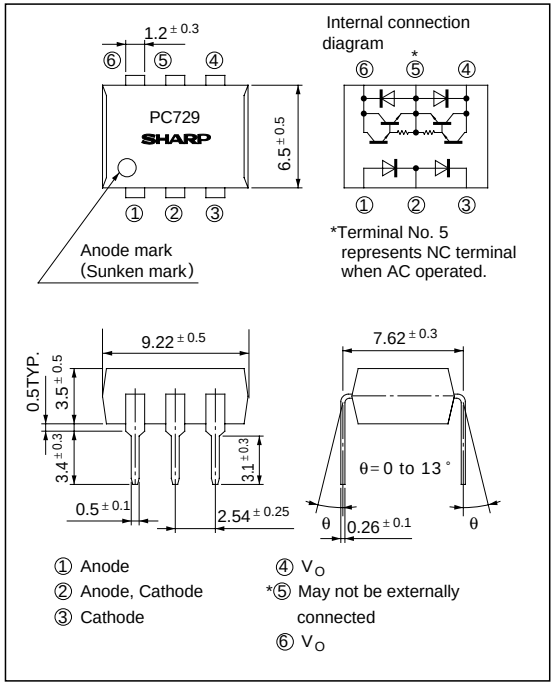
1. Bi-directional output type
2. High collector-emitter voltage (V_{BR} : 300V)
3. High collector output current (I_O : 150mA)
4. High isolation voltage between input and output (V_{iso} : 5 000V_{rms})

■ Applications

1. Telephone sets
2. Measuring instruments

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(Ta= 25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	30	mA
	*1Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P_{13}	80	mW
Output	Breakdown voltage	V_{BR}	300	V
	Output current	I_O	150	mA
	Power dissipation	P_{46}	370	mW
Total power dissipation		P_{tot}	400	mW
*2Isolation voltage		V_{iso}	5 000	V_{rms}
Operating temperature		T_{opr}	- 25 to + 85	°C
Storage temperature		T_{stg}	- 55 to+ 125	°C
*3Soldering temperature		T_{sol}	260	°C

*1 Pulse width <=100μs, Duty ratio : 0.001
*2 40 to 60% RH, AC for 1 minute
*3 For 10 seconds

■ Electro-optical Characteristics

(Ta= 25˚C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	*4 Forward voltage		V_F	I_F = 10mA	-	1.2	1.4	V
	*4 Reverse current		I_R	V_R = 4V	-	-	10	μA
	*4 Terminal capacitance		C_t	V = 0, f = 1kHz	-	30	250	pF
Output	Collector dark current		I_d	V_{46} = 200V, I_F = 0	-	-	10^{-6}	A
	Breakdown voltage		V_{BR}	I_O = 0.1mA, I_F = 0	300	-	-	V
Transfer characteristics	Output current		I_O	I_{F13} = 1mA, V_{46} = 3V	10	40	150	mA
	ON-state voltage		V_{on}	I_{F13} = 20mA, I_O = 100mA	-	1.8	2.4	V
	Isolation resistance		R_{ISO}	DC500V, 40 to 60% RH	5 x 10^{10}	10^{11}	-	Ω
	Floating capacitance		C_f	V = 0, f = 1MHz	-	1.0	-	pF
	Cut-off frequency		f_c	V_{46} = 3V, I_O = 20mA R_L = 100Ω, - 3dB	1	7	-	kHz
	Response time	Rise time	t_r	V_{46} = 3V, I_O = 20mA R_L = 100Ω	-	50	300	μs
		Fall time	t_f		-	20	100	μs

*4 Between terminals 1 and 2, and between terminals 2 and 3

Fig. 1 Forward Current vs. Ambient Temperature

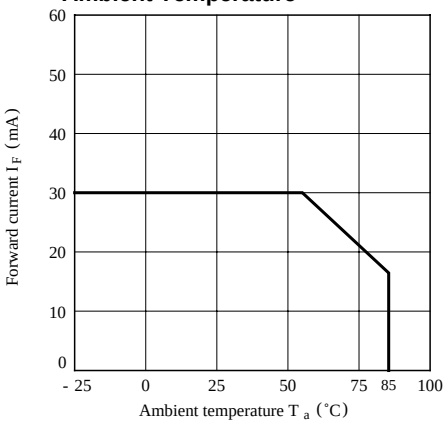


Fig. 2 Input Power Dissipation vs. Ambient Temperature

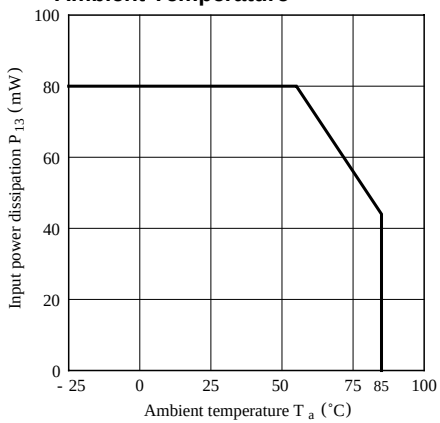


Fig. 3 Power Dissipation vs. Ambient Temperature

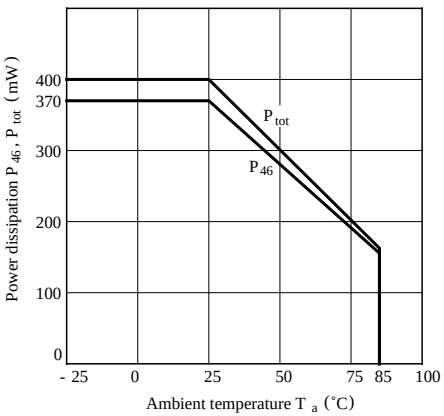


Fig. 4 Peak Forward Current vs. Duty Ratio

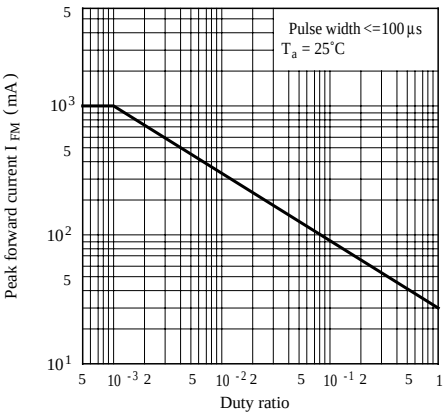


Fig. 5 Forward Current vs. Forward Voltage

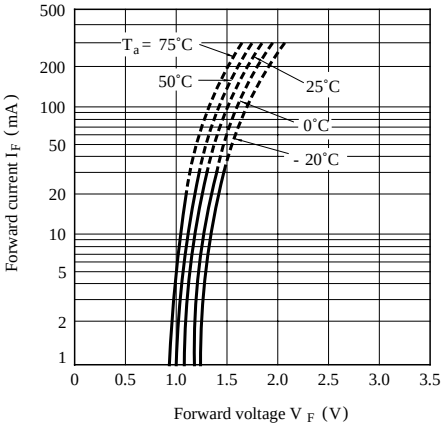


Fig. 6 Current Transfer Ratio vs. Forward Current

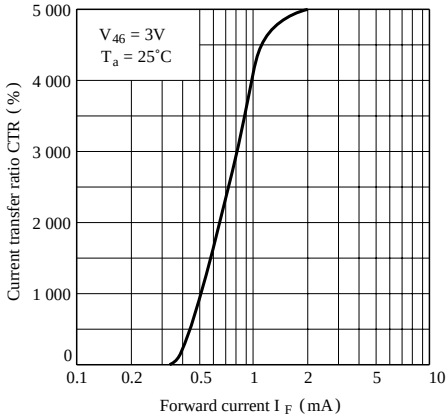


Fig. 7 Output Current vs. Output Voltage

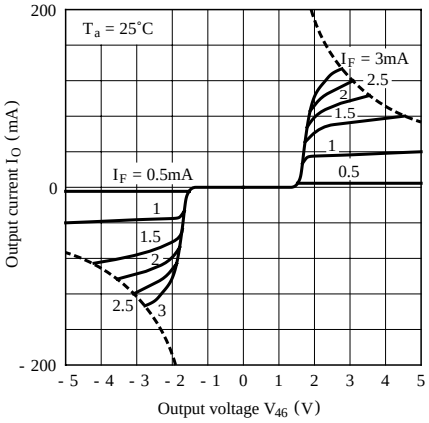


Fig. 8 Relative Current Transfer Ratio vs. Ambient Temperature

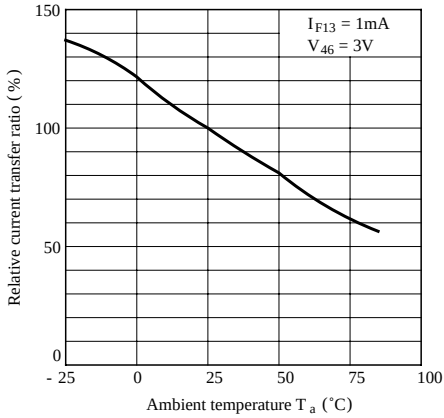


Fig. 9 ON-state Voltage vs. Ambient Temperature

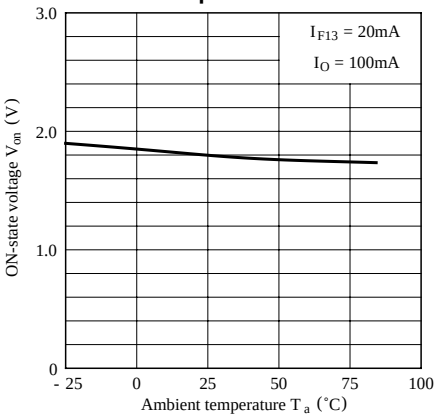


Fig.10 Collector Dark Current vs. Ambient Temperature

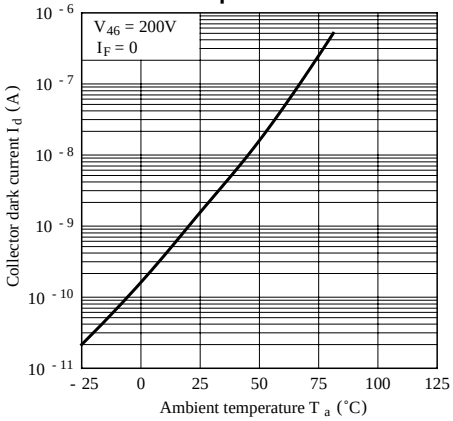


Fig.11 Response Time vs. Load Resistance

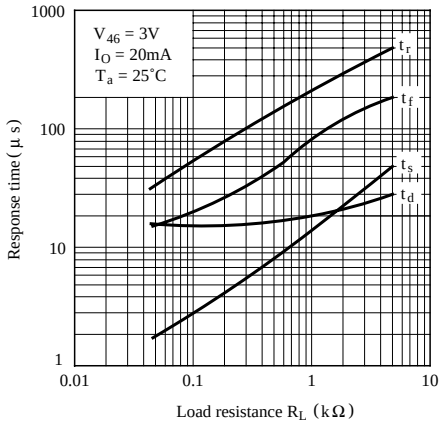


Fig.12 Output Voltage vs. Forward Current

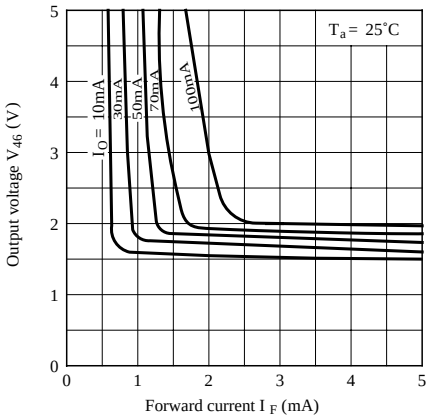
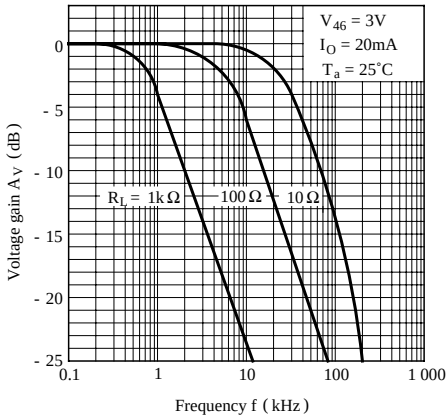


Fig.13 Frequency Response



●Please refer to the chapter "Precautions for Use".