

PC727

Low Input Current Drive Type Photocoupler

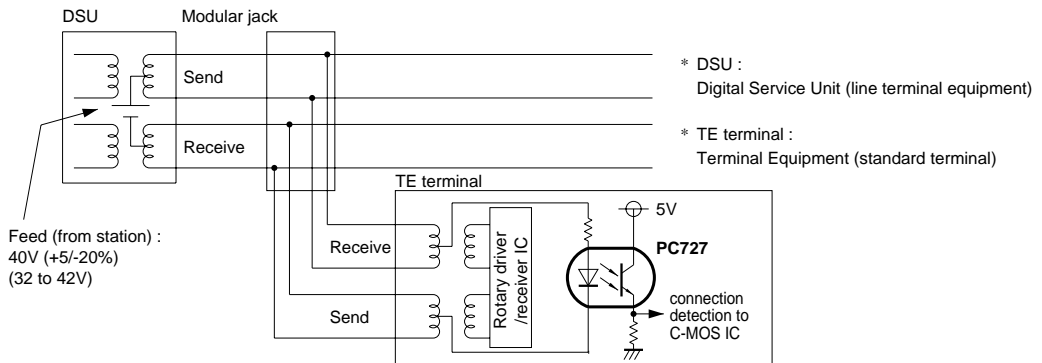
■ Features

1. Low input current drive type (I_F : 50 μ A)
2. Current transfer ratio (CTR : MIN. 60%)
Assured within operating temperature range (T_a = -25 to +60°C)

■ Applications

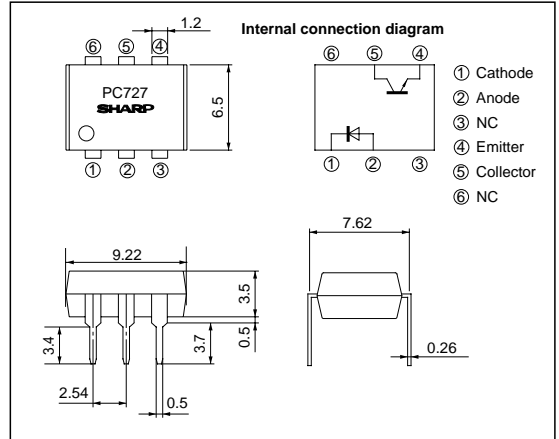
1. ISDNs
2. Telephone sets

Example of ISDN terminal configuration



■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(T_a = 25°C)

	Parameter	Symbol	Rating	Unit
Input	*1 Forward current	I_F	5	mA
	*2 Peak forward current	I_{FM}	300	mA
	Reverse voltage	V_R	6	V
	*1 Power dissipation	I_{CEO}	40	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	50	mA
	*3 Collector power dissipation	P_C	150	mW
	*3 Total power dissipation	P_{tot}	170	mW
	Operating temperature	T_{opr}	- 30 to + 100	°C
	Storage temperature	T_{stg}	- 55 to + 125	°C
	*4 Isolation voltage	V_{iso}	2 500	Vrms
	*5 Soldering temperature	T_{sol}	260	°C

*1 T_a = -30 to +100°C

*2 Pulse width \leq 100 μ s,
Duty ratio = 0.01 (Refer to Fig. 3)

*3 Decrease in the ambient temperature range of the Absolute Max. Rating :
Shown in Figs.1 and 2.

*4 40 to 60% RH, AC for 1 minute

*5 For 10 seconds

■ Electro-optical Characteristics

(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V _F	I _F = 50 μA	-	1.2	-	V
			I _F = 5mA	-	1.4	1.6	
	Peak forward voltage	V _{FM}	I _{FM} = 300mA	-	-	2	V
	Reverse current	I _R	V _R = 4V	-	-	10	μA
	Terminal capacitance	C _t	V = 0, f = 1kHz	-	80	-	pF
Output	*6 Dark current	I _{CEO}	V _{CE} = 10V, I _F = 0	-	-	3	μA
	Collector-emitter breakdown voltage	BV _{CEO}	I _c = 0.1mA, I _F = 0	35	-	-	V
	Emitter-collector breakdown voltage	BV _{ECO}	I _E = 0.01mA, I _F = 0	6	-	-	V
Transfer characteristics	*6 Collector current	I _c	I _F = 50 μA, V _{CE} = 5V	30	-	-	μA
	Collector-emitter saturation voltage	V _{CE(sat)}	I _F = 100 μA, I _c = 50 μA	-	-	1	V
	Insulation resistance	R _{ISO}	DC500V, 40to 60% RH	5 x 10 ¹⁰	1 x 10 ¹¹	-	Ω
	Cut-off frequency	f _c	V = 0, f = 1MHz	-	0.6	-	pF
	Response time (rise)	t _r	V _{CE} = 2V, I _c = 2mA	-	20	-	μs
Response time (fall)	t _f	R _L = 100Ω	-	25	-		

*6 Ta = - 25 to + 60°C

Fig. 1 Collector Power Dissipation vs. Ambient Temperature

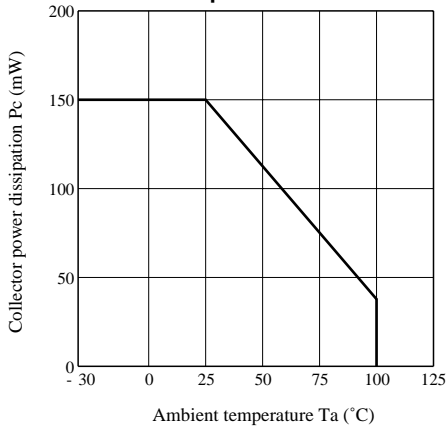


Fig. 2 Total Power Dissipation vs. Ambient Temperature

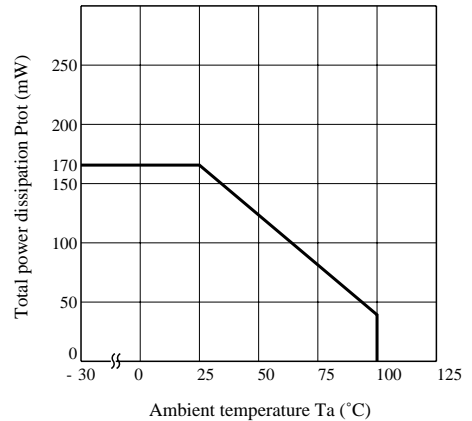
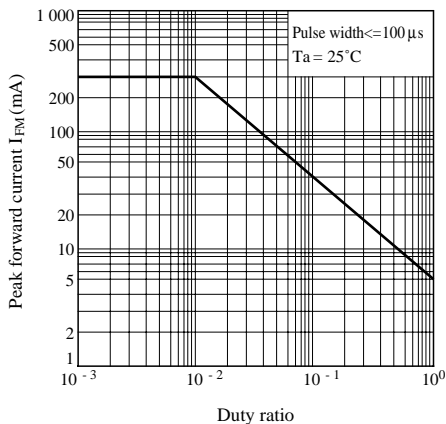


Fig. 3 Peak Forward Current vs. Duty Ratio



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