

PC727

Low Input Current Drive Type Photocoupler

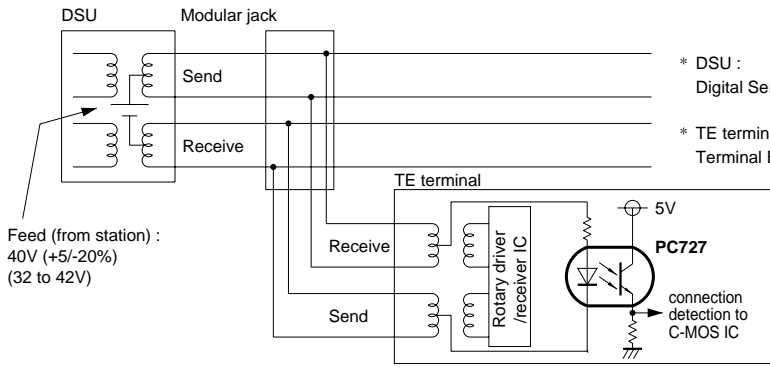
■ Features

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

■ Applications

1. ISDNs
2. Telephone sets

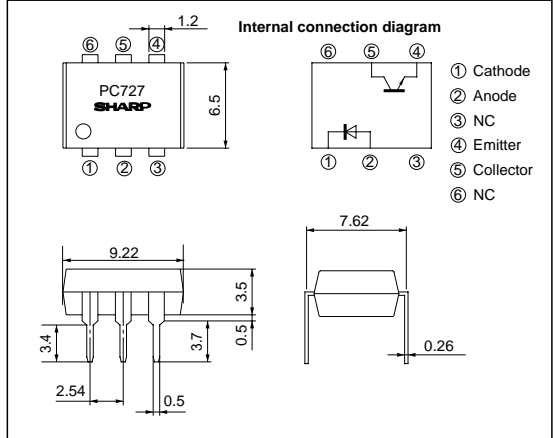
Example of ISDN terminal configuration



* DSU : Digital Service Unit (line terminal equipment)
* TE terminal : Terminal Equipment (standard terminal)

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

($T_a = 25^\circ C$)

	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	$^\circ C$
	Storage temperature	T_{stg}	- 55 to + 125	$^\circ C$
	*4 Isolation voltage	V_{iso}	2 500	Vrms
	*5 Soldering temperature	T_{sol}	260	$^\circ C$

*1 $T_a = -30$ to $+100^\circ C$
*2 Pulse width $\leq 100 \mu s$,
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

* In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that occur in equipment using any of SHARP's devices, shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest version of the device specification sheets before using any SHARP's device.*

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

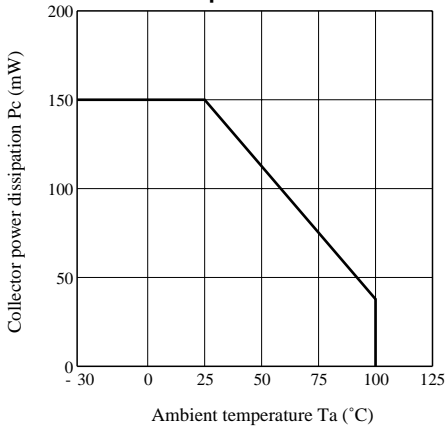


Fig. 2 Total Power Dissipation vs. Ambient Temperature

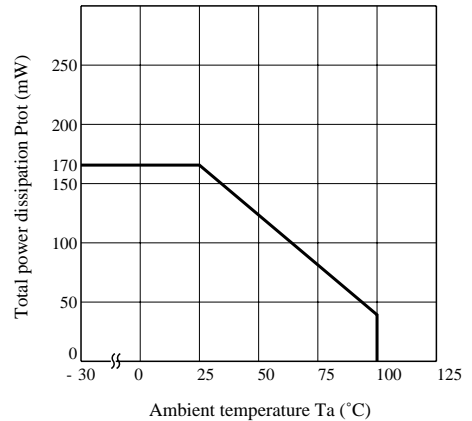
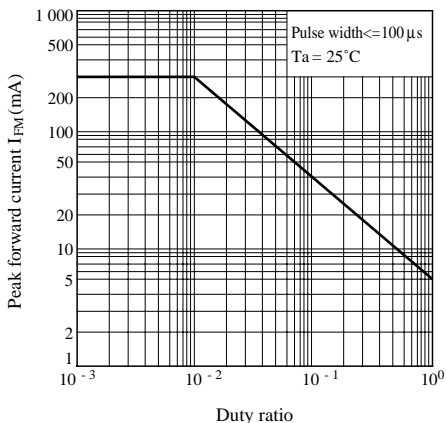


Fig. 3 Peak Forward Current vs. Duty Ratio



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