

PC727

Low Input Current Drive Type Photocoupler

■ Features

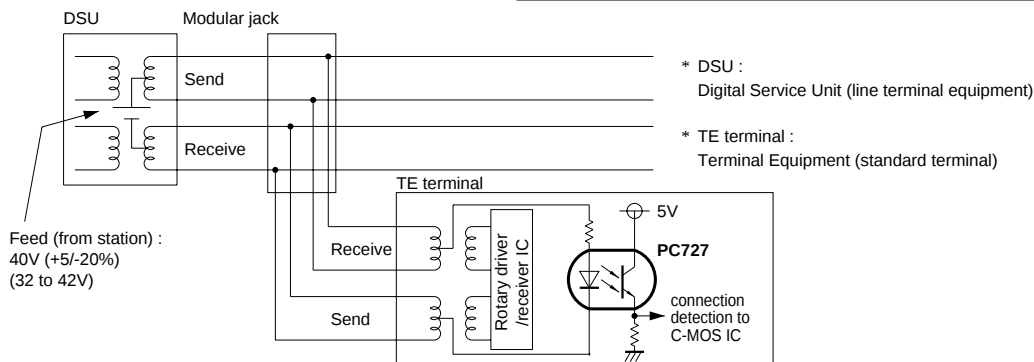
1. Low input current drive type (I_F : 50 μ A)
2. Current transfer ratio (CTR : MIN. 60%)

Assured within operating temperature range (T_a :-25 to +60°C)

■ Applications

1. ISDNs
2. Telephone sets

Example of ISDN
terminal configuration



■ 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 $\leq 100 \mu$ 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

■ Electro-optical Characteristics

(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F = 50\mu A$	-	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
Output	Terminal capacitance	C_t	$V = 0, f = 1kHz$	-	80	-	pF
	*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	$I_F = 50\mu A, V_{CE} = 5V$	30	-	-	μA
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F = 100\mu A, I_c = 50\mu A$	-	-	1	V
	Insulation resistance	R_{ISO}	DC500V, 40to 60% RH	5×10^{10}	1×10^{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	$R_L = 100\Omega$	-	25	-	

*6 Ta = - 25 to + 60°C

Fig. 1 Collector Power Dissipation vs. Ambient Temperature

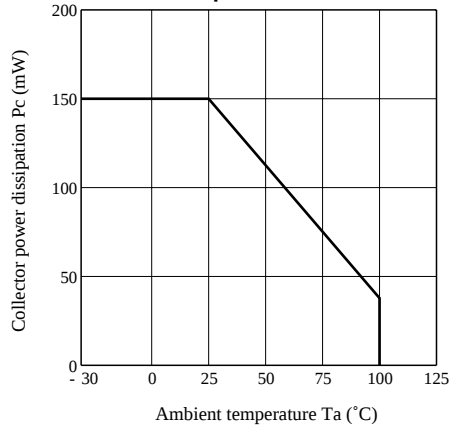


Fig. 2 Total Power Dissipation vs. Ambient Temperature

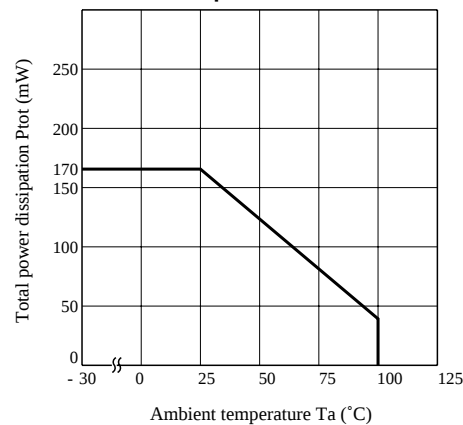
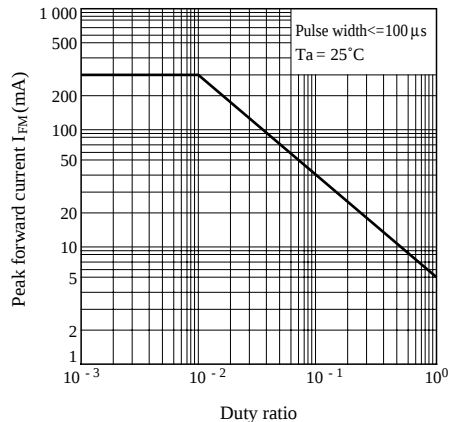


Fig. 3 Peak Forward Current vs. Duty Ratio



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