



PHOTOCOUPLEDERS

T-41-83

PC-17K1, 2, 4

PC-17K1, 2, 4, photocoupler, is an optically coupled pair employing a GaAs IRED and a silicon NPN phototransistor. PC-17K2 offers two isolated channels and PC-17K4 offers four isolated channels per package.

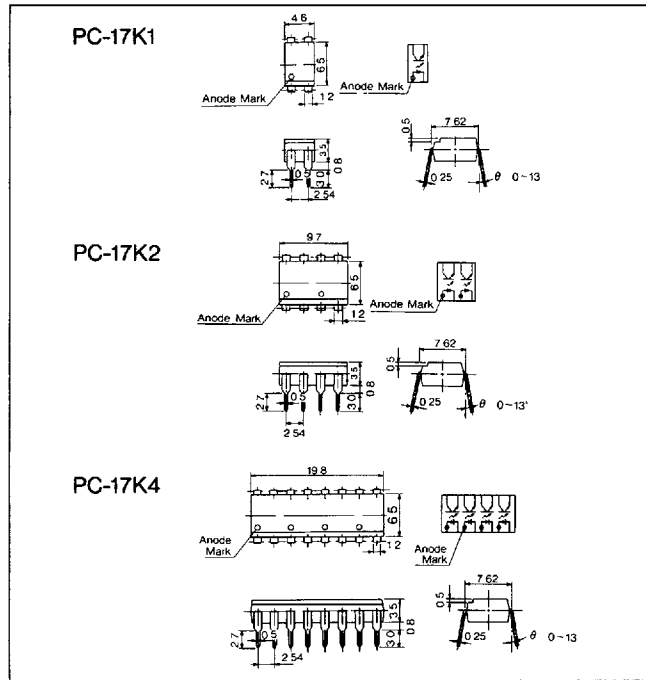
FEATURES

- Fast switching speed.
- 5000volt isolation voltage.
- 50% minimum current transfer ratio.
- Industry standard Dual In-Line package.
- UL recognized file No. E107486.

APPLICATIONS

- Computer terminals
- System appliances
- Signal transmission between circuits of different potentials.
- Cordless-phone, Key-phone, Telephone answering system.

DIMENSIONS (Unit : mm)



MAXIMUM RATINGS

(Ta = 25°C)

Item		Symbol	Rating	Unit
Input	Forward current	$I_F$	50	mA
	Pulse forward current*1	$I_{FP}$	1	A
	Reverse voltage	$V_R$	5	V
Output	C-E voltage	$V_{CEO}$	35	V
	E-C voltage	$V_{ECO}$	5	V
	Collector current	$I_C$	50	mA
	Collector power dissipation	$P_C$	150	mW
Operating temp.		$T_{opr.}$	-30 ~ +85	°C
Storage temp.		$T_{stg.}$	-55 ~ +100	°C
Power dissipation		$P_D$	200	mW
Isolation voltage*2		Viso	5000	Vrms

\*1 100μsec., 100Hz \*2 AC/One minute, R.H.=40~60%

ELECTRO-OPTICAL CHARACTERISTICS

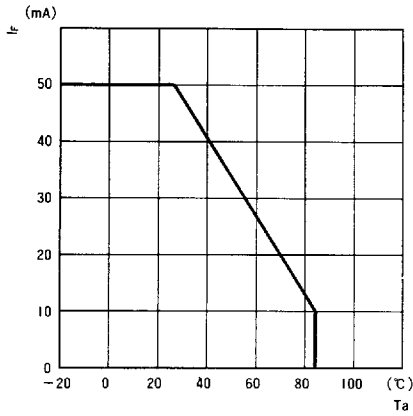
(Ta = 25°C)

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Input	Forward voltage	$V_F$	$I_F = 10mA$	1.0	1.15	1.3	V
	Reverse current	$I_R$	$V_R = 5V$			10	μA
	Capacitance	$C_t$	$V = 0, f = 1MHz$		30		pF
Output	C-E breakdown voltage	$V_{(BR)CEO}$	$I_C = 0.5mA$	35			V
	E-C breakdown voltage	$V_{(BR)ECO}$	$I_E = 0.1mA$	5			V
	Collector dark current	$I_{CEO}$	$I_F = 0, V_{CE} = 24V$		10	100	nA
Coupled	Current transfer ratio*1	CTR	$I_F = 5mA, V_{CE} = 5V$	50		600	%
	C-E saturation voltage	$V_{CE(sat)}$	$I_F = 5mA, I_C = 1mA$		0.1	0.4	V
	Coupling capacitance	$C_s$	$V = 0, f = 1MHz$		1.0		pF
	Isolation resistance	$R_s$	R.H. = 40~60%, $V = 1kVDC$		$10^{11}$		Ω
	Rise time, Fall time	$t_r, t_f$	$V_{CE} = 5V, R_L = 100Ω, I_C = 2mA$		6		μsec.

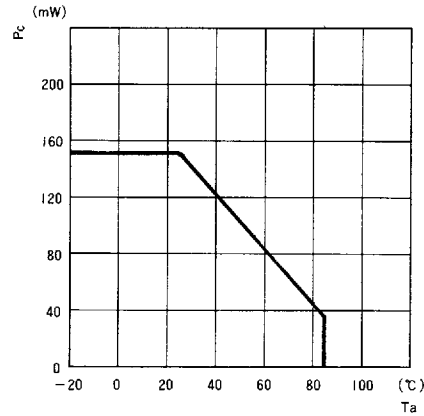
40 \*1  $CTR(\%) = \frac{I_C}{I_F} \times 100$

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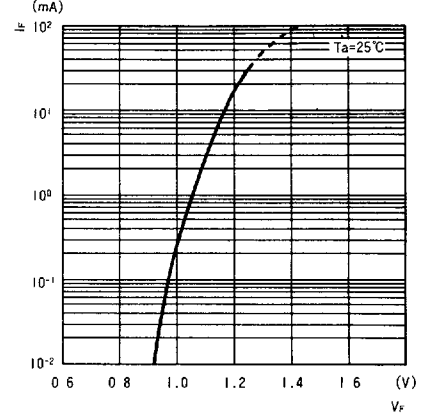
■ Forward current vs Ambient temp.



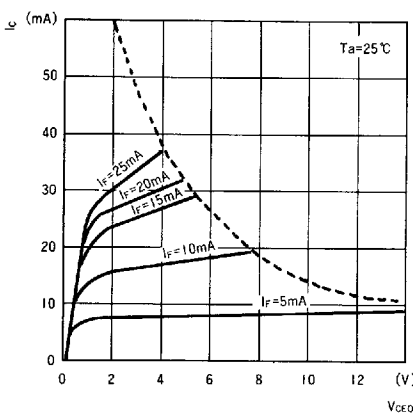
■ Collector power dissipation vs Ambient temp.



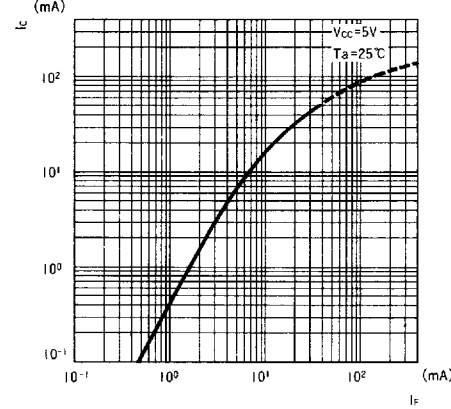
■ Forward current vs Forward voltage.



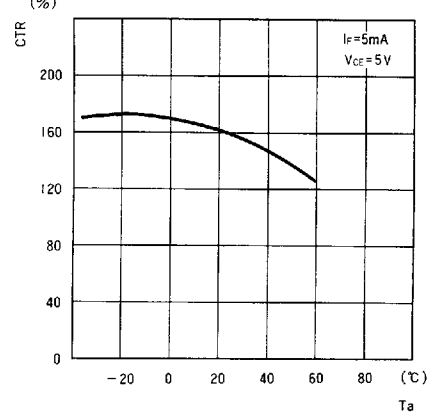
■ Collector current vs Collector-Emitter voltage.



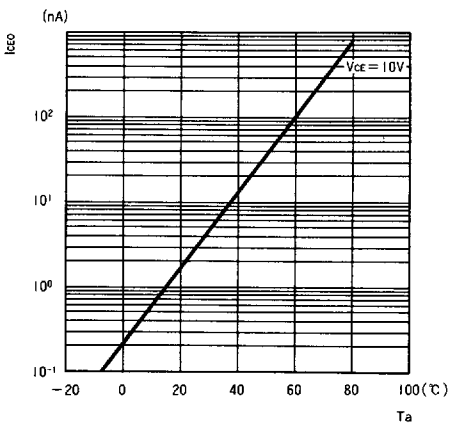
■ Collector current vs Forward current.



■ Current transfer ratio vs Forward current.



■ Dark current vs Ambient temp.



■ Switching characteristics. \* 1

