

# KPI-L05

## DESCRIPTION

The photointerrupter high-performance standard type KPI-L05 combines a high-output GaAs IRED with a high sensitivity phototransistor.

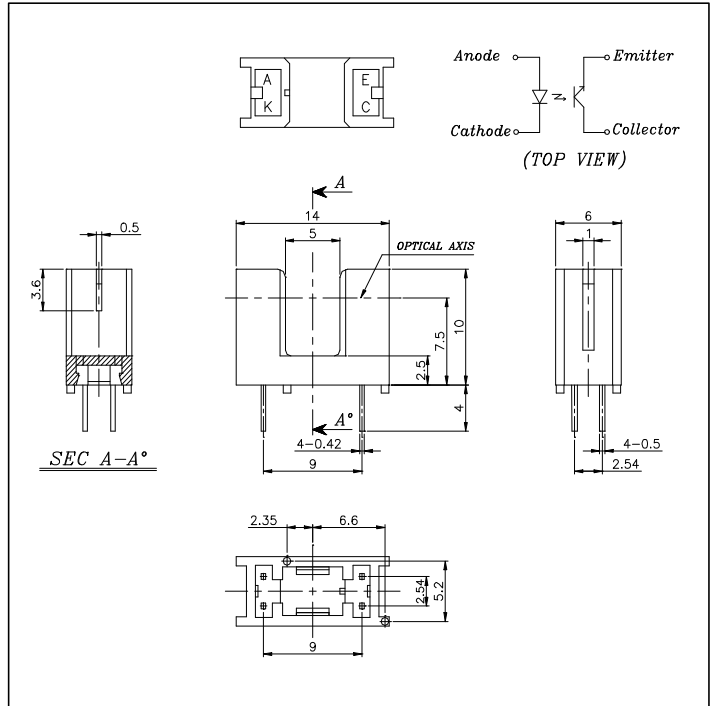
## FEATURES

- PWB direct mount type
- GAP : 5.0mm
- Easy to mount

## APPLICATIONS

- Printers
- Copiers
- A T M
- Ticket Vending Machines

## DIMENSIONS



## ABSOLUTE MAXIMUM RATINGS

(Ta=25 )

Parameter		Symbol	Rating	Unit
Input	Forward Current	$I_F$	60	mA
	Pulse Forward Current <sup>*1</sup>	$I_{FP}$	1	A
	Reverse Voltage	$V_R$	5	V
	Power Dissipation	$P_D$	100	mW
Output	Collector Emitter Voltage	$V_{CEO}$	30	V
	Emitter Collector Voltage	$V_{ECO}$	5	V
	Collector Current	$I_C$	40	mA
	Collector Power Dissipation	$P_C$	100	mW
Operating Temperature <sup>*2</sup>		$T_{OPR}$	-25 ~ +85	
Storage Temperature <sup>*2</sup>		$T_{STG}$	-40 ~ +85	
Soldering Temperature <sup>*3</sup>		$T_{SOL}$	260	

\*1. Pulse width :  $t_w$  100μsec.period : T=10msec

\*2. No icebound or dew

\*3. For MAX. 5 seconds at the position of 1mm from the package

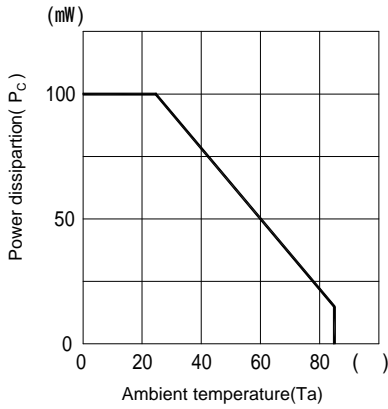
## ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25 )

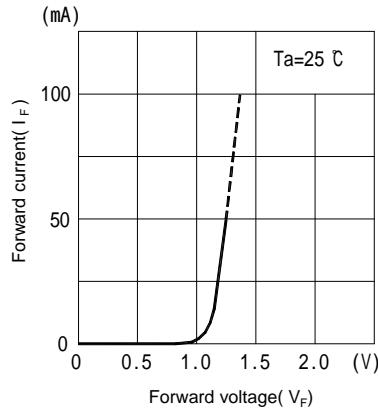
Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Input	Forward Voltage	$V_F$	$I_F=20mA$	-	1.2	1.7	V	
	Reverse Current	$I_R$	$V_R=5V$	-	-	10	μA	
	Capacitance	$C_T$	f=1KHz	-	25	-	pF	
	Peak Wavelength	$\lambda_P$	$I_F=20mA$	-	940	-	nm	
Output	Dark Current	$I_{CEO}$	$V_{CE}=10V, 0 Lux$	-	-	100	nA	
Coupled	Light Current	$I_L$	$V_{CE}=5V, I_F=20mA$ (Non-shading)	0.5	-	14	mA	
	Collector Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_F=20mA, I_C=0.1mA$	-	-	0.4	V	
	Response Time	Rise Time	$t_r$	$V_{CC}=5V, I_C=2mA, R_L=100$	-	5	-	μs
		Fall Time	$t_f$		-	5	-	μs

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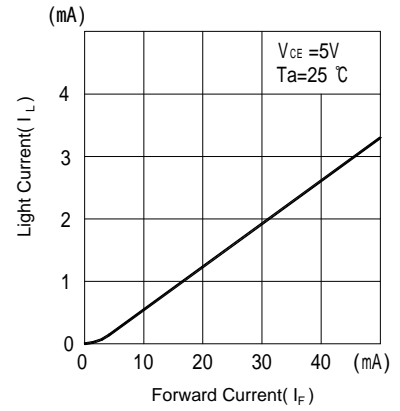
Collector power dissipation Vs. Ambient temperature



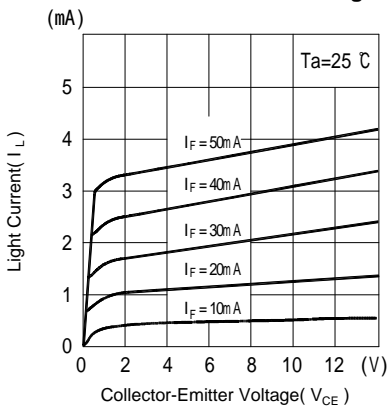
Forward current Vs. Forward voltage



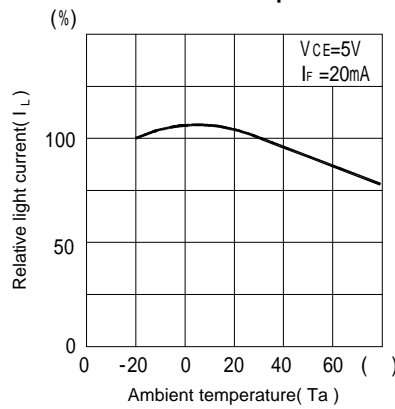
Light current Vs. Forward current



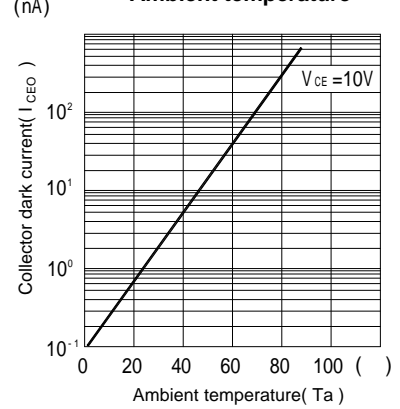
Light current Vs. Collector-Emitter voltage



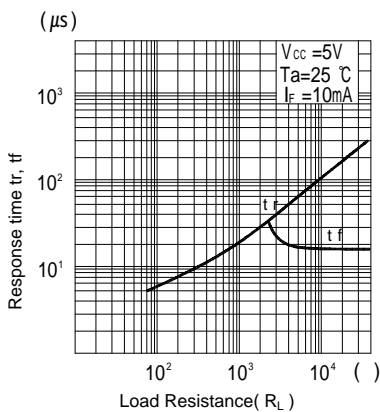
Relative light current Vs. Ambient temperature



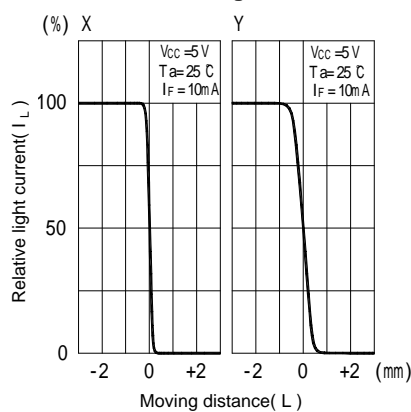
Dark current Vs. Ambient temperature



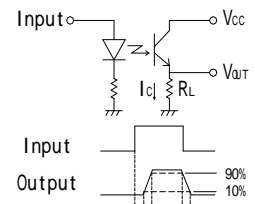
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Response time measurement circuit



Method of measuring position detection characteristic

