

## KPI-512

### DESCRIPTION

The photointerrupter high-performance standard type KPI-512 combines a high-output GaAs IRED with a high sensitivity phototransistor.

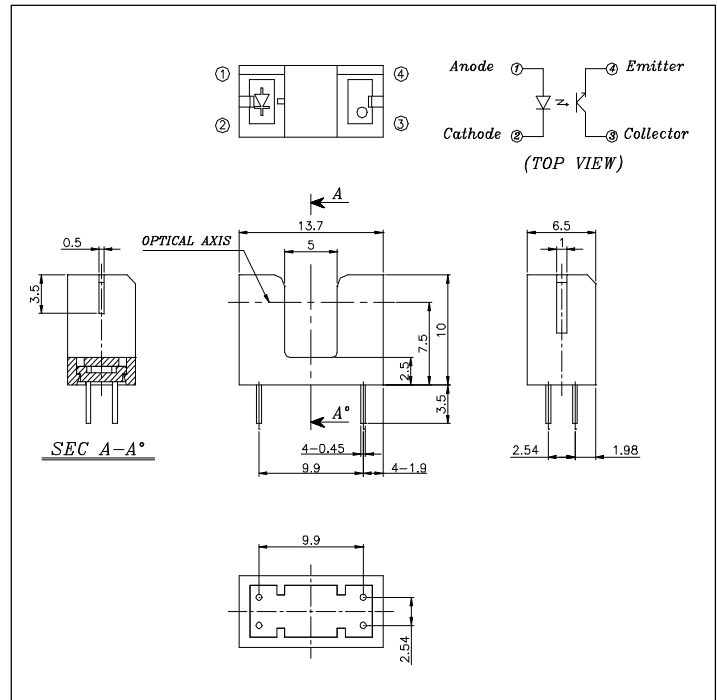
### FEATURES

- PWB direct mount type
- GAP : 5.0mm

### 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 *1	$I_{FP}$	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 *2		$T_{OPR}$	-25 ~ +85	
Storage Temperature *2		$T_{STG}$	-40 ~ +85	
Soldering Temperature *3		$T_{SOL}$	260	

\*1. Pulse width :  $t_w$  100 $\mu$ sec, period : T=10msec

\*2. No icebound or dew

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

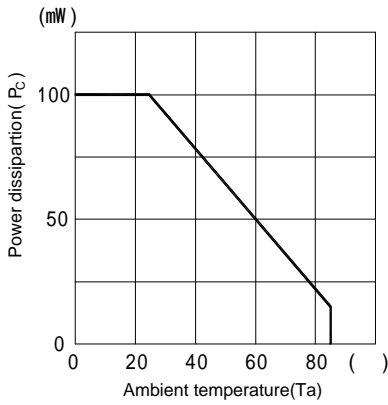
### ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25 )

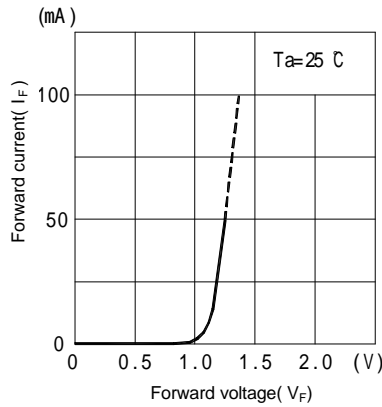
Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Input	Forward Voltage	$V_F$	$I_F=20mA$	-	1.2	1.7	V	
	Reverse Current	$I_R$	$V_R=5V$	-	-	10	$\mu A$	
	Capacitance	$C_T$	f=1KHz	-	25	-	pF	
	Peak Wavelength	$\lambda_P$	$I_F=20mA$	-	940	-	nm	
Output	Dark Current	$I_{CEO}$	$V_{CE}=10V, 0 Lux$	-	-	10	nA	
Coupled	Light Current	$I_L$	$V_{CE}=5V, I_F=20mA$ (Non-shading)	0.5	-	15	mA	
	Collector Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_F=20mA, I_C=0.1mA$	-	-	0.4	V	
	Response Time	Rise Time	tr	$V_{CC}=5V, I_C=2mA,$ $R_L=100$	-	5	-	$\mu s$
		Fall Time	tf		-	5	-	$\mu s$

# KPI-512

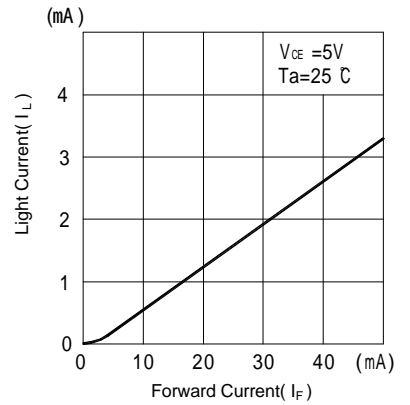
**Collector power dissipation Vs. Ambient temperature**



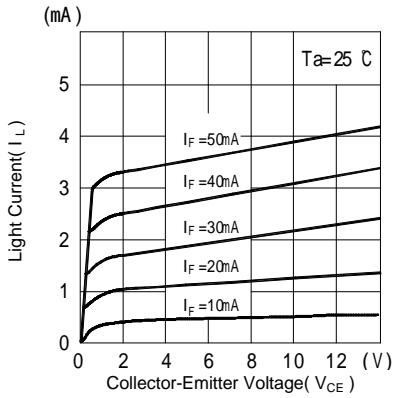
**Forward current Vs. Forward voltage**



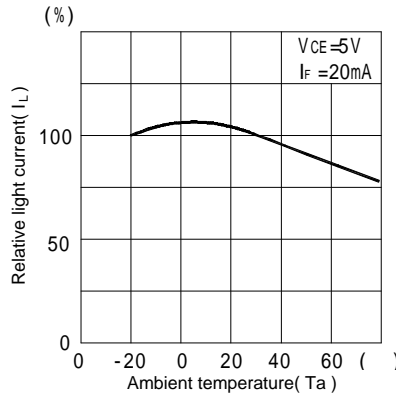
**Light current Vs. Forward current**



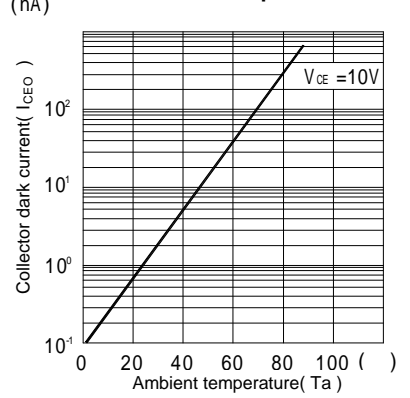
**Light current Vs. Collector-Emitter voltage**



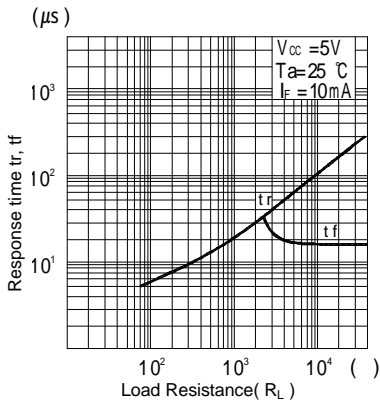
**Relative light current Vs. Ambient temperature**



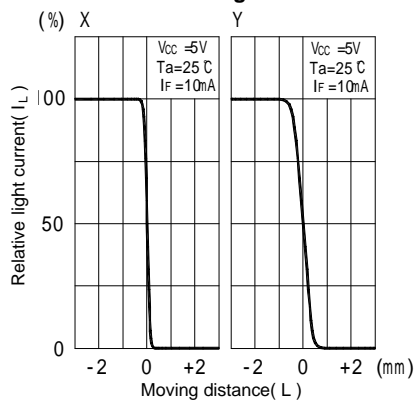
**Dark current Vs. Ambient temperature**



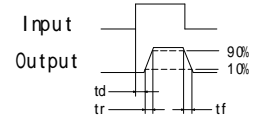
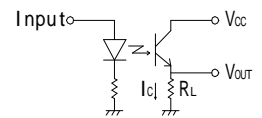
**Switching time Vs. Load resistance**



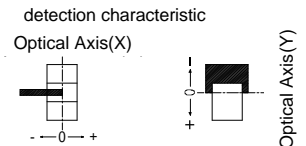
**Relative light current Vs. Moving distance**



**Response time measurement circuit**



**Method of measuring position detection characteristic**



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Datasheets for electronics components.