

Photointerrupter(Transmissive)

KODENSHI

KPI-512

DESCRIPTION

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

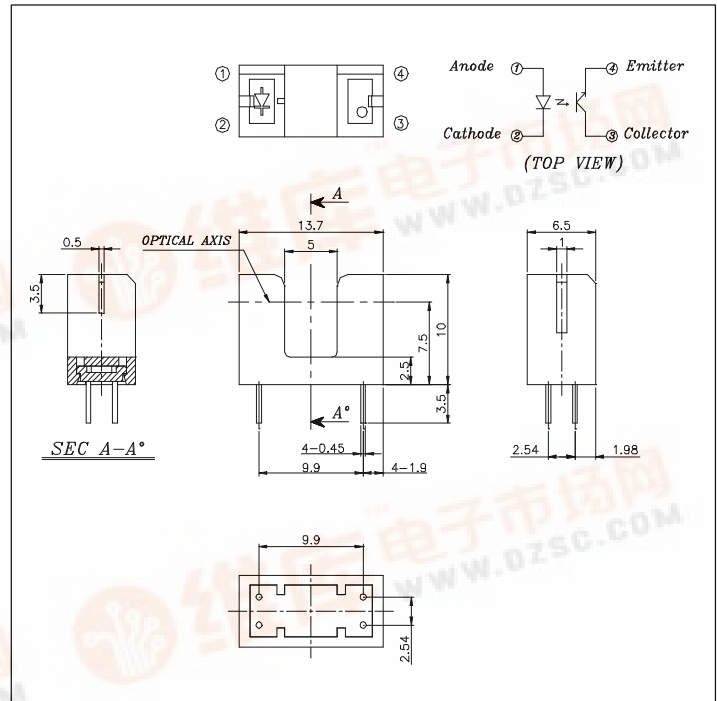
FEATURES

- PWB direct mount type
- GAP : 5.0mm

APPLICATIONS

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

DIMENSIONS



ABSOLUTE MAXIMUM RATINGS

(Ta=25 °C)

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

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

*2. No icebound or dew

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

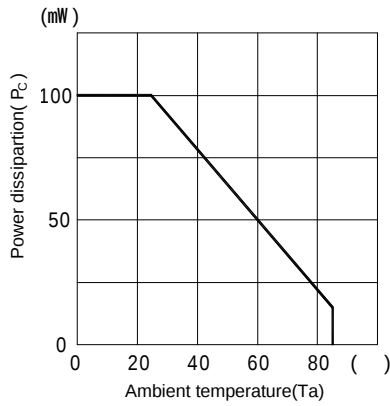
ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25 °C)

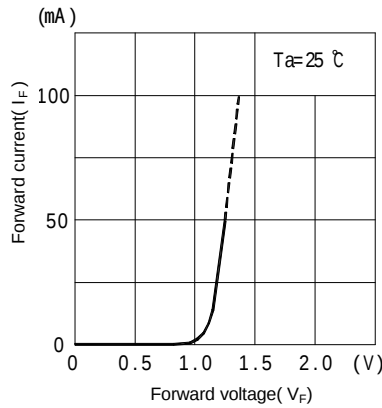
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward Voltage	V_F	$I_F=20\text{mA}$	-	1.2	1.7
	Reverse Current	I_R	$V_R=5\text{V}$	-	-	10
	Capacitance	C_T	$f=1\text{KHz}$	-	25	-
	Peak Wavelength	λ_P	$I_F=20\text{mA}$	-	940	-
Output	Dark Current	I_{CEO}	$V_{CE}=10\text{V}$, 0 Lux	-	-	10
Coupled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

KPI-512

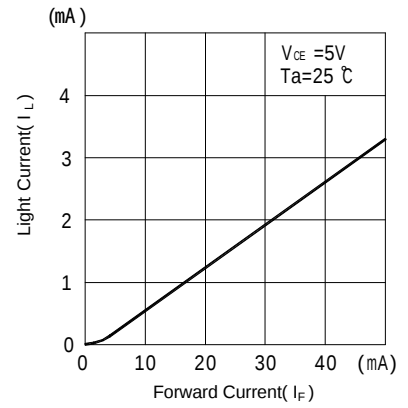
Collector power dissipation Vs. Ambient temperature



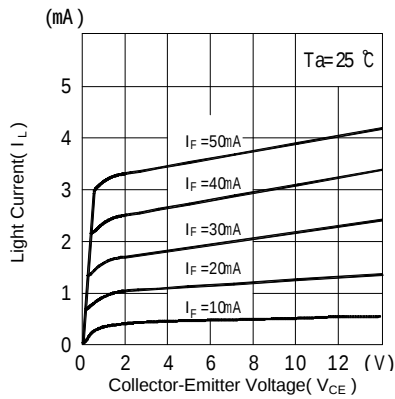
Forward current Vs. Forward voltage



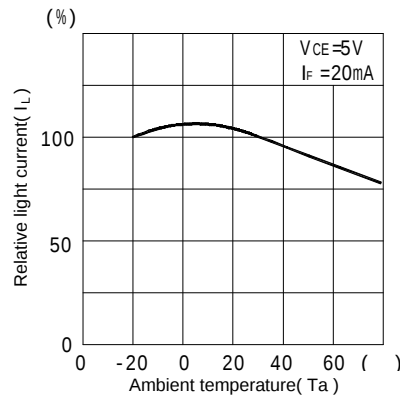
Light current Vs. Forward current



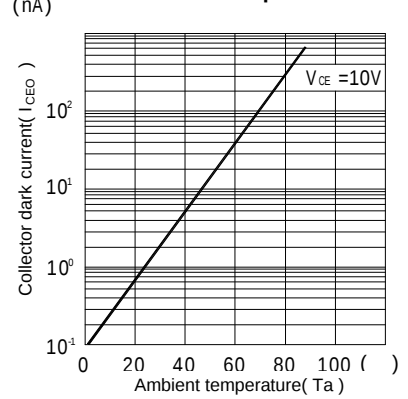
Light current Vs. Collector-Emitter voltage



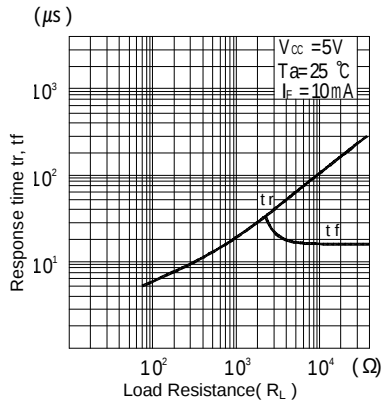
Relative light current Vs. Ambient temperature



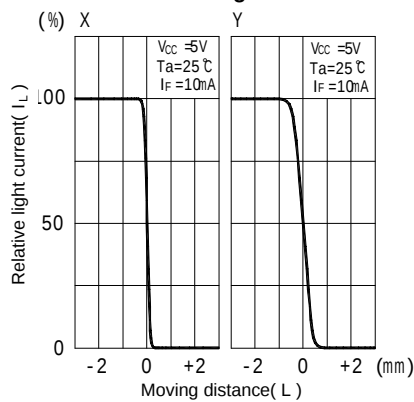
Dark current Vs. Ambient temperature



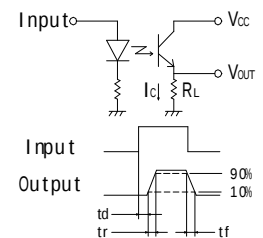
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Response time measurement circuit



Method of measuring position detection characteristic

