

Photointerrupter(Transmissive)



KPI-L05

DESCRIPTION

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

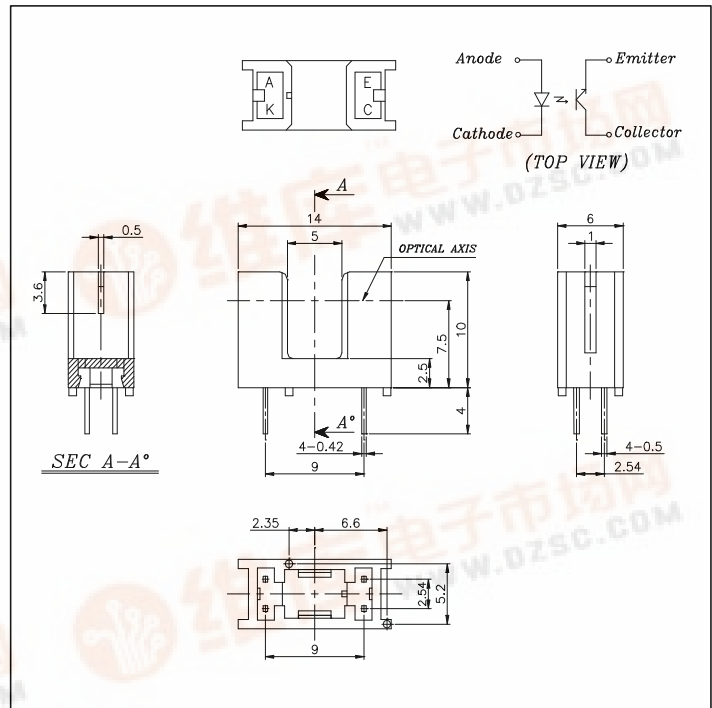
FEATURES

- 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 °C)

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 : $t_w \leq 100\mu\text{sec}$, 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

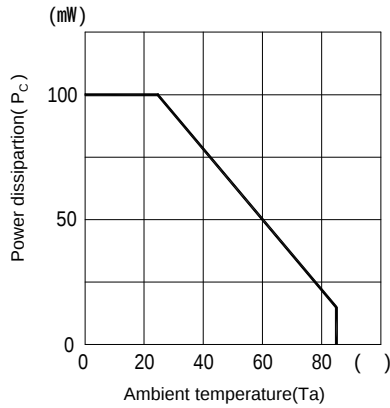
(Ta=25 °C)

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

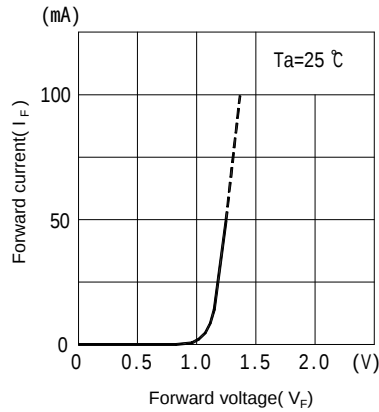
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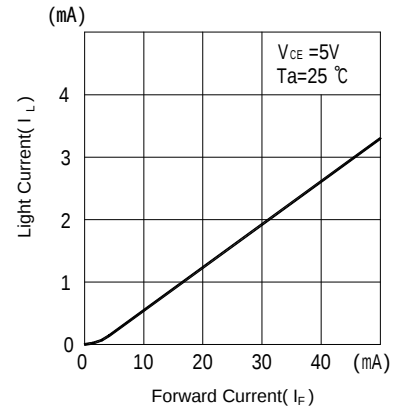
Collector power dissipation Vs. Ambient temperature



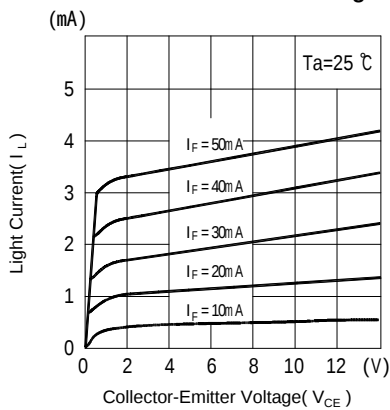
Forward current Vs. Forward voltage



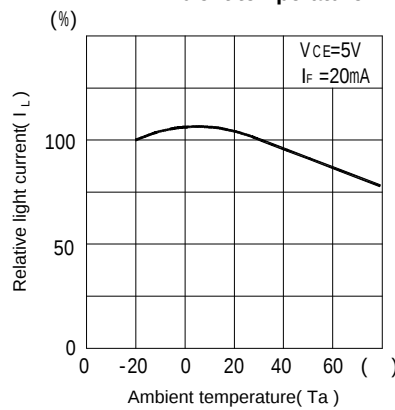
Light current Vs. Forward current



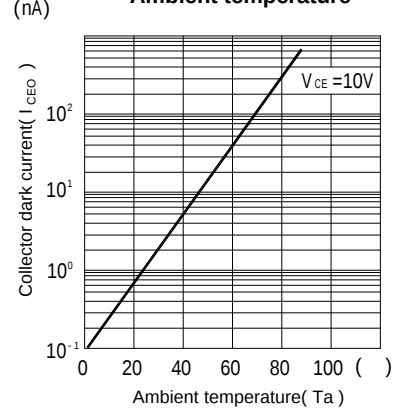
Light current Vs. Collector-Emitter voltage



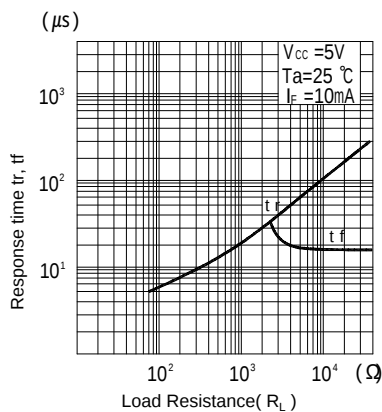
Relative light current Vs. Ambient temperature



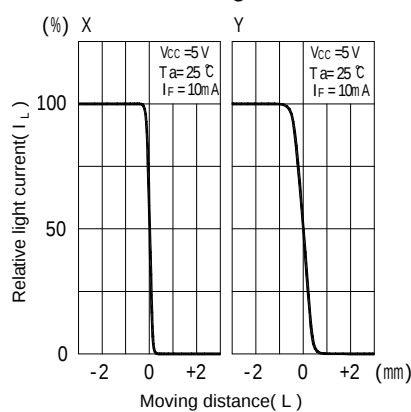
Dark current Vs. Ambient temperature



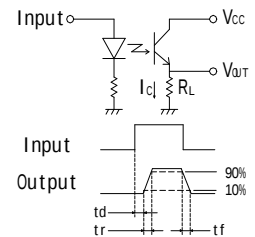
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Response time measurement circuit



Method of measuring position detection characteristic

