

Photointerrupter(Transmissive)



KPI-211

DESCRIPTION

The photointerrupter high-performance standard type KPI-211 combines a high-output GaAs IRED with a high sensitivity phototransistor.

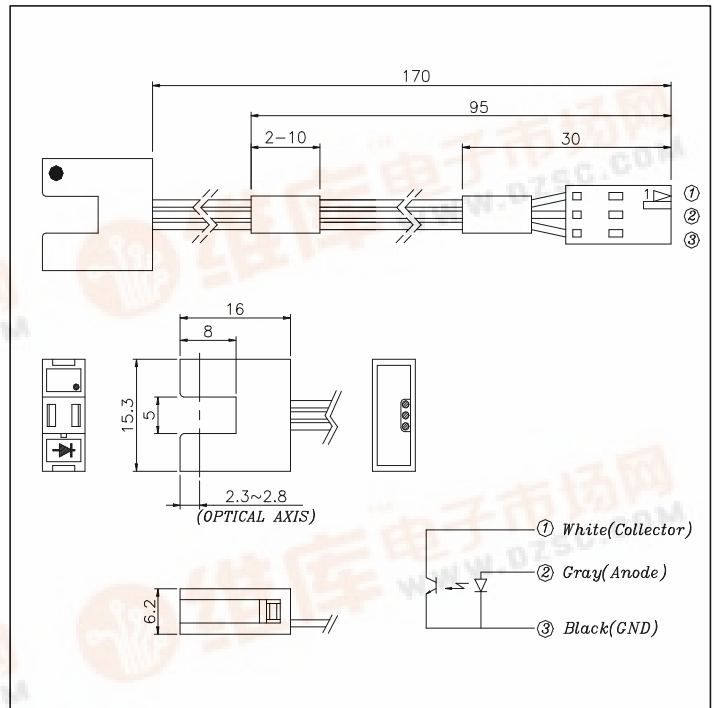
FEATURES

- 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	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	°C
Storage Temperature ^{*2}		T _{STG}	-40 ~ +85	°C
Soldering Temperature ^{*3}		T _{SOL}	260	°C

*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

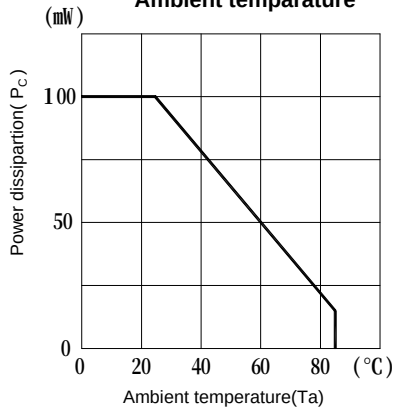
(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Input	Forward Voltage	V _F	I _F =20mA	-	1.2	1.7	V	
	Reverse Current	I _R	V _R =5V	-	-	10	μA	
	Capacitance	C _T	f=1KHz	-	25	-	pF	
	Peak Wavelength	λ _p	-	-	940	-	nm	
Output	Dark Current	I _{CEO}	V _{CE} =10V, 0 Lux	-	-	10	μA	
Coupled	Light Current	I _L	V _{CE} =5V, I _F = 20mA (Non-shading)	0.5	-	15	mA	
	Leakage Current	I _{CEOD}	V _{CE} =5V, I _F = 20mA (shading)	-	-	10	μA	
	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 =100Ω	-	5	-	μs
		Fall Time	tf		-	5	-	μs

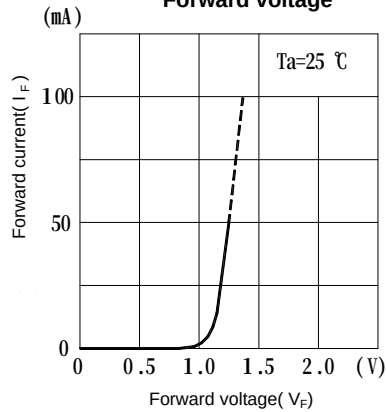
Photointerrupter(Transmissive)

KPI-211

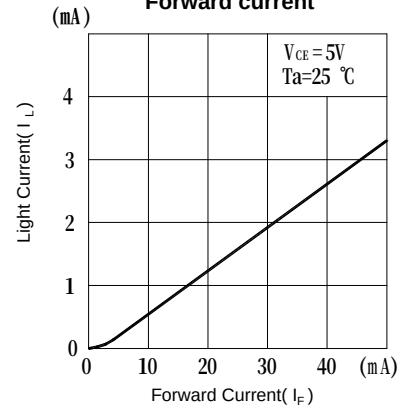
Collector power dissipation Vs. Ambient temperature



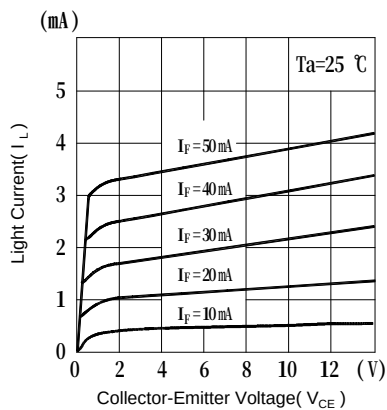
Forward current Vs. Forward voltage



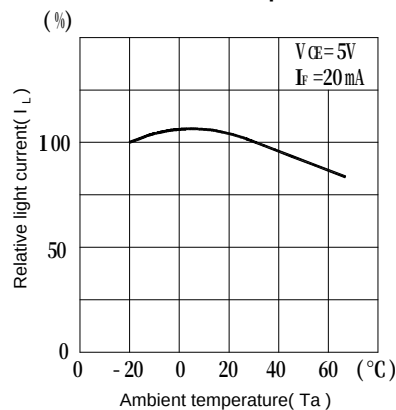
Light current Vs. Forward current



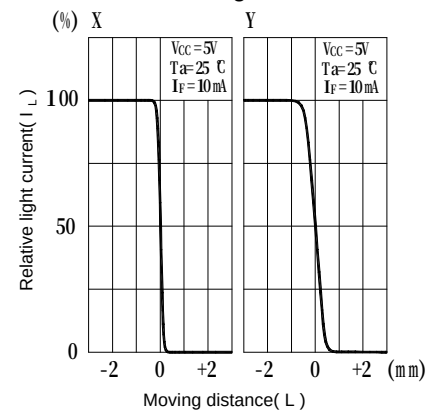
Light current Vs. Collector-Emitter voltage



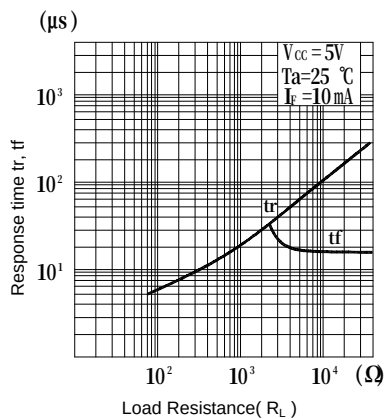
Relative light current Vs. Ambient temperature



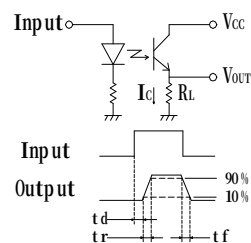
Relative light current Vs. Moving distance



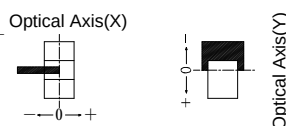
Switching time Vs. Load resistance



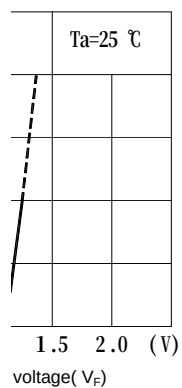
Response time measurement circuit



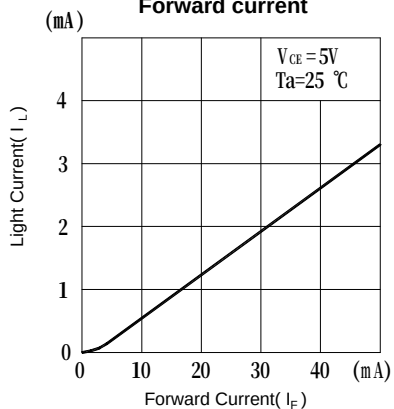
Method of measuring position detection characteristic



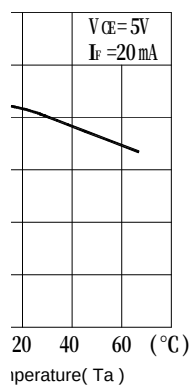
Forward current Vs. Forward voltage



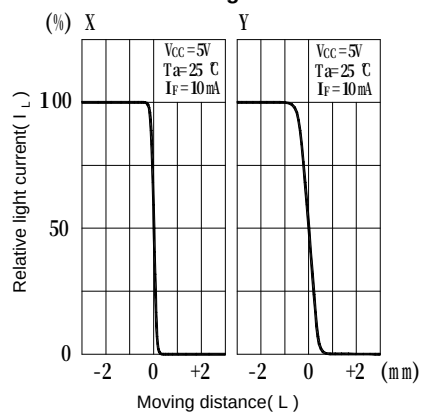
Light current Vs. Forward current



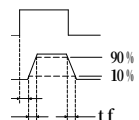
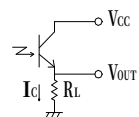
Light current Vs. Ambient temperature



Relative light current Vs. Moving distance



Measurement circuit



Measuring position characteristic

