

Photointerrupter(Transmissive)



KPI-23FTH

DESCRIPTION

The photointerrupter high-performance standard type KPI-23FTH combines a high-output GaAs IRED with a high sensitivity phototransistor.

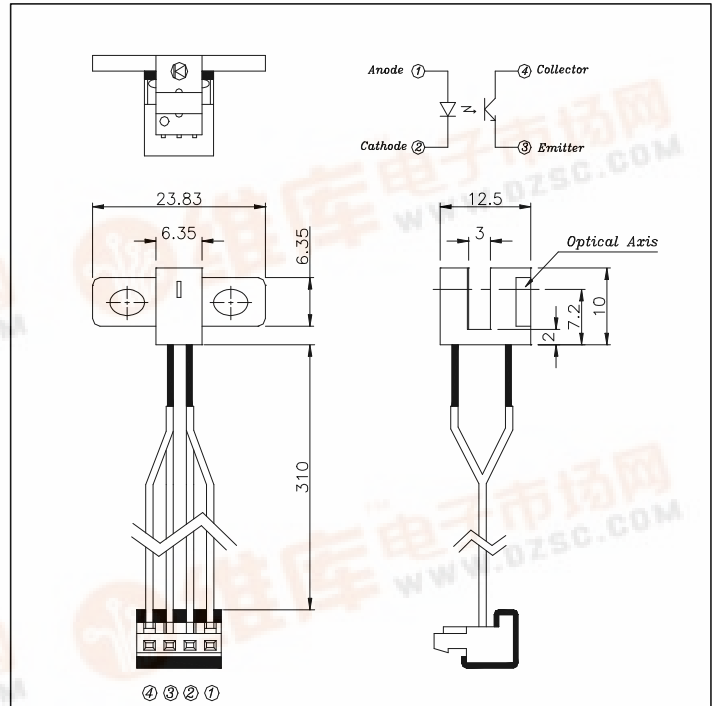
FEATURES

- Widely Applicable
- GAP : 3.0mm
- Compact & Light
- Connector Type

APPLICATIONS

- Printers
- Copiers
- ATM
- Timers

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}	-20 ~ +75	°C
Storage Temperature ^{*2}		T _{STG}	-30 ~ +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

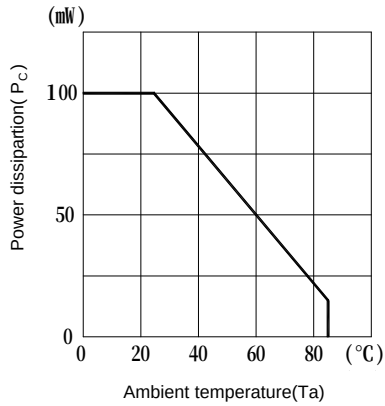
*3. For MAX. 5 seconds at the position of 1mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

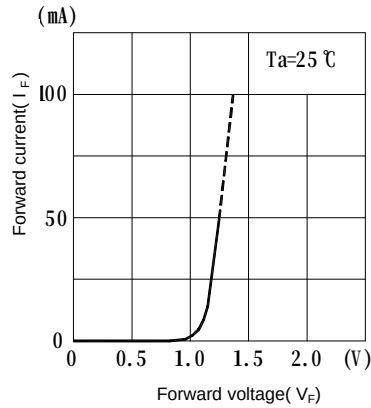
(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Input	Forward Voltage	V _F	I _F =20mA	-	1.2	1.5	V	
	Reverse Current	I _R	V _R =5V	-	-	10	μA	
	Capacitance	C _T	f=1KHz, V=0V	-	25	-	pF	
	Peak Wavelength	λ _P	-	-	940	-	nm	
Output	Dark Current	I _{CEO}	V _{CE} =10V, 0 Lux	-	-	0.1	μA	
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 =100Ω	-	5	-	μs
		Fall Time	tf		-	5	-	μs

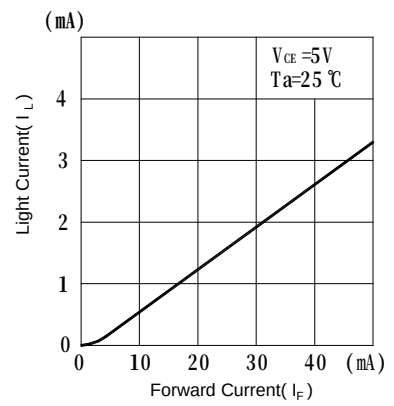
Collector power dissipation Vs. Ambient temperature



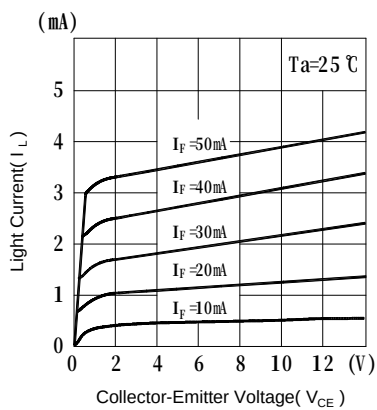
Forward current Vs. Forward voltage



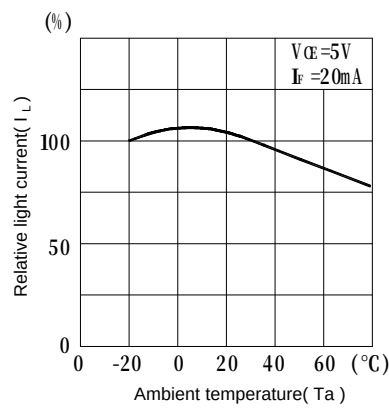
Light current Vs. Forward current



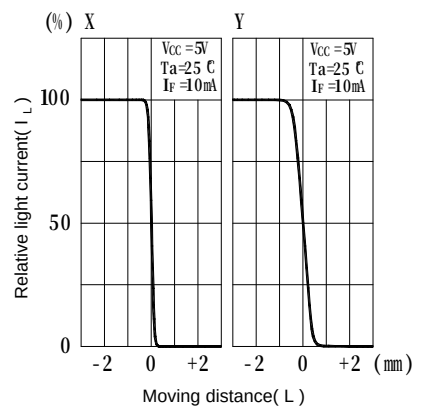
Light current Vs. Collector-Emitter voltage



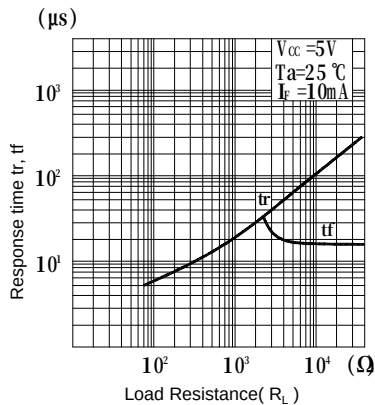
Relative light current Vs. Ambient temperature



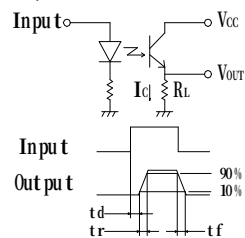
Relative light current Vs. Moving distance



Switching time Vs. Load resistance



Response time measurement circuit



Method of measuring position detection characteristic

