

KPI-23FTH

DESCRIPTION

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

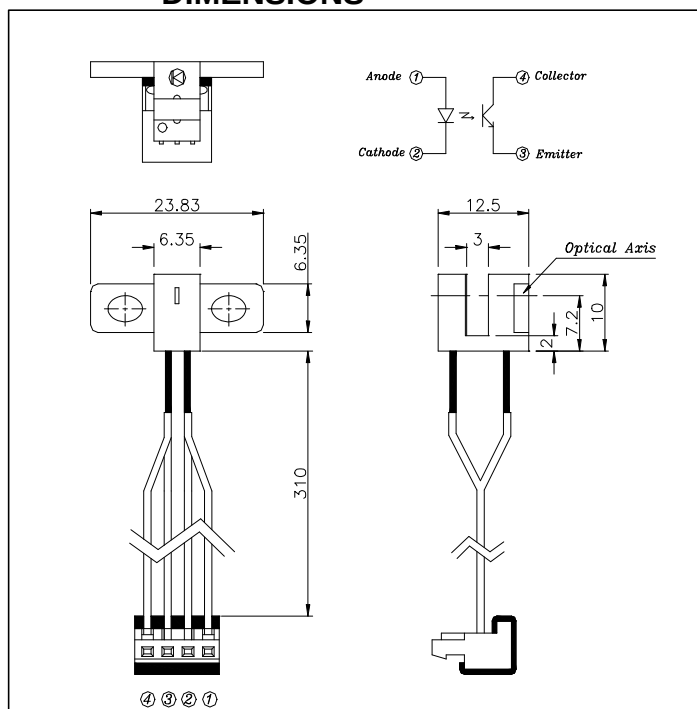
FEATURES

- 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

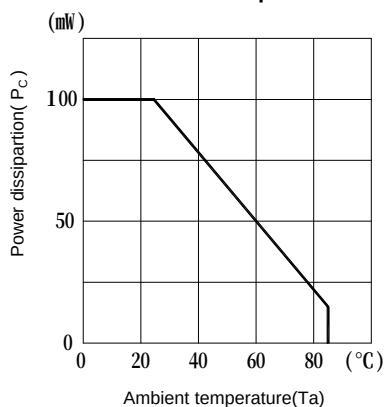
*3. For MAX. 5 seconds at the position of 1mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

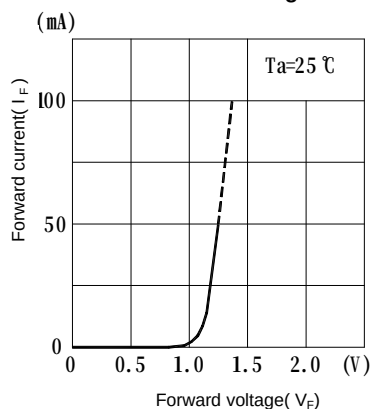
(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward Voltage	V_F	$I_F = 20\text{mA}$	-	1.2	1.5	V
	Reverse Current	I_R	$V_R = 5\text{V}$	-	-	10	μA
	Capacitance	C_T	$f = 1\text{KHz}$, $V = 0\text{V}$	-	25	-	pF
	Peak Wavelength	λ_P	-	-	940	-	nm
Output	Dark Current	I_{CEO}	$V_{CE} = 10\text{V}$, 0 Lux	-	-	0.1	μA
Coupled	Light Current	I_L	$V_{CE} = 5\text{V}$, $I_F = 20\text{mA}$ (Non-shading)	0.5	-	15	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

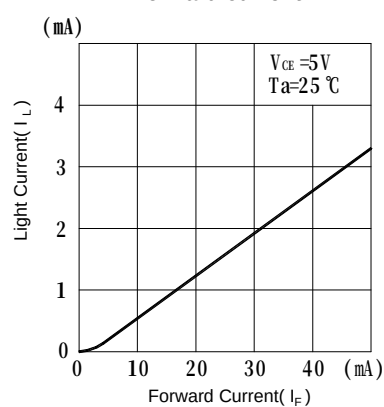
Collector power dissipation Vs. Ambient temperature



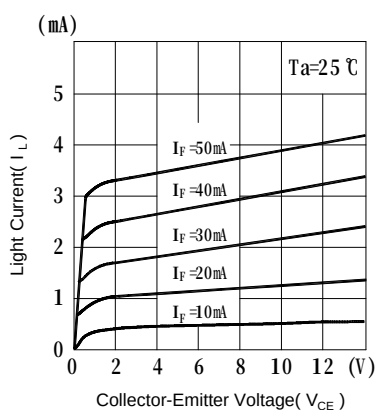
Forward current Vs. Forward voltage



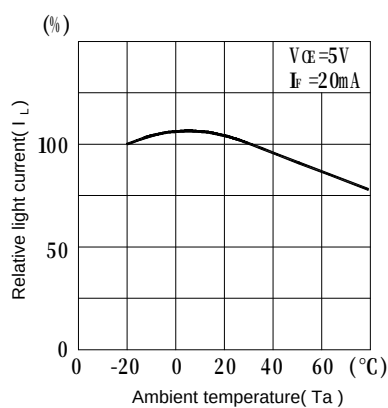
Light current Vs. Forward current



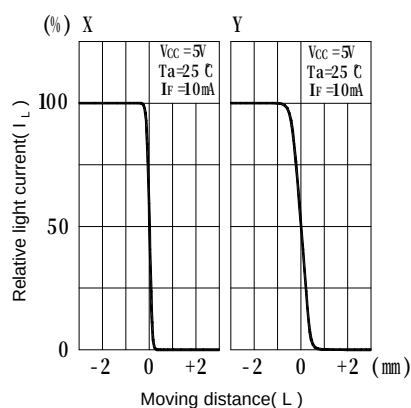
Light current Vs. Collector-Emitter voltage



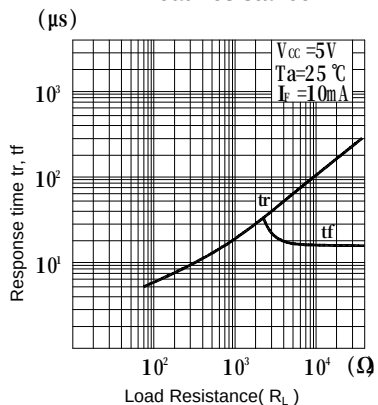
Relative light current Vs. Ambient temperature



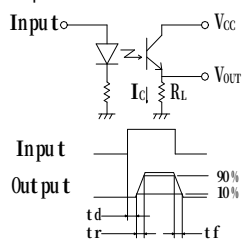
Relative light current Vs. Moving distance



Switching time Vs. Load resistance



Response time measurement circuit



Method of measuring position detection characteristic

