

Prism Photo Sensor

Tentative

KP1430

Description

Model **KP1430** is a prism type photo sensor consisted of an Infra Red LED and a Photo transistor.

Feature

- High resolution to object position.
- Available for detection of bill/dark paper.
- Distance between sensor and prism can be set.
- For application of dual beam sensor.

Application

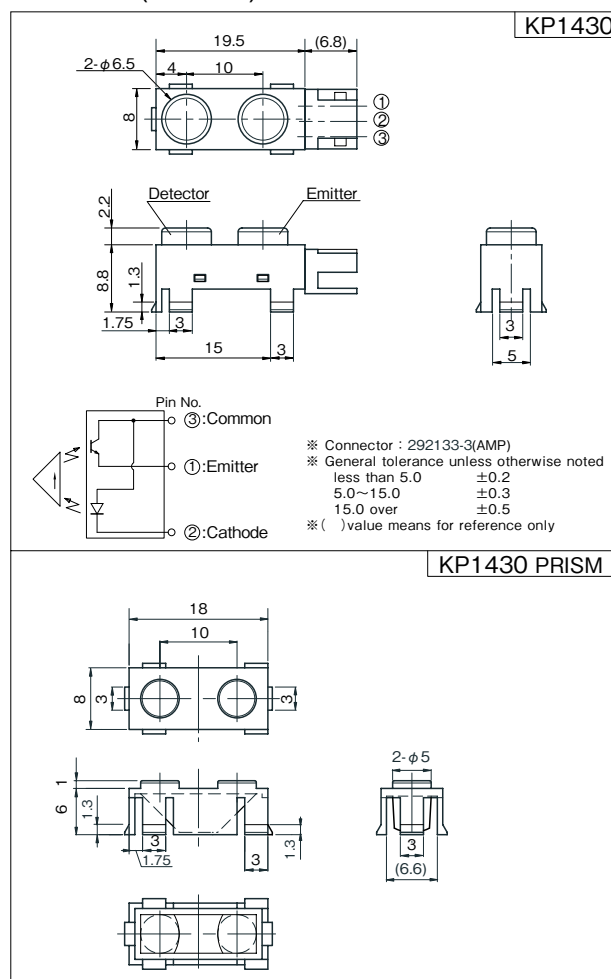
- Paper absence and Paper edge detection on Bill, Copying machine, Printer, and Facsimile.
- Object position detection.

Absolute Maximum Ratings

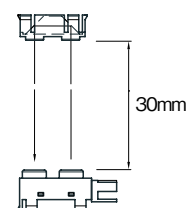
[Ta=25°C Unless otherwise noted]

Item		Symbol	Rating	Units
Emitter	Forward Current	I_F	50	mA
	Pulse Forward Current ^{*1}	I_{FP}	0.3	A
	Reverse Voltage	V_R	5	V
	Power Dissipation	P	75	mW
Detector	Collector-Emitter Voltage	V_{CEO}	30	V
	Emitter-Collector Voltage	V_{ECO}	5	V
	Collector Current	I_C	20	mA
	Power Dissipation	P_C	75	mW
Operating Temperature		T_{opr}	-20 ~ +75	°C
Storage Temperature		T_{stg}	-30 ~ +85	°C

Dimension (Unit:mm)



- * 1. Pulse width $t_w \leq 100 \mu$ sec Duty ratio=0.01
- * 2. KP1430-Prizm d=30mm
- * 3. No object, in dark



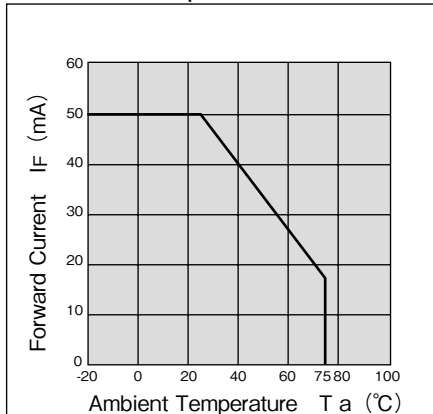
Electro-Optical Characteristics [Ta=25°C Unless otherwise noted]

Item		Symbol	Condition	min.	typ.	max.	Units
Emitter	Forward Voltage	V_F	$I_F=20\text{mA}$	—	1.2	1.5	V
	Reverse Current	I_R	$V_R=5\text{V}$	—	—	10	μ A
Detector	Dark Current	I_{CEO}	$V_{CE}=20\text{V}$, 0 lux	—	—	0.2	μ A
Coupled	Light Current ^{*2}	I_C	$V_{CE}=5\text{V}$, $I_F=10\text{mA}$, d=30mm	0.5	—	—	mA
	Leak Current ^{*3}	I_{LEAK}	$I_F=10\text{mA}$, $V_{CE}=5\text{V}$	—	—	50	μ A
	Response Time	Rise	$V_{CC}=5\text{V}$, $I_C=0.5\text{mA}$, $R_L=1\text{k}\Omega$	—	24	—	μ sec
		Fall		—	27	—	

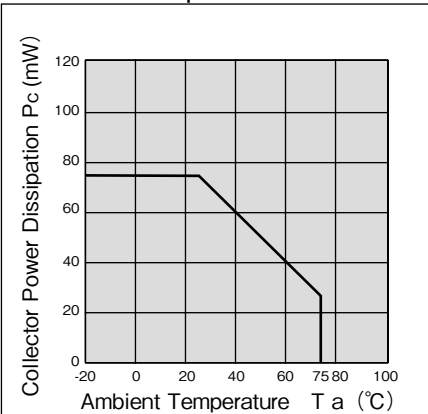
KP1430

Note: Operation never exceeds each value of Absolute Maximum Ratings.

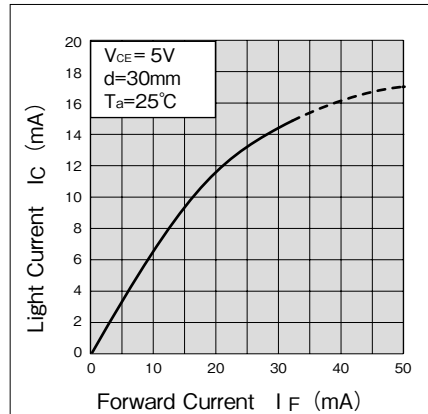
Forward Current vs. Ambient Temperature



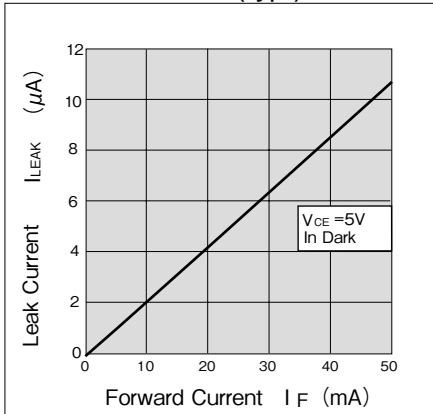
Collector Power Dissipation vs. Ambient Temperature



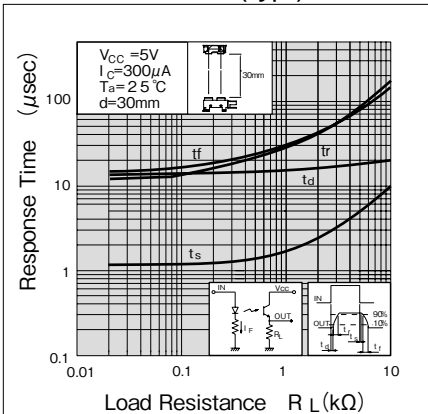
Light Current vs. Forward Current (typ.)



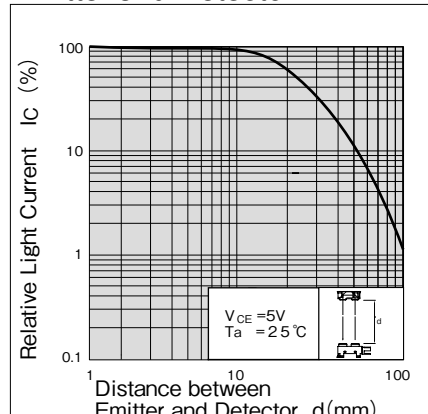
Leak Current vs. Forward Current (typ.)



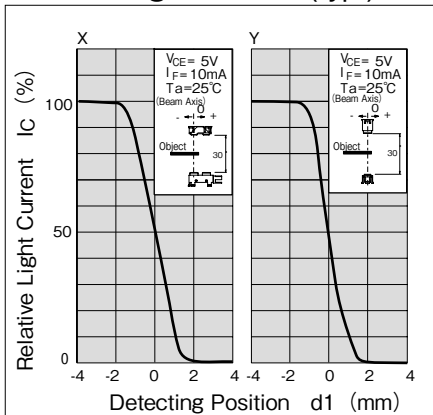
Response Time vs. Load Resistance (typ.)



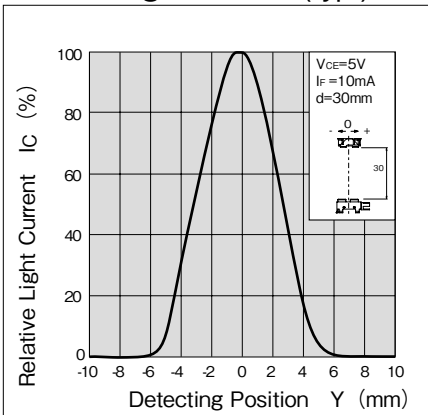
Relative Light Current vs. Distance between Emitter and Detector



Detecting Position vs. Relative Light Current (typ.)



Detecting Position vs. Relative Light Current (typ.)



- A Custom designed package is available on request.
- Specification are subject to change without notice.

06.10-1A

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