

KP1213

Description

Model **KP1213** is a prism type photo sensor consisted of a Infra Red LED and a Photo transistor. Built in connector type is also available.(KP1214)

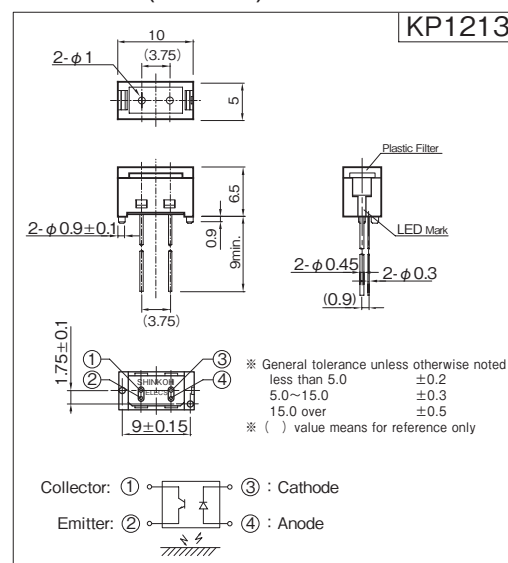
Feature

- High resolution to object position.
 - Available for detection of tracing paper/dark paper.
- The other model ... **KP1380**

Application

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

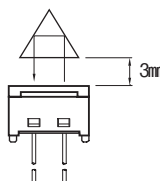
Dimension (Unit:mm)



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}	1	A
	Reverse Voltage	V_R	5	V
	Power Dissipation	P	75	mW
Detector	Collector-Emitter Voltage	V_{CEO}	20	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 ~ +80	°C
Storage Temperature		T_{stg}	-30 ~ +85	°C
Soldering Temperature*2		T_{sol}	260	°C



- *1. Pulse width $t_w \leq 100 \mu$ sec Duty ratio=0.01
- *2. Soldering condition 5sec. At 1mm over from body.
- *3. KP 1213-Prism d=3mm
- *4. No object, in dark

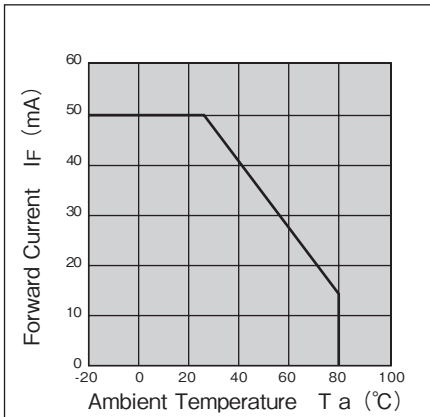
Electro-Optical Characteristics [Ta=25°C Unless otherwise noted]

Item		Symbol	Condition	min.	typ.	max.	Units
Emitter	Forward Voltage	V_F	$I_F=20$ mA	—	1.2	1.5	V
	Reverse Current	I_R	$V_R=5$ V	—	—	10	μ A
	Dark Current	I_{CEO}	$V_{CE}=10$ V, $E_v=0$ lux	—	1	200	n A
Detector	Light Current	I_C	$V_{CE}=5$ V, $I_F=20$ mA	100	—	—	μ A
Coupled	Leak Current*3	I_{LEAK}	$V_{CE}=5$ V, $I_F=20$ mA	—	—	10	μ A
	Response Time	Rise*4	$V_{CC}=5$ V, $I_C=200 \mu$ A, $R_L=1$ k Ω , d=3mm	—	30	—	μ sec
		Fall		—	35	—	μ sec

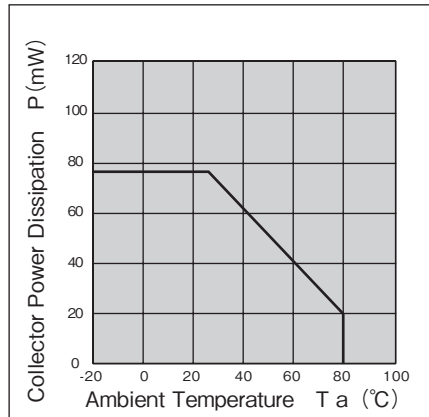
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Note: Operation never exceeds each value of Absolute Maximum Ratings.

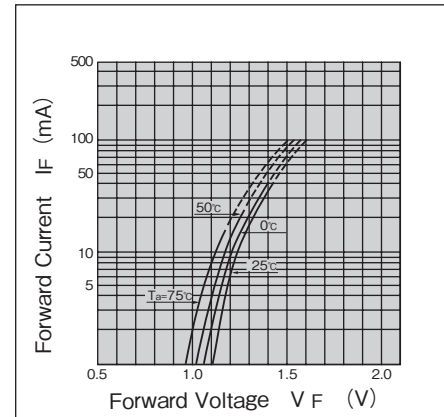
Forward Current vs.
Ambient Temperature



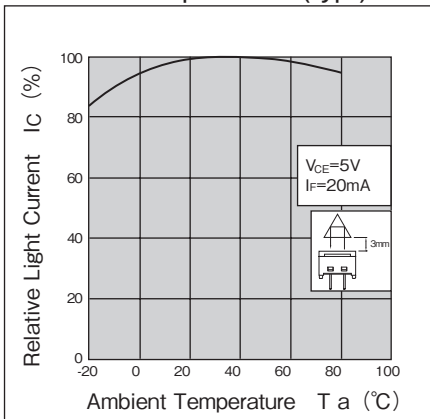
Collector Power Dissipation vs.
Ambient Temperature



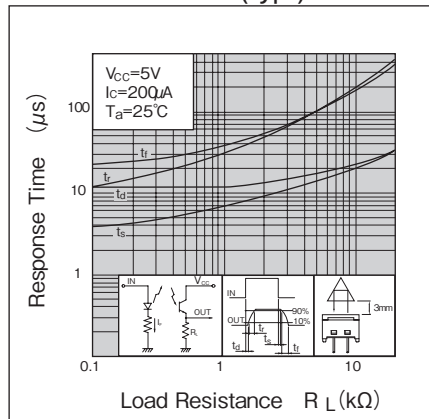
Forward Current vs.
Forward Voltage (typ.)



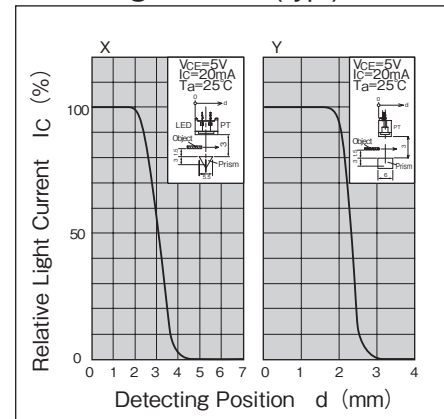
Relative Light Current vs.
Ambient Temperature (typ.)



Response Time vs.
Load Resistance (typ.)



Relative Light Current vs.
Detecting Position (typ.)



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

04.09-1A



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