

KI1220

Wide Gap Type

Description

Model **KI1220** consists of an Infra Red and a High sensitive Photo transistor.

Feature

- Wide gap-13mm, Deep ditch-12.2mm.
- 13mm or 15mm of gap type are available.
- Visible Light cut filter.
- The other model of wide gap as;
13mm gap at photo IC ... **KI1215, KI1216**
15mm gap at photo IC ... **KI1248, KI1249**

Application

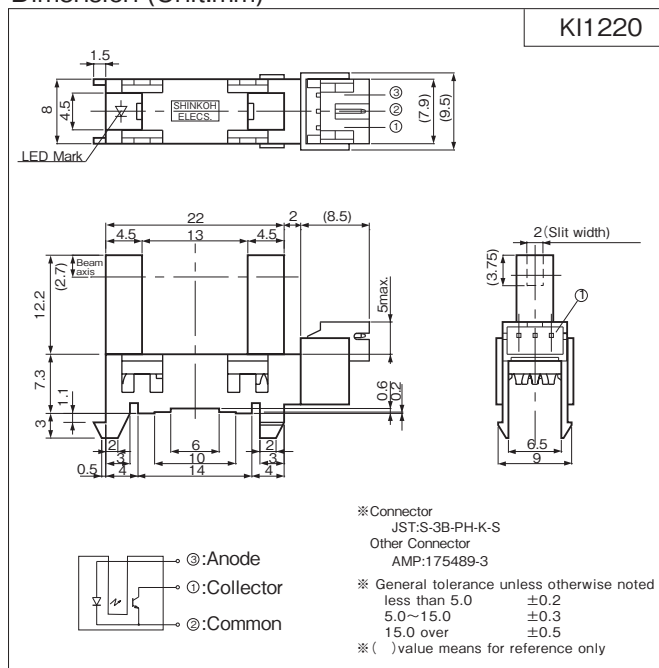
- Object passing for Card reader, Bill exchanger.
- Coin-passing for Auto vending machine and Amusement.
- Paper detection for O.A. equipment.

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}	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 ~ +80	°C

Dimension (Unit:mm)



* 1. Pulse width $t_w \leq 100 \mu \text{ sec}$ Duty ratio=0.01

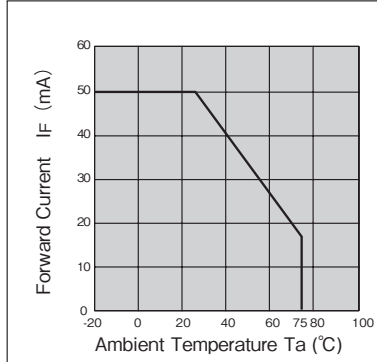
Electro-Optical Characteristics [Ta=25°C Unless otherwise noted]

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	$V_R=3\text{V}$	—	—	10	$\mu \text{ A}$
Detector	Dark Current	I_{CEO}	$V_{CE}=20\text{V}$, 0 lux	—	—	100	n A
Coupled	Light Current	I_C	$V_{CE}=5\text{V}$, $I_F=20\text{mA}$	0.3	—	—	m A
	Collector-Emitter Voltage	$V_{CE(sat)}$	$I_F=20\text{mA}$, $I_C=0.15\text{mA}$	—	—	0.4	V
	Response Time	Rise	$V_{CC}=5\text{V}$, $I_C=0.5\text{mA}$, $R_L=1\text{k} \Omega$	—	15	—	$\mu \text{ sec}$
		Fall		—	17	—	

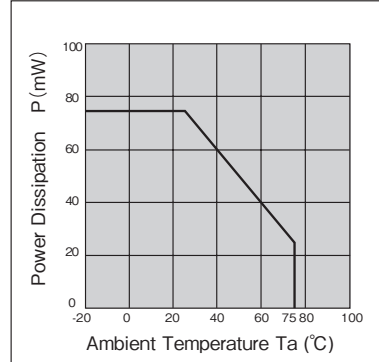
KI1220

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

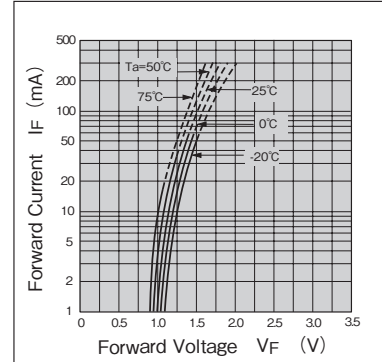
Forward Current vs. Ambient Temperature



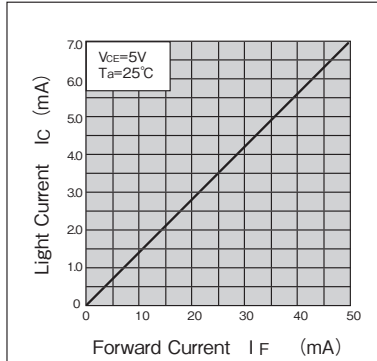
Collector Power Dissipation vs. Ambient Temperature



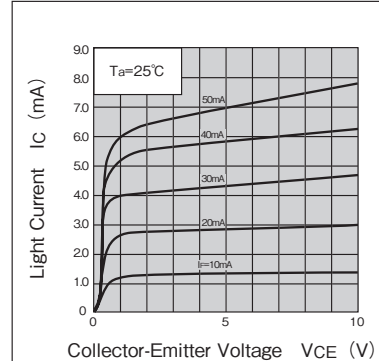
Forward Current vs. Forward Voltage (typ.)



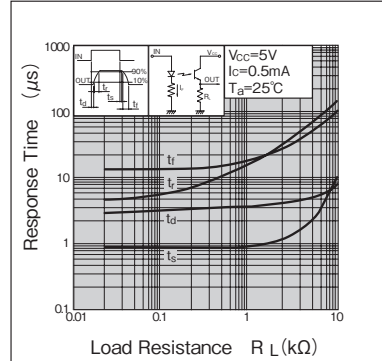
Light Current vs. Forward Current (typ.)



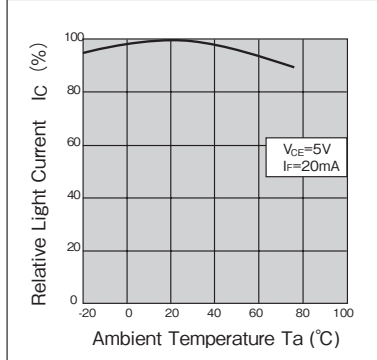
Light Current vs. Collector-Emitter Voltage (typ.)



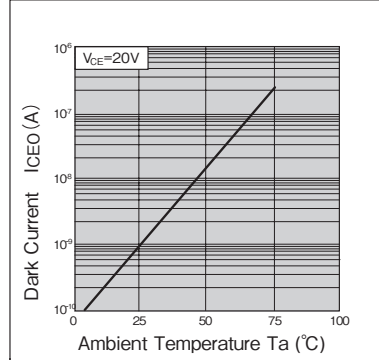
Response Time vs. Load Resistance (typ.)



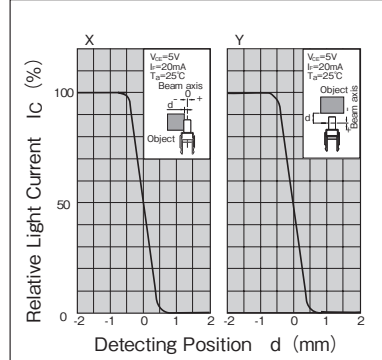
Relative Light Current vs. Ambient Temperature (typ.)



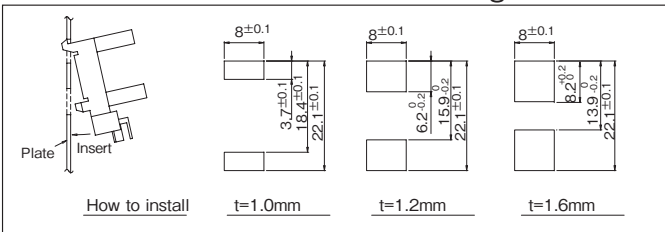
Dark Current vs. Ambient Temperature (typ.)



Detecting Position vs. Relative Light Current (typ.)



Recommended installation to mounting holes



- We recommend to mount the sensor from pressed surface of plate.
- The actual tolerance should be confirmed after setting of sensor

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

04.09-1A

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