

KI601,611,621

Slit less Type

Description

Model **KI601/611/621** consist of an Infra Red LED and a High sensitive Photo transistor.

Feature

- Easy removing in paper-dust.
- Deep ditch: slit width 0.5mm.
- Visible Light cut filter.

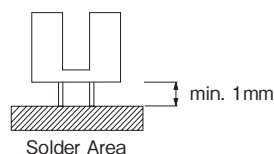
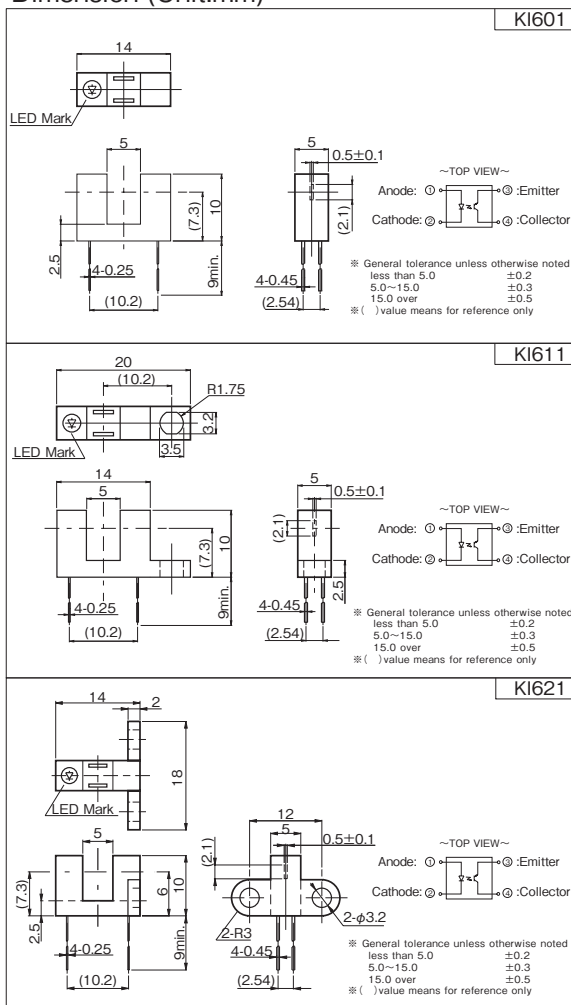
Application

- Object passing for Card reader, Bill exchanger.
- Coin-passing for Auto vending machine and Amusement.
- Object passing in Auto vender and Ticket vending machine.
- Paper detection for O.A. equipment.
- Object passing for Card reader, Auto vending machine, Amusement machine.
- 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_{CE0}	30	V
	Emitter-Collector Voltage	V_{EC0}	5	V
	Collector Current	I_c	20	mA
	Collector Power Dissipation	P_c	75	mW
Operating Temperature		T_{opr}	-20 ~ +85	°C
Storage Temperature		T_{stg}	-30 ~ +85	°C
Soldering Temperature*2		T_{sol}	260	°C

Dimension (Unit:mm)



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

*2. Soldering condition 5sec. at 1mm over from body.

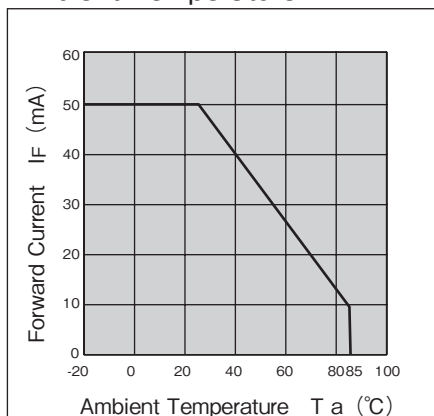
Electro-Optical Characteristics [Ta=25°C Unless otherwise noted]

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_{CE0}	$V_{CE}=10\text{V}, 0 \text{ lux}$	—	—	0.2	$\mu \text{ A}$
	Light Current	I_c	$V_{CE}=5\text{V}, I_F=20\text{mA}$	0.3	—	—	mA
	Collector-Emitter Voltage	$V_{CE(sat)}$	$I_F=20\text{mA}, I_c=0.15\text{mA}$	—	—	0.4	V
Coupled	Response Time	Rise	$V_{CC}=5\text{V}, I_c=100 \mu \text{ A}, R_L=1\text{k} \Omega$	—	50	—	$\mu \text{ sec}$
		Fall		—	50	—	

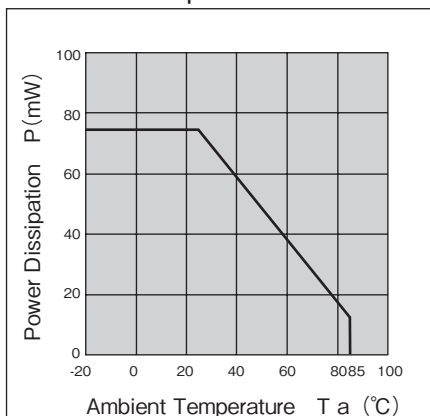
KI601/611/621

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

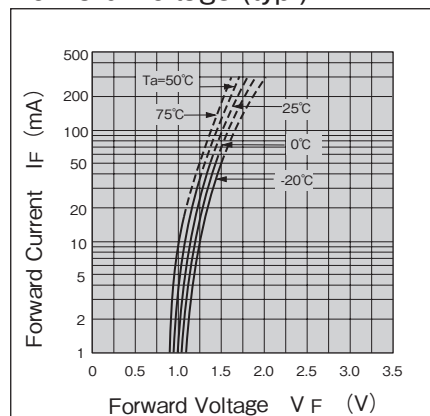
Forward Current vs.
Ambient Temperature



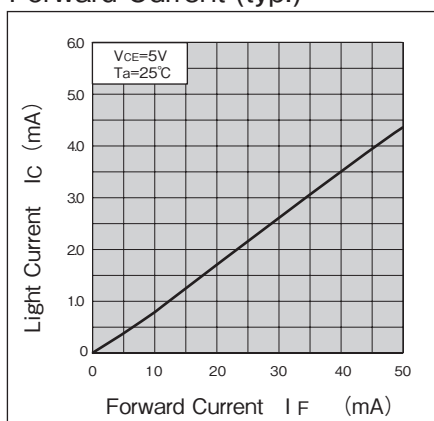
Collector Power Dissipation vs.
Ambient Temperature



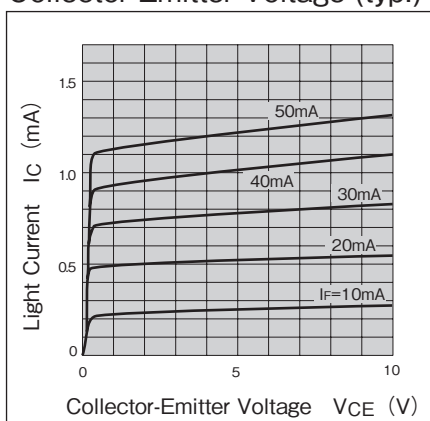
Forward Current vs.
Forward Voltage (typ.)



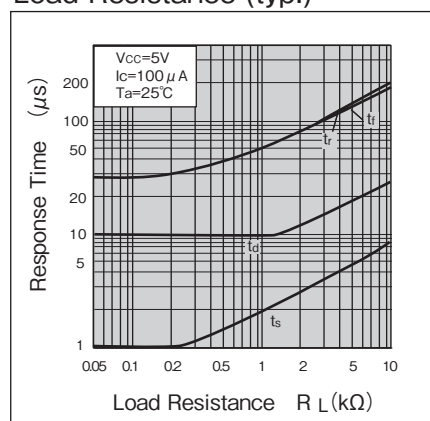
Light Current vs.
Forward Current (typ.)



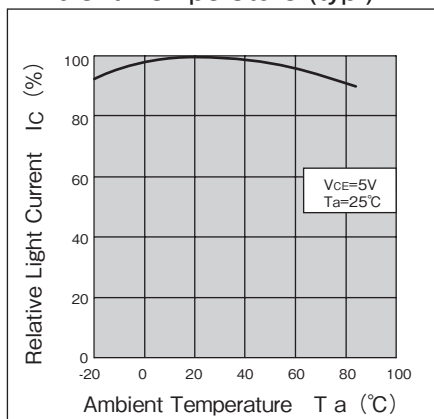
Light Current vs.
Collector-Emitter Voltage (typ.)



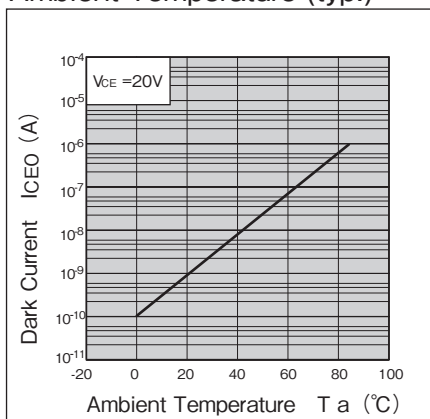
Response Time vs.
Load Resistance (typ.)



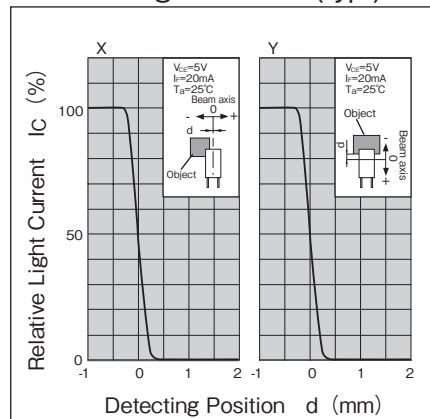
Relative Light Current vs.
Ambient Temperature (typ.)



Dark Current vs.
Ambient Temperature (typ.)



Detecting Position vs.
Relative Light Current (typ.)



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

04.09-1A

shinkoh electronics co., ltd.

Head Office: 3-16-9, Minami-Kamonomiya, Odawara, Kanagawa
 Zip code: 250-0875 Japan
 Tel: +81 -465-45-1212 / Fax: +81 -465-45-1213
 Tokyo Office: 5F, Ebuchi Bldg., 3-24-13, Minami-Ohi, Shinagawa,
 Tokyo
 Website: <http://www.shinkoh-elecs.com/>