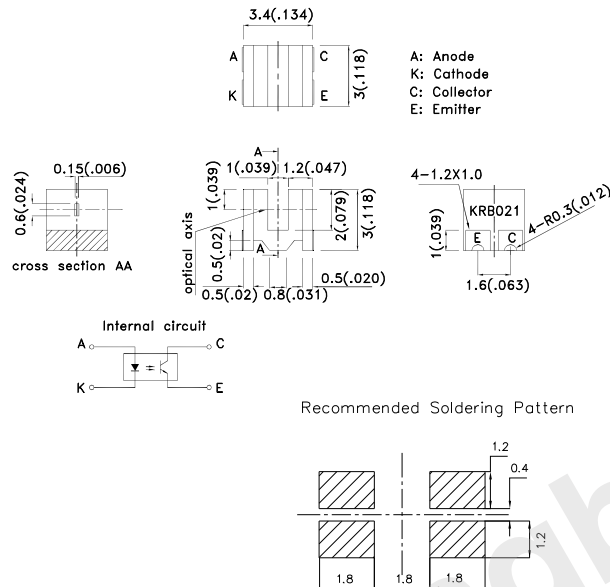


PCB TYPE PHOTOINTERRUPTER

*Dimensions

Note: All units are in millimeters unless otherwise indicated.



Unless otherwise specified, the tolerances are $\pm 0.15\text{mm}$.

*Features

- 1.Ultra-compact with a 3.4mm width photointerrupter and 1mm width slot.
- 2.PCB surface mounting type.
- 3.High resolution with a 0.15mm width aperture.
- 4.Moisture Sensitivity Level : Level 4.
- 5.RoHS compliant.

*Absolute Maximum Ratings ($T_A=25^\circ\text{C}$)

Parameter	Sym- bol	Rating	Unit
Forward current[1]	I_F	25	mA
Reverse voltage	V_R	5	V
Power dissipation	P_d	35	mW
Peak Forward Current (Pulse Width $\leq 100\mu\text{s}$, Duty Cycle=1%)	I_{FP}	1	A
Collector-emitter voltage	V_{CEO}	20	V
Emitter-collector voltage	V_{ECO}	5	V
Collector current	I_C	20	mA
Collector power dissipation	P_C	75	mW
Operating temperature	T_{opr}	$-40\sim+85$	$^\circ\text{C}$
Storage temperature	T_{stg}	$-40\sim+90$	$^\circ\text{C}$
Reflow soldering[2]	T_{sol}	260	$^\circ\text{C}$
Manual soldering[2]	T_{sol}	300	$^\circ\text{C}$

Notes:

- 1.Refer to the temperature rating chart if the ambient temperature exceeds 25°C .
- 2.Complete soldering within 10 seconds for reflow soldering and within 3 seconds for manual soldering.

Electrical / Optical Characteristics at $T_A=25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Condition
Forward voltage	V_F	-	1.1V	1.3V	$I_F=5\text{mA}$
Reverse current	I_R	-	-	$10\mu\text{A}$	$V_R=5\text{V}$
Peak emission wavelength	λ_p	-	940nm	-	-
Collector current	I_C	$50\mu\text{A}$	0.5mA	-	$I_F=5\text{mA}, V_{CE}=5\text{V}$
Collector dark current	I_D	-	-	100nA	$V_{CE}=10\text{V}$
Collector-Emitter saturation voltage	$V_{CE(sat)}$	-	0.1V	0.4V	$I_C=50\mu\text{A}$ $I_F=20\text{mA}$
Peak spectral sensitivity wavelength	λ_p	-	920nm	-	-
Rise time	t_r	-	8 μSec	-	$V_{CC}=5\text{V}$ $R_L=1\text{k}\Omega$ $I_C=100\mu\text{A}$
Fall time	t_f	-	10 μSec	-	



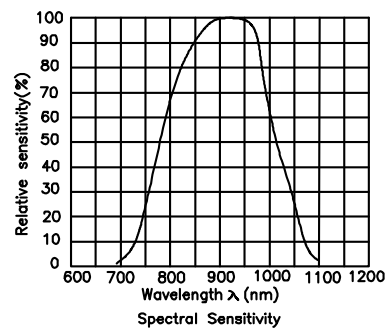


Fig.1 Forward Current vs. Forward Voltage

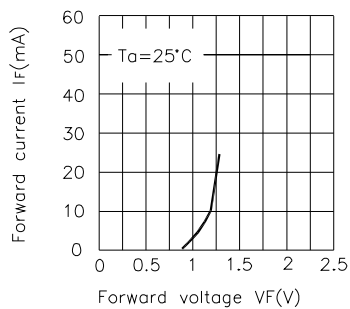


Fig.2 Collector Current vs. Forward Current

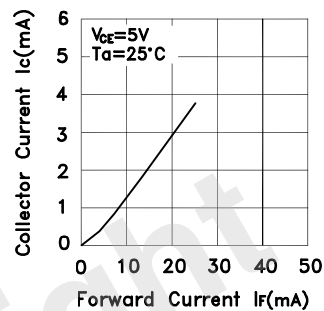


Fig.3 Collector Current vs. Ambient Temperature

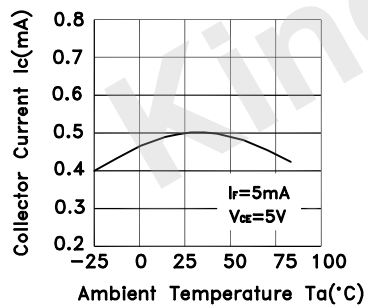


Fig.4 Collector-Emitter Saturation Voltage vs. Ambient Temperature

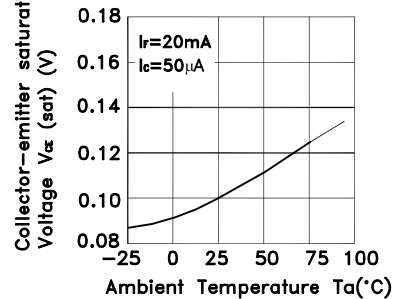


Fig.5 Forward Current vs. Collector Dissipation Temperature Rating

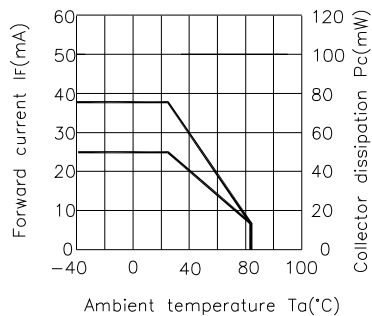


Fig.6 Collector Current vs. Collector-Emitter Voltage

Fig.7 Relative Collector Current vs. Shield Distance(1)

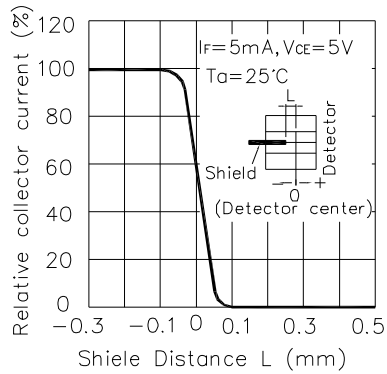


Fig.8 Relative Collector Current vs. Shield Distance(2)

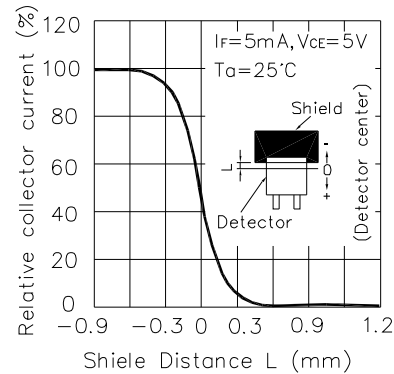
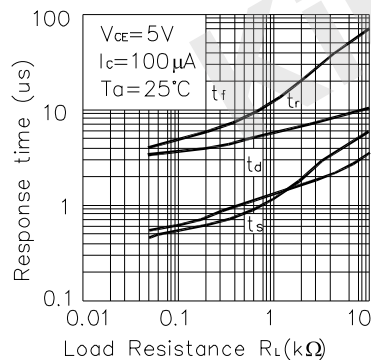
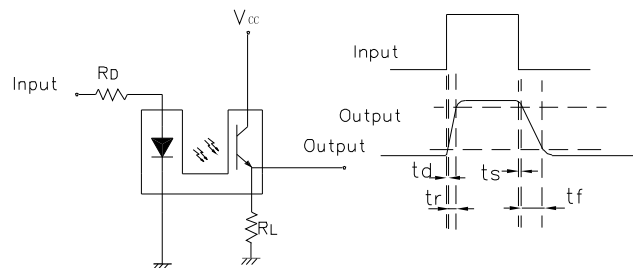


Fig.9 Response Time vs. Load Resistance



Test Circuit for Response Time



[illegible]

Technical drawing of a tape with dimensions and an internal circuit diagram.

Dimensions:

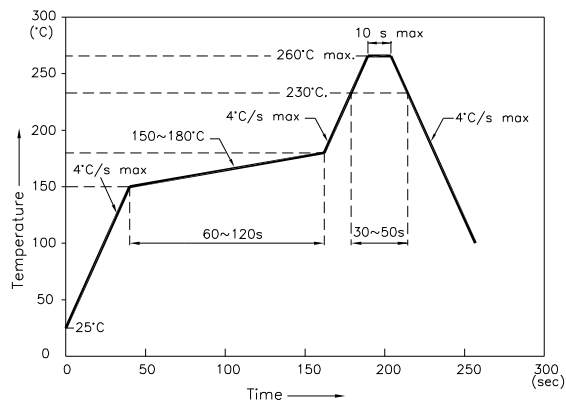
- Total width: 16.0 ± 0.3
- Top section width: 1.75 ± 0.1
- Bottom section width: 7.5 ± 0.1
- Top section hole spacing: 2.0 ± 0.1
- Top section hole diameter: 4.0 ± 0.1
- Bottom section hole spacing: 8.0 ± 0.1
- Bottom section hole diameter: $\phi 1.55 \pm 0.05$
- Right side hole diameter: 0.35 ± 0.1
- Right side hole spacing: 3.2 ± 0.1

Internal circuit diagram:

The internal circuit diagram shows a tape with an internal circuit. The circuit includes a power supply (E) connected to a diode (D) and a resistor (R). The output is connected to a terminal (A). The circuit is labeled "Internal circuit" and "E" and "A".

Tape quantity 3000pcs/reel

Reflow Soldering Profile For Lead-free SMT Process.

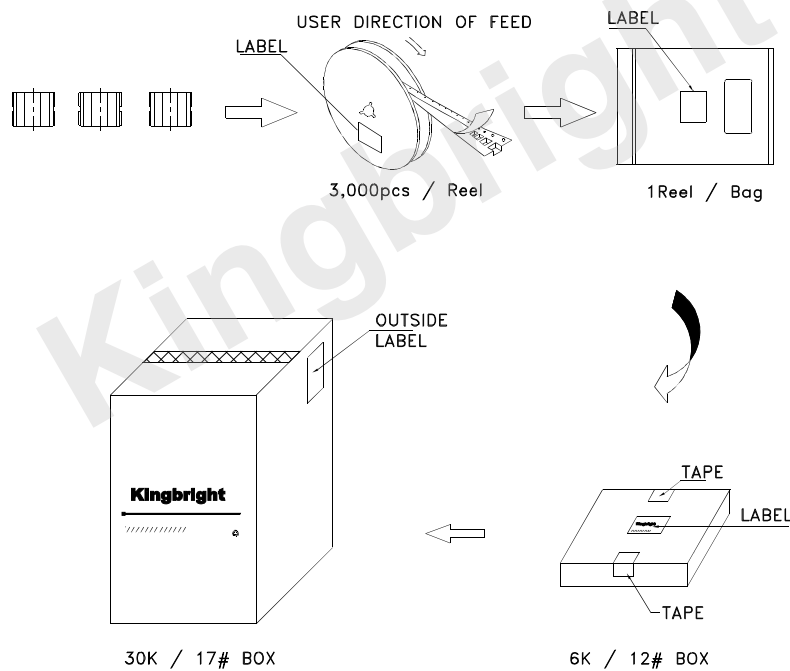


NOTES:

1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

PACKING & LABEL SPECIFICATIONS

KRB021



Kingbright	
P/NO: KRB021	
QTY: 3000 pcs	Q.C. XX-XX-XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
RoHS Compliant	