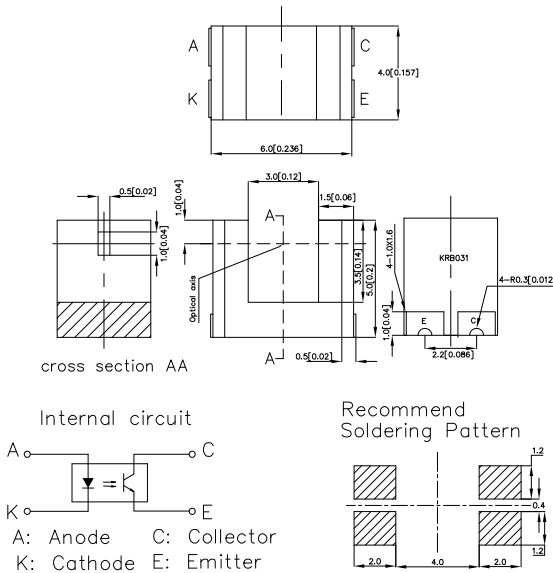


PCB TYPE PHOTOINTERRUPTER

*Dimensions

Note:All units are in millimeters unless otherwise indicated.



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

*Features

- Ultra-compact with a 6.0mm width photointerrupter and 3mm width slot.
- PCB surface mounting type.
- High resolution with a 0.5mm width aperture.
- RoHS compliant.

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

Parameter		Symbol	Rating	Unit
Input	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
Output	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~+85	$^\circ\text{C}$
Storage temperature		T_{stg}	-40~+90	$^\circ\text{C}$
Soldering temperature[2]		T_{sol}	240	$^\circ\text{C}$
Manual soldering[2]		T_{sol}	300	$^\circ\text{C}$

Notes:

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

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

Parameter	Symbol	Value			Conditions	
		Min.	Typ.	Max.		
Input	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 Wavelength	λ_p	-	940nm	-	$I_F=20\text{mA}$
Output	Collector current	I_C	$50\mu\text{A}$	$150\mu\text{A}$	-	$I_F=5\text{mA}, V_{CE}=5\text{V}$
	Collector dark current	I_D	-	-	100nA	$V_{CE}=10\text{V}, 0\text{LX}$
	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	-	$8\mu\text{sec}$	-	$V_{CC}=5\text{V}, R_L=1\text{K}\Omega, I_C=100\mu\text{A}$	
Fall time	t_f	-	$10\mu\text{sec}$	-		

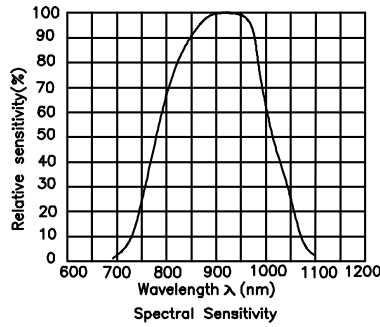


Fig.1 Forward Current vs. Forward Voltage

Fig.2 Collector Current vs. Forward Current

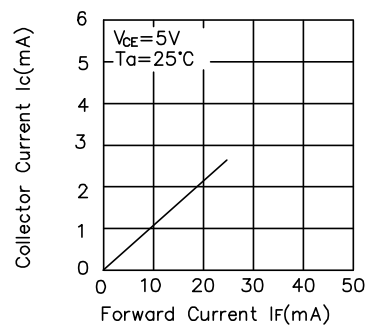
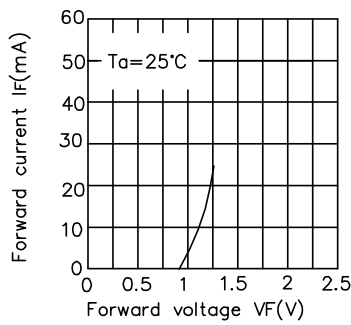


Fig.3 Collector Current vs. Ambient Temperature

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

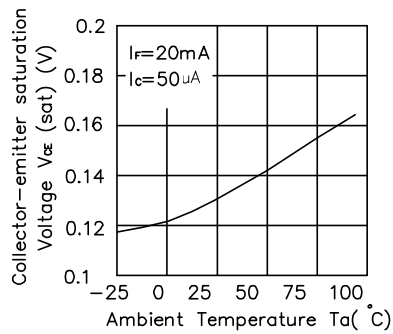
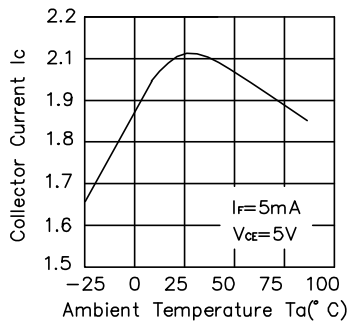


Fig.5 Forward Current vs. Collector Dissipation Temperature Rating

Fig.6 Forward Current vs. Collector-Emitter Voltage

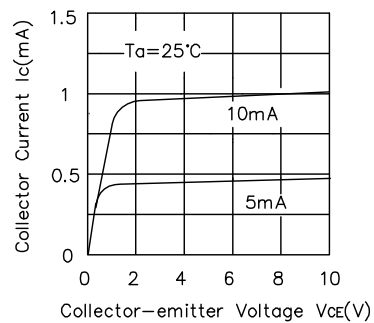
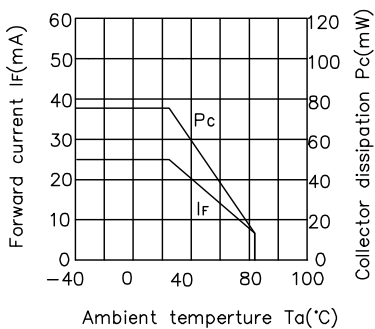


Fig.7 Relative Collector Current vs. Shield Distance(1)

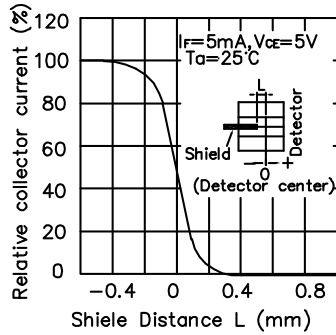


Fig.8 Relative Collector Current vs. Shield Distance(2)

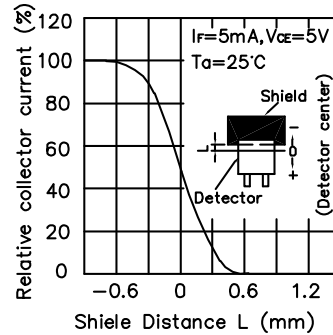
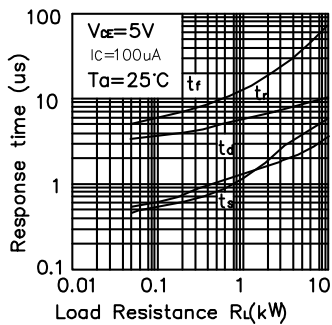
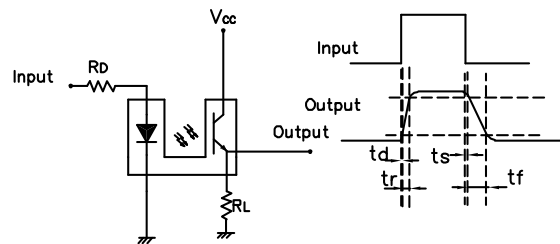


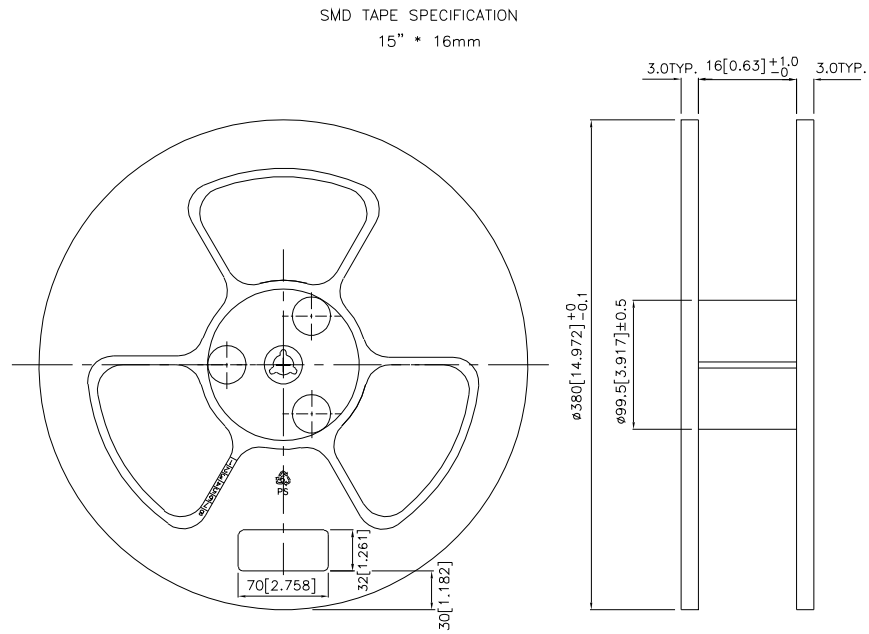
Fig.9 Response Time vs. Load Resistance



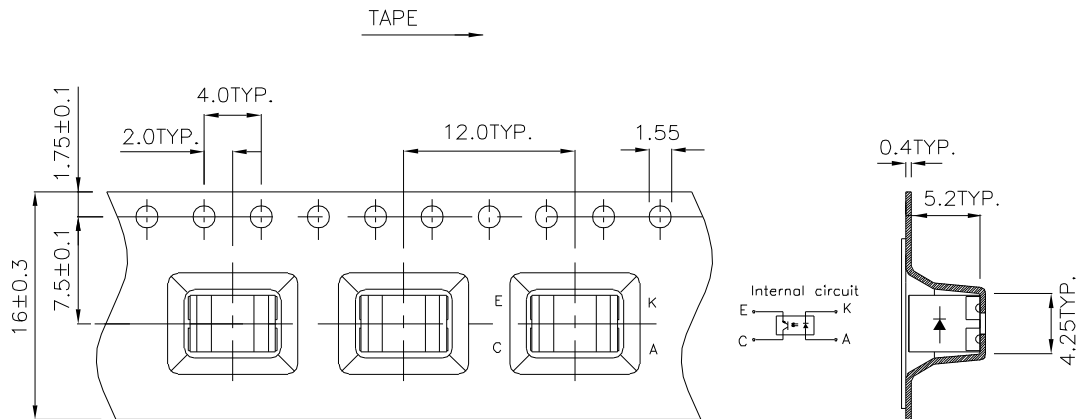
Test Circuit for Response Time



Reel Dimensions (Units: mm)

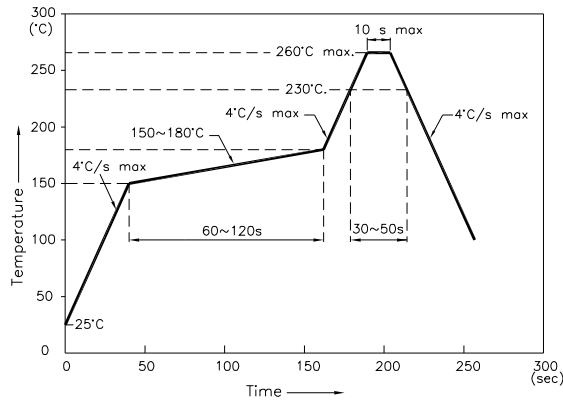


Tape Specifications (Units: mm)



Tape quantity 1000pcs/reel

Reflow Soldering Profile For Lead-free SMT Process.

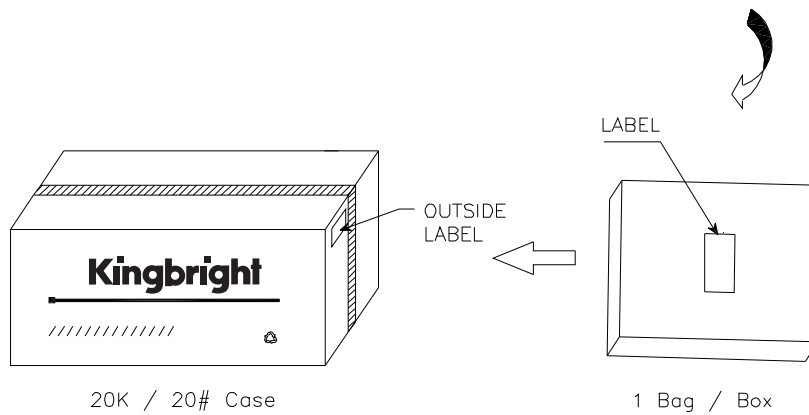
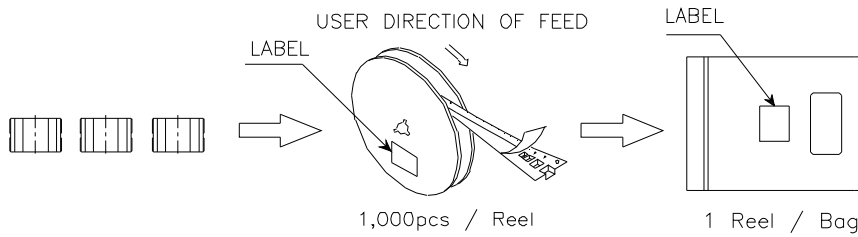


NOTES:

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

KRB031



Kingbright	
P/NO: KRB031	
QTY: 1,000 pcs	Q.C.
S/N: XXXX	Q.C. XX XX XXXX PASSED
CODE: XXX	Date
LOT NO:	
MADE IN CHINA	RoHS Compliant