

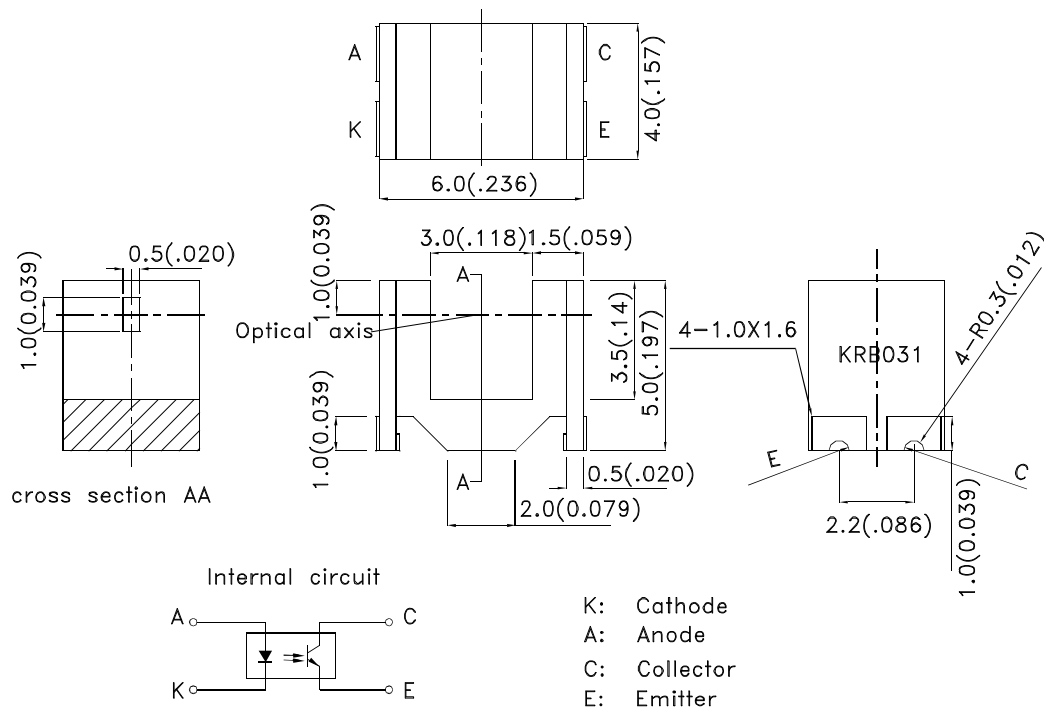
PCB TYPE PHOTOINTERRUPTER

*Features

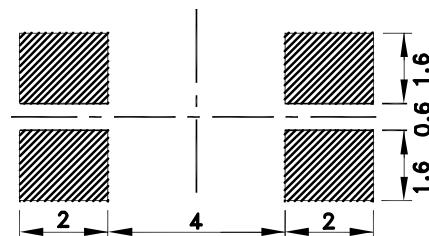
- Ultra-compact with a 6.0mm width photointerrupter and 3mm width slot.
- PCB surface mounting type.
- High resolution with a 0.5mm width aperture.
- Moisture sensitivity level : level 4.
- RoHS compliant.

*Dimensions

Note:All units are in millimeters unless otherwise indicated.



Recommend
Soldering Pattern



Unless otherwise, the tolerances are ± 0.15 mm.



*Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current[1]	IF	25	mA
	Reverse voltage	VR	5	V
	Power dissipation	PD	35	mW
	Peak Forward Current (Pulse Width ≤100uS, Duty Cycle=1%)	IFP	1	A
Output	Collector-emitter voltage	VCEO	20	V
	Emitter-collector voltage	VECO	5	V
	Collector current	IC	20	mA
	Collector power dissipation	PC	75	mW
Operating temperature		Topr	-40~+85	°C
Storage temperature		Tstg	-40~+90	°C
Soldering temperature[2]		Tsol	260	°C
Manual soldering[2]		Tsol	300	°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 seconds for manual soldering.

*Electrical / Optical Characteristics at TA=25°C

Parameter		Symbol	Value			Conditions
			Min.	Typ.	Max.	
Input	Forward voltage	VF	-	1.1V	1.3V	IF=5mA
	Reverse current	IR	-	-	10μA	VR=5V
	Peak Wavelength	λp	-	940nm	-	IF=20mA
Output	Collector current	IC	50μA	150μA	500μA	IF=5mA, VCE=5V
	Collector dark current	ID	-	-	100nA	VCE=10V, 0LX
	Collector-emitter saturation voltage	VCE(sat)	-	0.1V	0.4V	IC=50μA, IF=20mA
	Peak spectral sensitivity wavelength	λp	-	920nm	-	-
Rise time		tr	-	8μsec	-	VCC=5V, RL=1KΩ IC=100μA
Fall time		tf	-	10μsec	-	

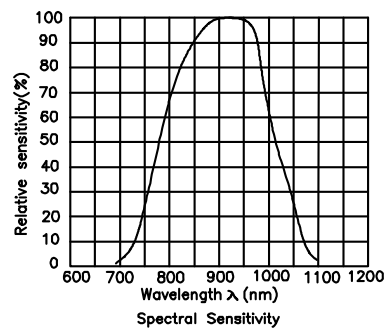


Fig.1 Forward Current vs. Forward Voltage

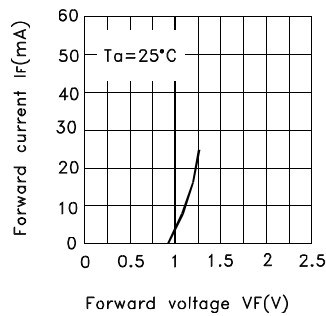


Fig.2 Collector Current vs. Forward Current

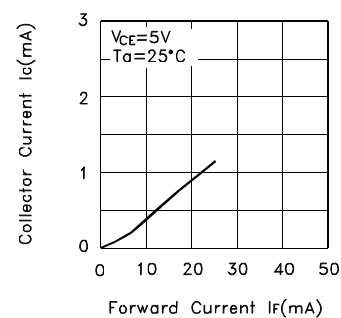


Fig.3 Collector Current vs. Ambient Temperature

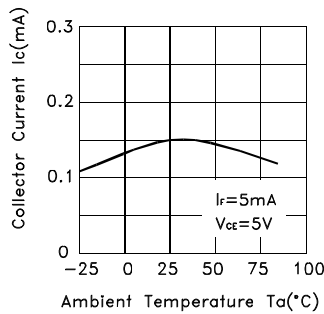


Fig.4 Collector-Emitter Saturation Voltage vs. Ambient Temperature

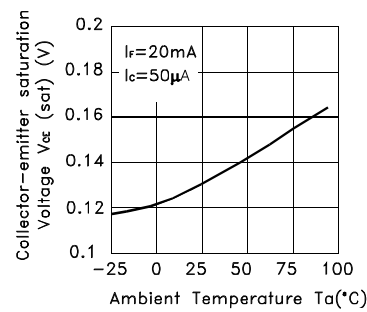


Fig.5 Forward Current vs. Collector Dissipation Temperature Rating

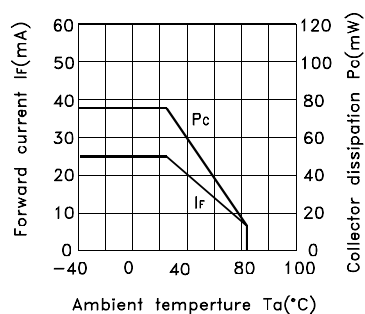


Fig.6 Forward Current vs. Collector-Emitter Voltage

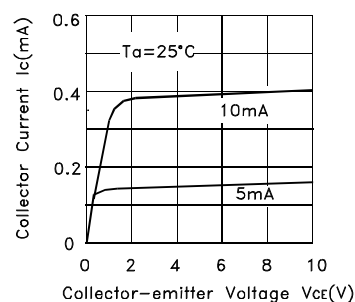


Fig.7 Relative Collector Current vs. Shield Distance(1)

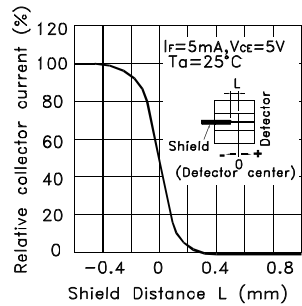


Fig.8 Relative Collector Current vs. Shield Distance(2)

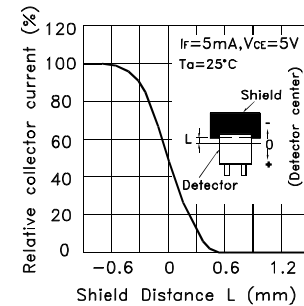
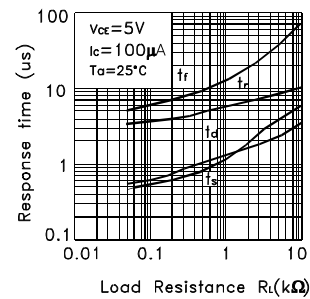
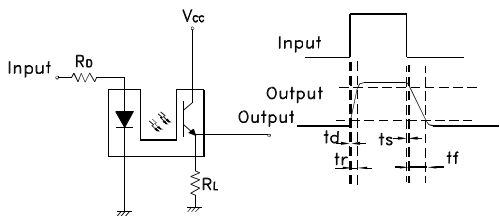


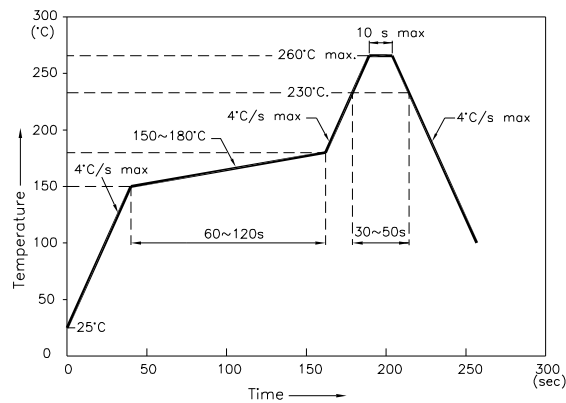
Fig.9 Response Time vs. Load Resistance



Test Circuit for Response Time



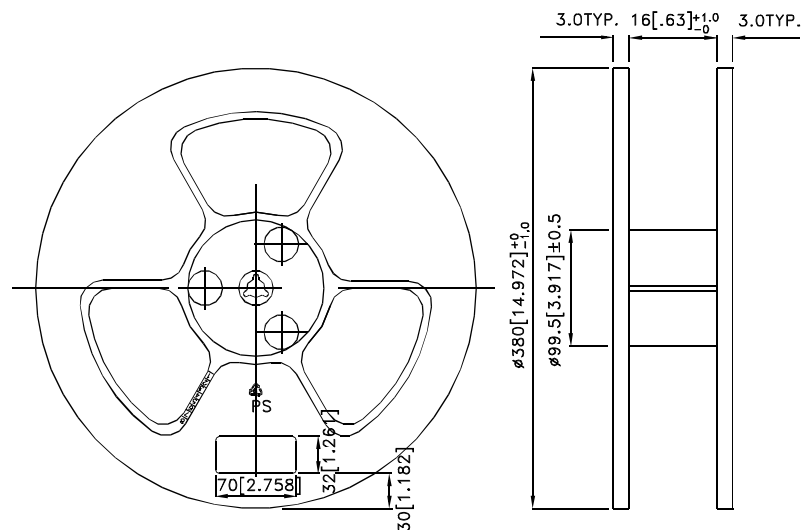
Reflow Soldering Profile For Lead-free SMT Process.



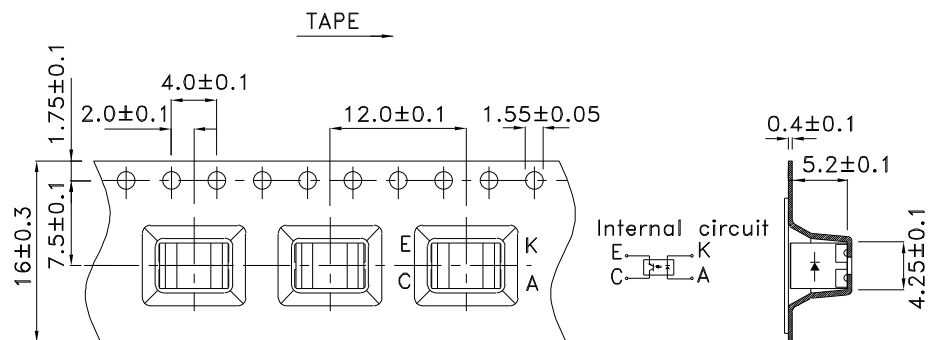
NOTES:

- 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.

Reel Dimensions (Units: mm)



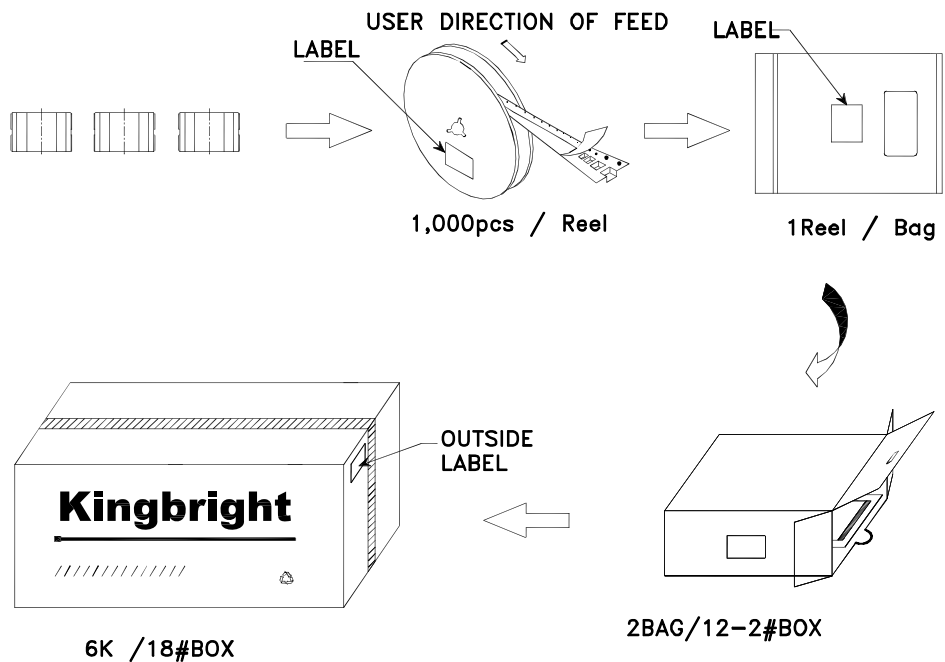
Tape Specifications (Units: mm)



Tape quantity 1000pcs/reel

PACKING & LABEL SPECIFICATIONS

KRB031



Kingbright	
P/NO: KRB031	
QTY: 1000 pcs	Q.C. <div>Q C XX XX XXXX PASSED</div>
S/N: XXXX	
CODE: XXX	
LOT NO:	
<div>XXXXXXXXXX</div>	
RoHS Compliant	