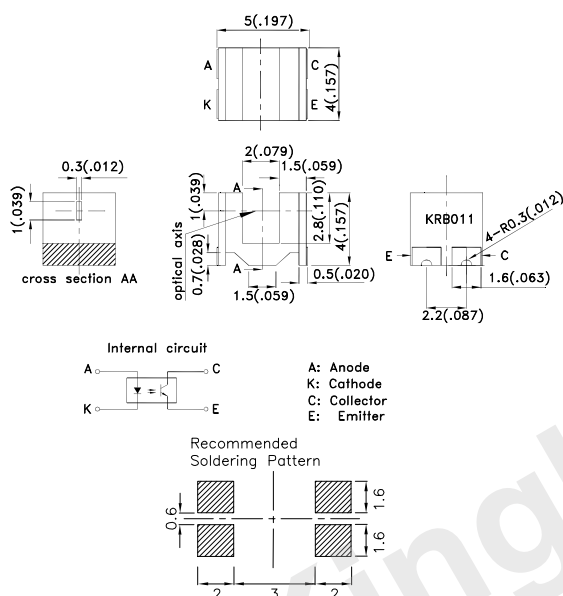


## \*Application

- 1.Floppy disk drives, Camera.
- 2.Various microcomputerized control equipment.

## \*Dimensions

Note:All units are in millimeters unless otherwise indicated.



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

## \*Features

- 1.Ultra-compact.
- 2.High sensing accuracy(Slit width:0.3mm).
- 3.Gap between light emitter and detector:2mm.
- 4.Moisture Sensitivity Level : Level 4.
- 5.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
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		$T_{opr}$	$-30\sim+85$	$^\circ\text{C}$
Storage temperature		$T_{stg}$	$-40\sim+90$	$^\circ\text{C}$
Soldering temperature[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  $25^\circ\text{C}$ .
- 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	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	$\lambda_p$	-	940nm	-	-
Output	Collector current	$I_C$	$50\mu\text{A}$	$650\mu\text{A}$	-	$I_F=5\text{mA}, V_{CE}=5\text{V}$
	Collector dark current	$I_D$	-	-	$100\text{nA}$	$V_{CE}=10\text{V}$
	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	$\lambda_p$	-	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(Typical)

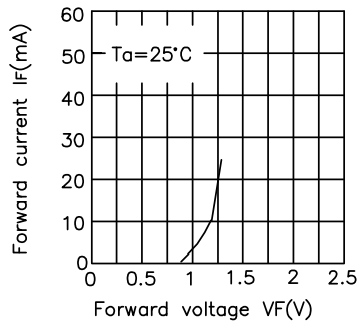


Fig.2 Collector Current vs. Forward Current

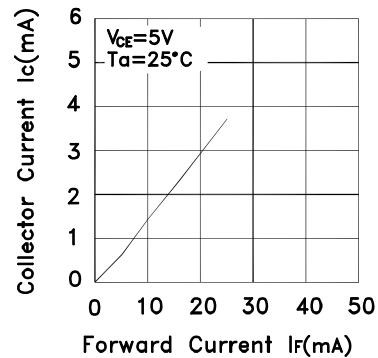


Fig.3 Collector Current vs. Ambient Temperature

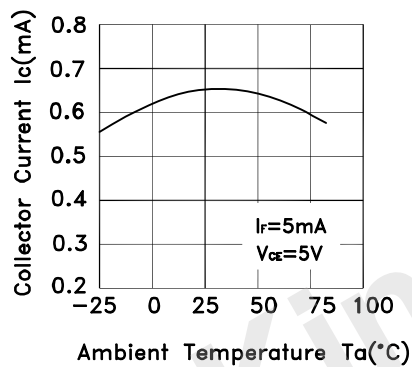


Fig.4 Collector-Emitter Saturation Voltage vs. Ambient Temperature

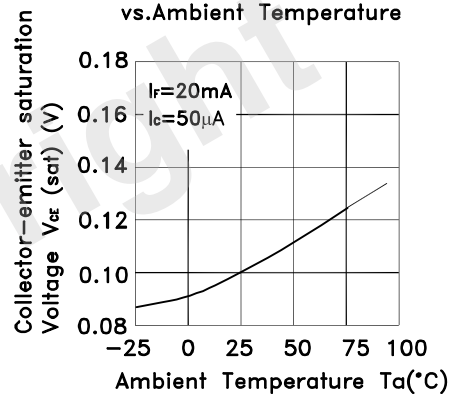


Fig.5 Forward Current vs. Collector Dissipation Temperature Rating (Typical)

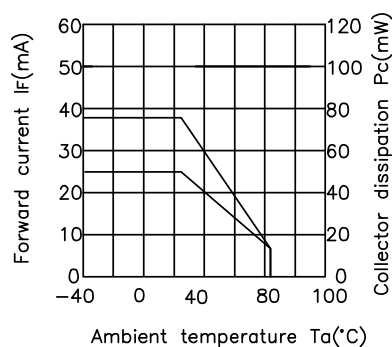


Fig.6 Collector Current vs. Collector-Emitter Voltage (Typical)

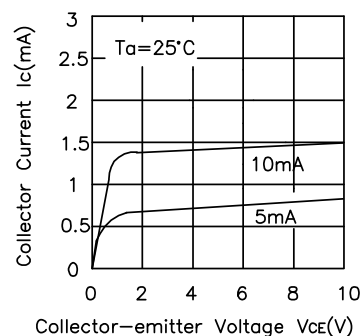


Fig.7 Relative Collector Current vs. Shield Distance(1) (Typical)

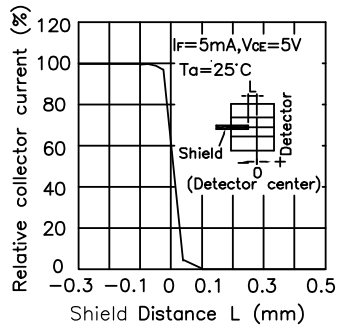


Fig.8 Relative Collector Current vs. Shield Distance(2) (Typical)

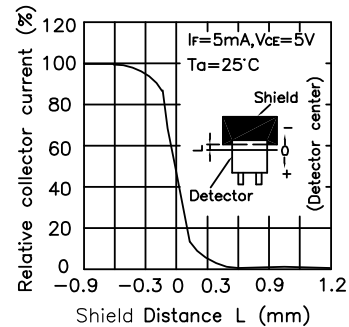
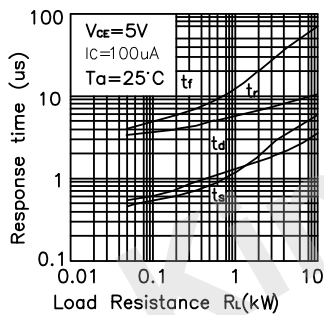
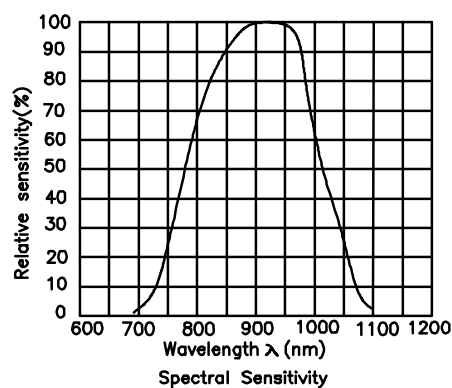
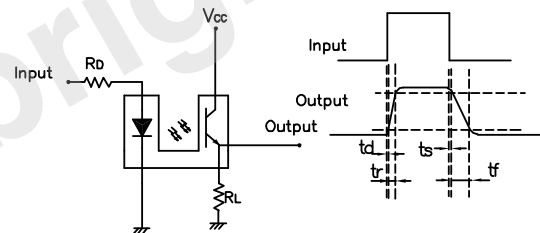


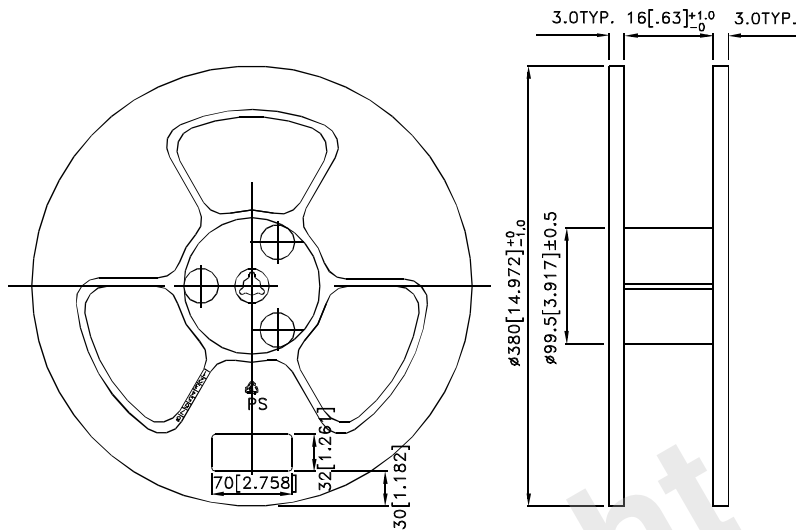
Fig.9 Response Time. vs Load Resistance(Typical)



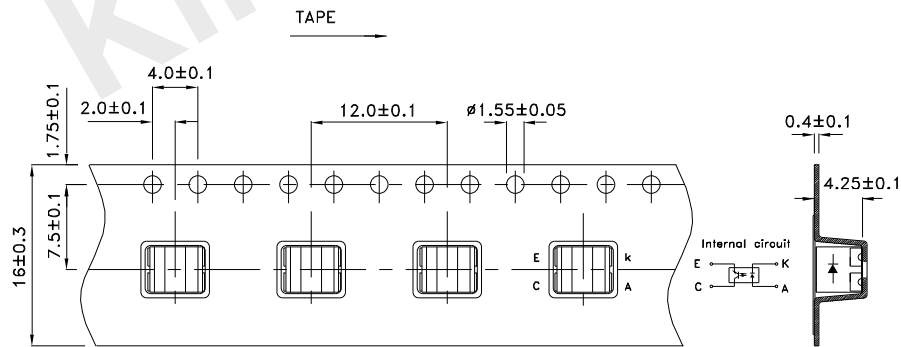
Test Circuit for Response Time



Reel Dimensions  
(Units : mm)

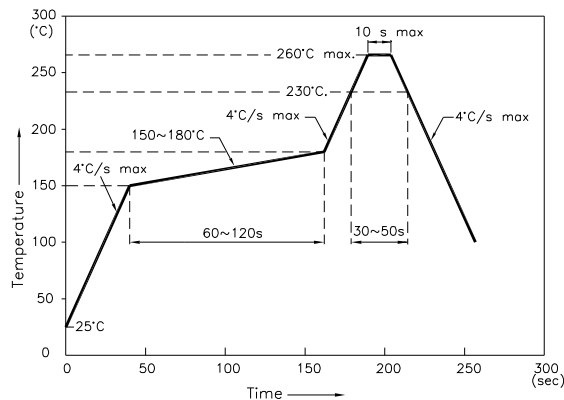


Tape Specifications  
(Units : mm)



Tape quantity 1500pcs/reel

Reflow Soldering Profile For Lead-free SMT Process.

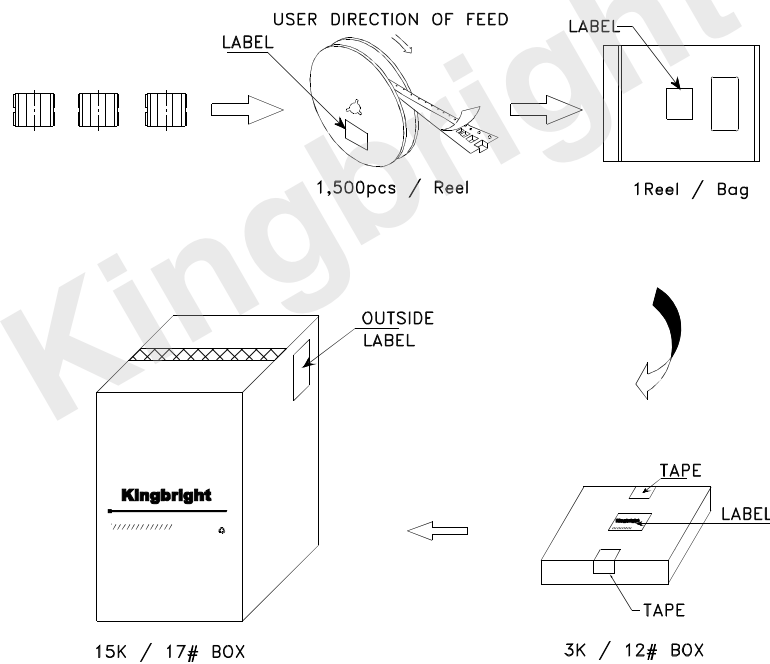


NOTES:

- 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

## KRB011



<b>Kingbright</b>	
P/NO: KRB011	
QTY: 1,500 pcs	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q C XX XX XXXX PASSED</span>
S/N: XXXX	
CODE: XXX	
LOT NO:	
RoHS Compliant	