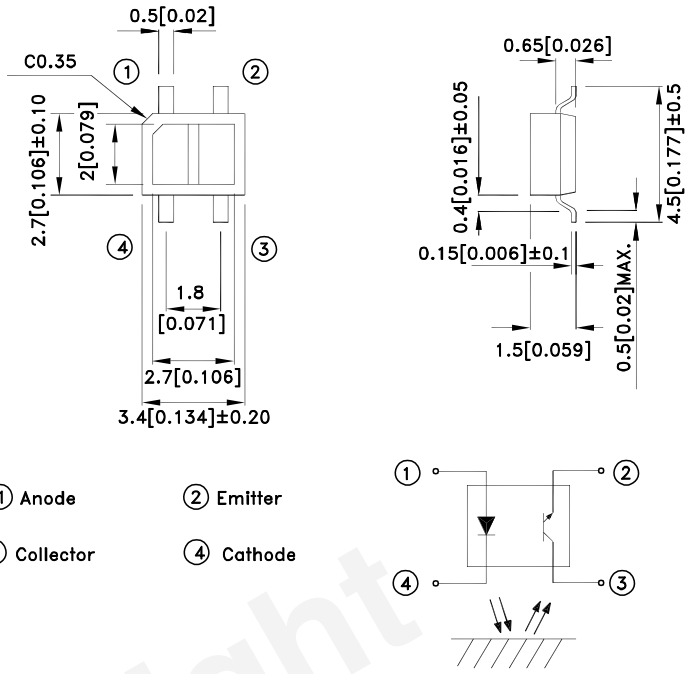
SUBMINIATURE, HIGH SENSITIVITY PHOTOINTERRUPTER



*Features

- Compact and thin.
- Visible light cut-off type.
- High sensitivity.
- Package:1000pcs/Reel.
- Moisture sensitivity level : level 4.
- RoHS Compliant.

*Applications

- Cassette tape recorders,VCRs.
- Floppy disk drives.
- Various microcomputerized control equipment.

Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. The specifications, characteristics and technical data described in the data-sheet are subject to change without prior notice.

*Absolute Maximum Ratings

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Reverse voltage	V_R	6	V
	Power dissipation	P_D	75	mW
	Peak Forward Current (Pulse Width ≤100uS, Duty Cycle =1%)	I_{FP}	1	A
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	20	mA
	Collector power dissipation	P_C	75	mW
Operating temperature		Topr	-25~+85	ºC
Storage temperature		Tstg	-40~+100	ºC

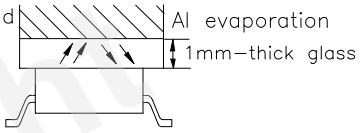
Note:
1. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

■Electro-optical Characteristics

Parameter			Symbol	Conditions	Min.	TYP.	Max.	Unit
Input	Forward Voltage		V_F	I_F=20mA	1.0	1.2	1.5	V
	Reverse Current		I_R	V_R=6V	-	-	10	μA
	Peak Wavelength		λP	I_F=20mA	-	940	-	nm
Output	Collector Dark Current		I_{CEO}	V_{CE}=20V	-	10^{-9}	10^{-7}	A
Transfer charact-eristics	*1 Collector Current		I_C	V_{CE}=2V I_F=4mA	10	-	400	μA
	*2 Leak Current		I_{LEAK}	V_{CE}=2V I_F=4mA	-	-	0.1	μA
	Response time	Rise time	tr	V_{CE}=2V I_C=100μA R_L=1KΩ,d=1mm	-	20	100	μsec
		Fall time	tf		-	20	100	μsec

*1 The condition and arrangement of the reflective object are shown below.
*2 Without reflective object.
*3 Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Test Condition and Arrangement for Collector Current



■ Classification table of radiant flux

BIN CODE	E	F	G
Ic (μA)	10~120	100~250	200~400

Fig. 1 Forward Current vs. Forward Voltage

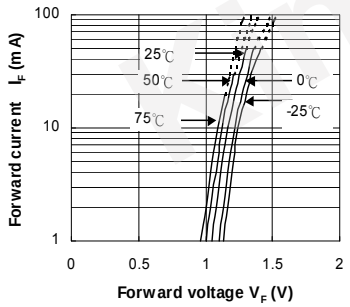


Fig. 2 Collector Current vs. Forward Current

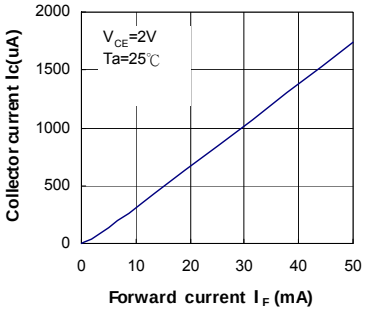


Fig. 3 Collector Current vs. Collector—emitter Voltage

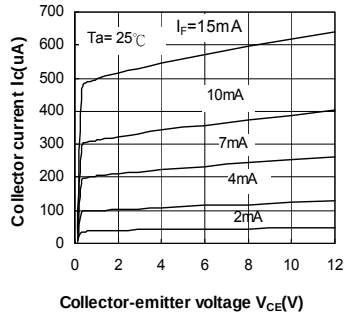


Fig. 4 Relative Collector Current vs. Ambient Temperature

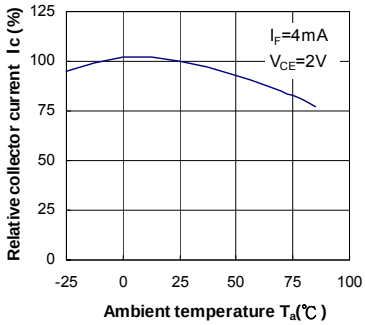
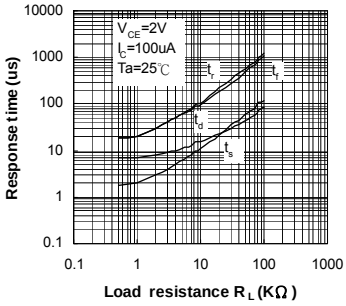


Fig. 5 Response Time vs. Load Resistance



Test Circuit for Response Time

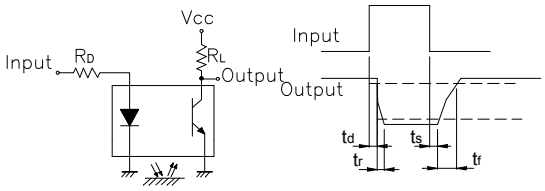


Fig. 6 Collector Dark Current vs. Ambient Temperature

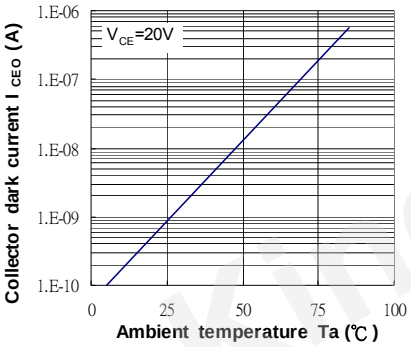


Fig. 7 Relative Collector Current vs. Distance between Sensor and Al Evaporation Glass

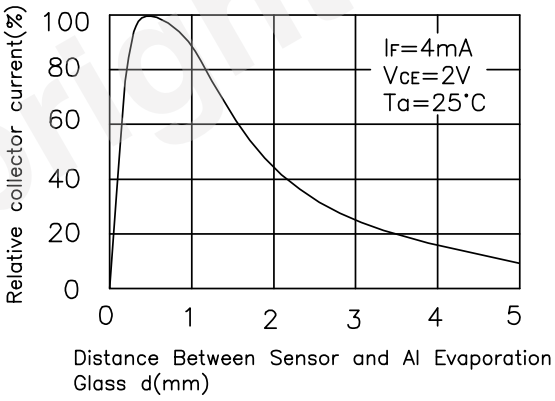


Fig. 8 Relative Collector Current vs. Card Moving Distance (1)

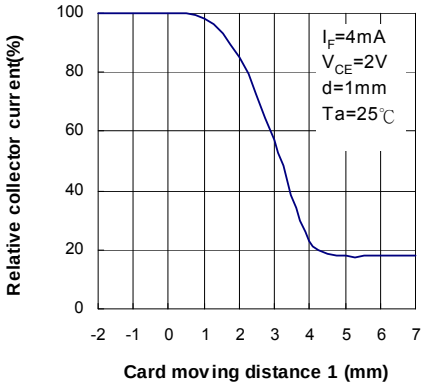
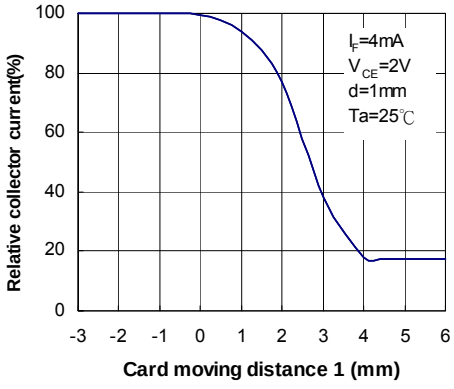


Fig. 9 Relative Collector Current vs. Card Moving Distance (2)



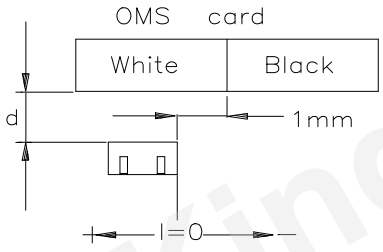
Test Condition for Distance &Detecting PositionCharacteristics

Correpond to Fig. 7

Correpond to Fig. 8

Test condition

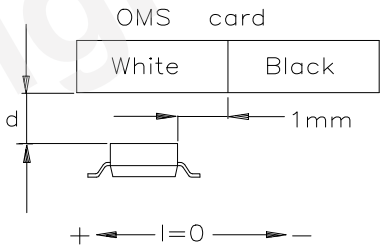
$I_F = 4mA$
$V_{CE} = 2V$
d=1mm

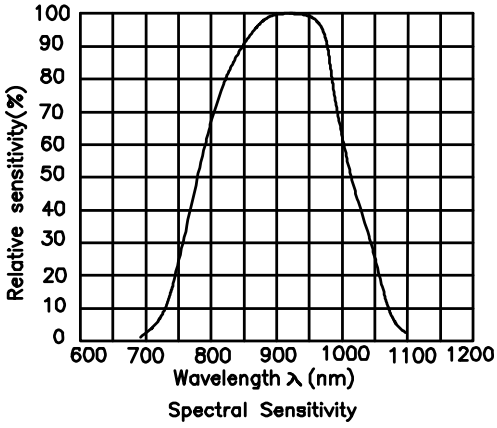


Correpond to Fig. 9

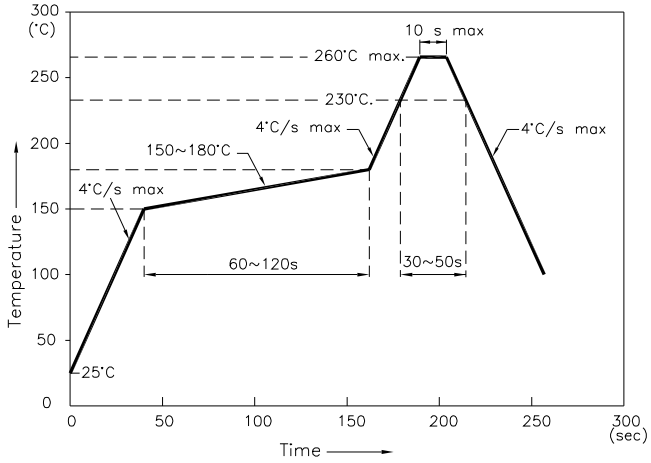
Test condition

$I_F = 4mA$
$V_{CE} = 2V$
d=1mm





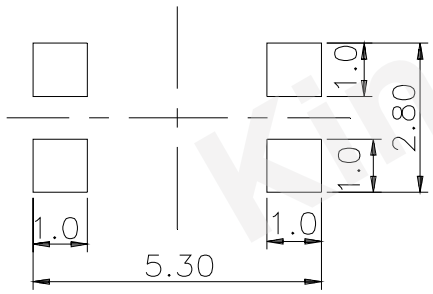
Reflow Soldering Profile For Lead-free SMT Process.



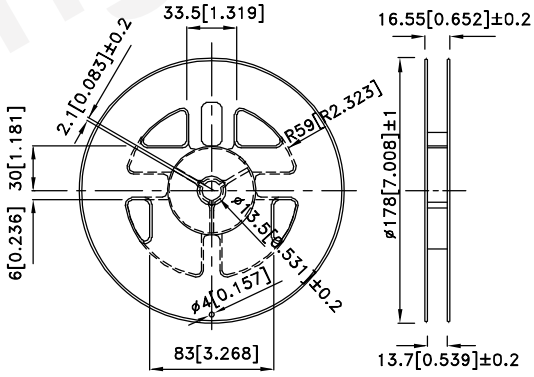
NOTES:

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.

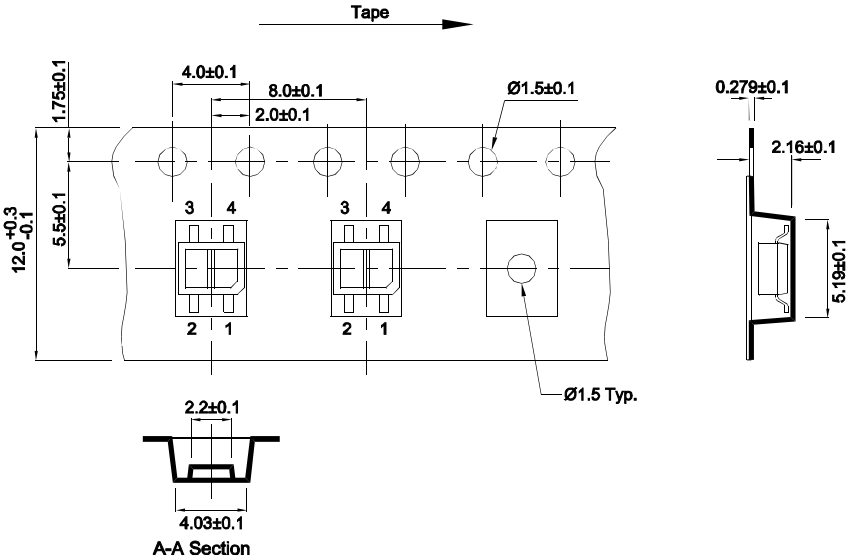
Recommended Soldering Pattern
(Units : mm; Tolerance: ±0.1)



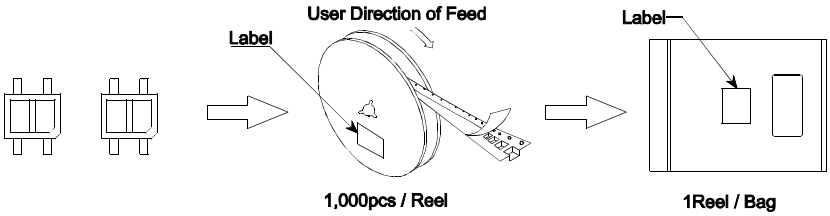
Reel Dimension

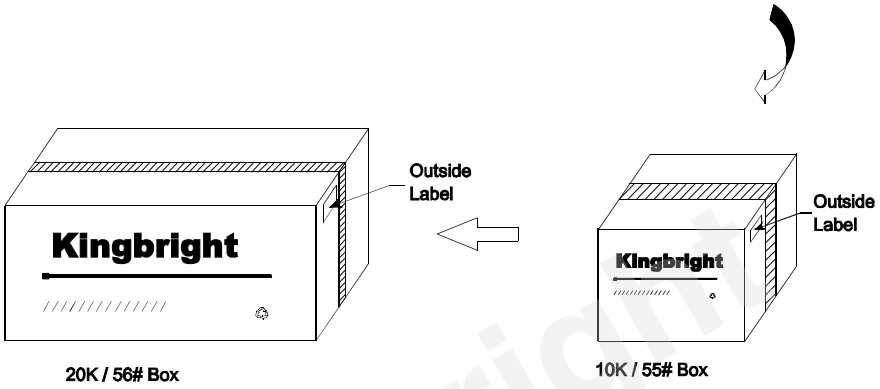


Tape Specifications
(Units : mm)



PACKING & LABEL SPECIFICATIONS KTIR0711S





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