SUBMINIATURE , HIGH SENSITIVITY PHOTOINTERRUPTER

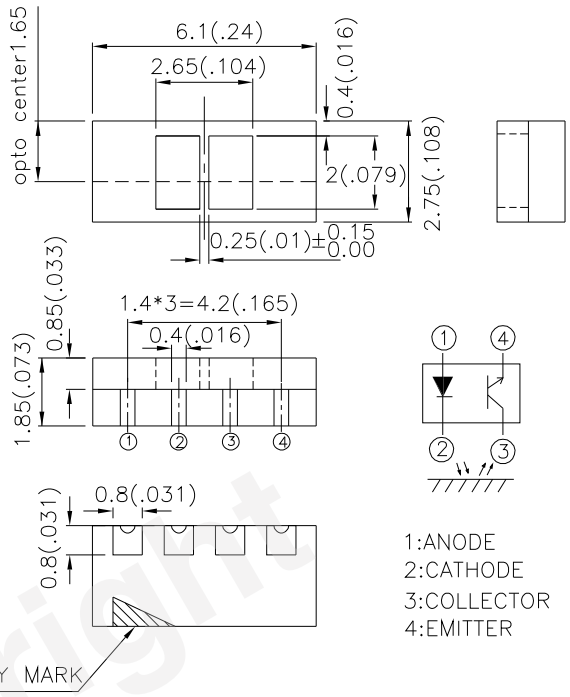
*Features

1.Compact and thin.
2.Visible light cut-off type.
3.High sensitivity.
4.Side irradiance.
5.Package: 3000pcs/Reel.
6.Moisture sensitivity level : level 4.
7.New PCB Production Process.
8.RoHS compliant.

*Applications

Cassette tape recorders,VCRs toys.

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

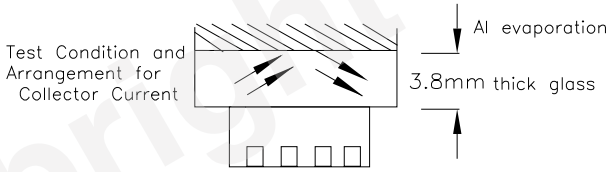
Parameter		Symbol	Rating	Unit
Input	Forward Current	I_F	30	mA
	Reverse Voltage	V_R	5	V
	Power Dissipation	P_d	37.5	mW
	Peak Forward Current (Pulse Width ≤100uS,Duty Cycle=1%)	I_{FP}	1	A
Output	Collector-emitter voltage	V_{CEO}	30	V
	Emitter-Collector voltage	V_{ECO}	5	V
	Collector current	I_C	20	mA
	Collector Power Dissipation	P_C	75	mW
Operating temperature		Topr	-25~+65	°C
Storage temperature		Tstg	-25~+65	°C
Soldering temperature (1/16 inch from body for 5 seconds)		Tsol	260	°C

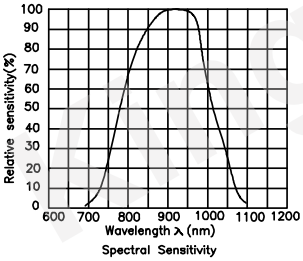
Note:
1. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

Electrical / Optical Characteristics at T_A=25°C

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=5V	_	_	10	μA
	Peak Wavelength		λp	I_F=20mA	-	940	-	nm
Output	Collector dark current		I_{CEO}	V_{CE} =20V	_	10^{-9}	10^{-7}	A
Viewing Angle			θ	-	-	90	-	°
Transfer Characteristics	Collector-emitter saturation voltage		$V_{CE(SAT)}$	I_C=0.1mA, I_F=20mA	_	0.1	0.4	V
	Collector current [1]		I_C	V_{CE}=5V, I_F=20mA	10	_	300	μA
	Leak current [2]		I_{LEAK}	V_{CE}=5V, I_F=20mA	_	_	5	μA
	Response time	Rise time	T_R	V_{CE}=2V, I_C=100uA R_L=1KΩ d=3.8mm	_	20	_	uS
		Fall time	T_F		_	20	_	uS

Notes:
1.The condition and arrangement of the reflective object are shown below.Fig.1,Fig.2,Fig.3,Fig.4,Fig.5 and Fig.9 in the same condition.
2.Without reflective object.





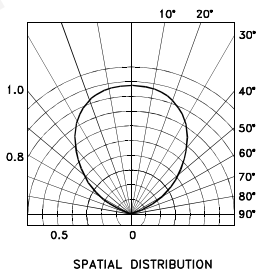


Fig.1 Forward Current Vs. Forward Voltage

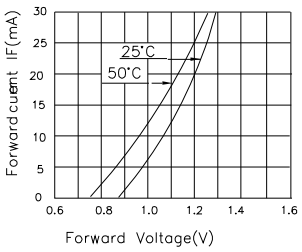


Fig.2 Collector Current Vs. Forward Current

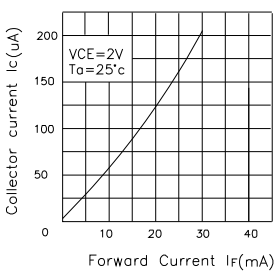
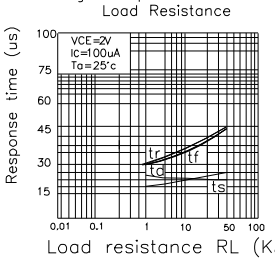
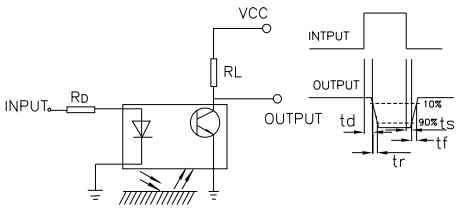


Fig.3 Response Time Vs. Load Resistance





The test circuit for response time

Fig.4 Relative Collector Current Vs. Ambient Temperature

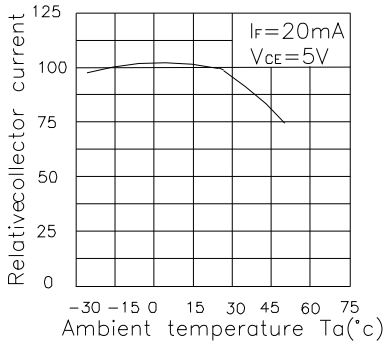


Fig.5 Collector Current Vs. Collector-Emitter Voltage

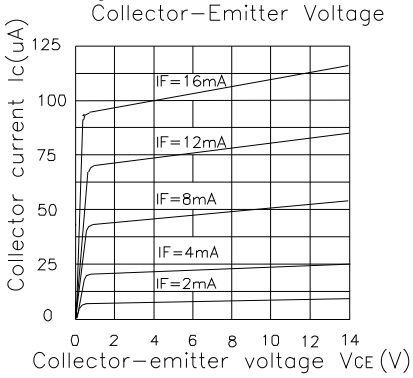


*Fig.6 Relative Collector Current Vs. Distance Between Sensor and Al Evaporation Glass

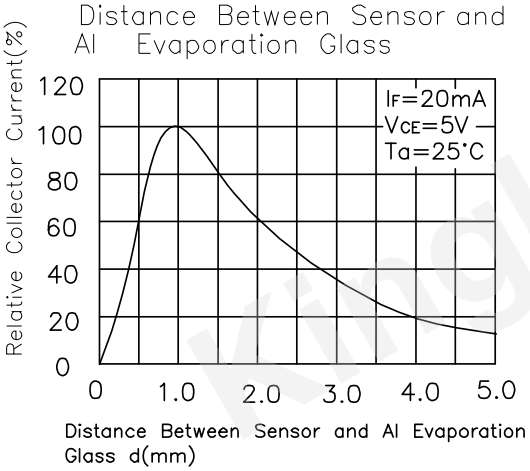


*Fig.7 Relative Collector Current Vs Card Moving Distance (1)

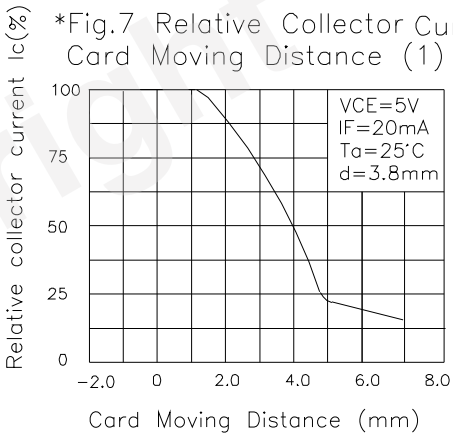


*Fig.8 Relative Collector Current Vs. Card Moving Distance (2)

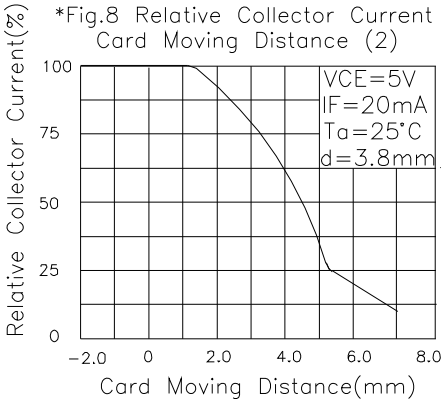
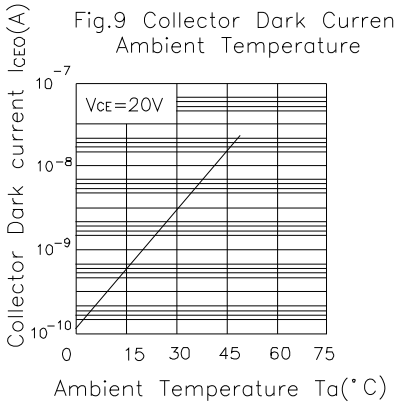
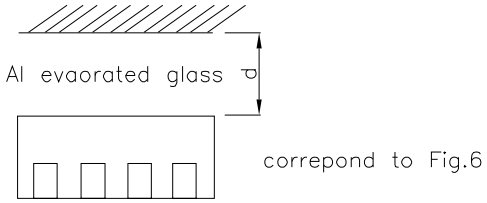
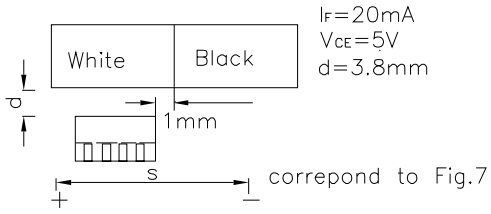


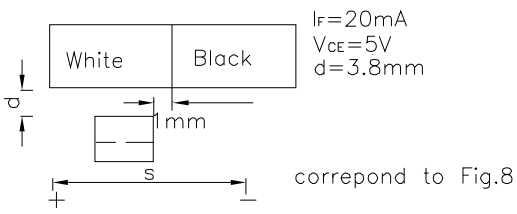
Fig.9 Collector Dark Current Vs. Ambient Temperature



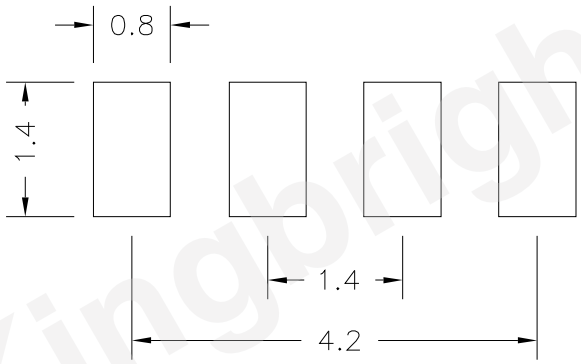
*Note:Test condition for distance



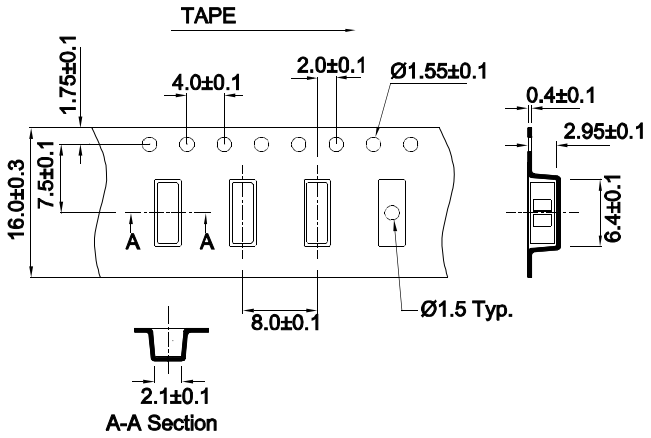




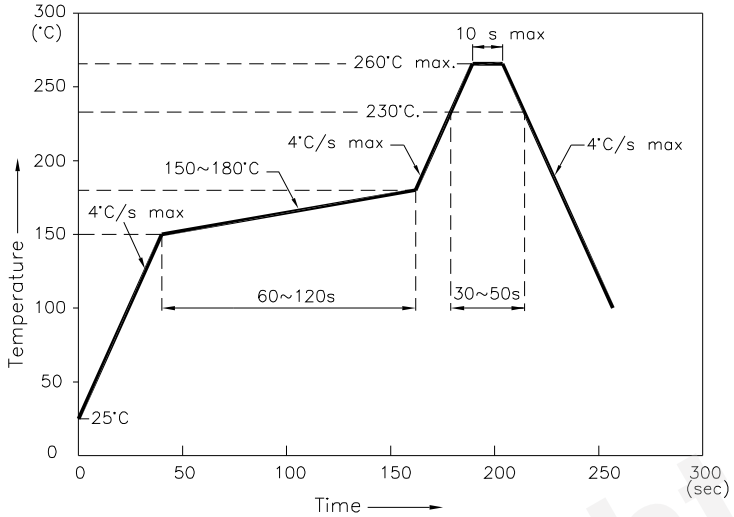
RECOMMENDED SOLDERING PATTERN



Tape Specifications
(Units : mm)



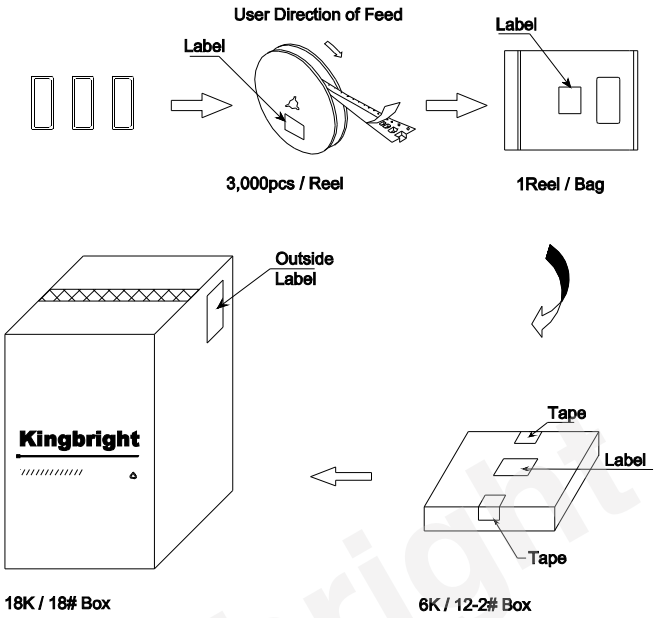
Reflow Soldering Profile For Lead-free SMT Process.

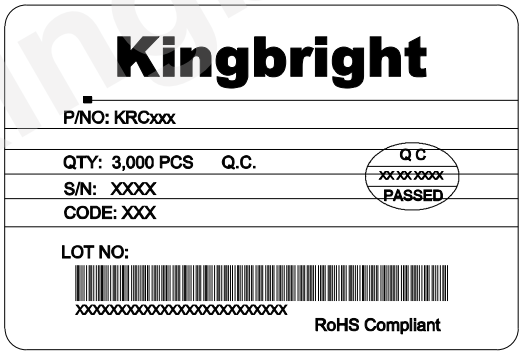


NOTES:

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 KRC011





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