SMD INFRARED LED

KEL-1217C

SIVAGO® SEMICONDUCTOR

Features

Small double-end package

Low forward voltage

Good spectral matching to Si photo detector

Package in 8mm tape on 7” diameter reel

Pb free

The product itself will remain within RoHS compliant version.

Compliance with EU REACH

Application

PCB mounted infrared sensor

Infrared emitting for miniature light barrier

Floppy disk drive

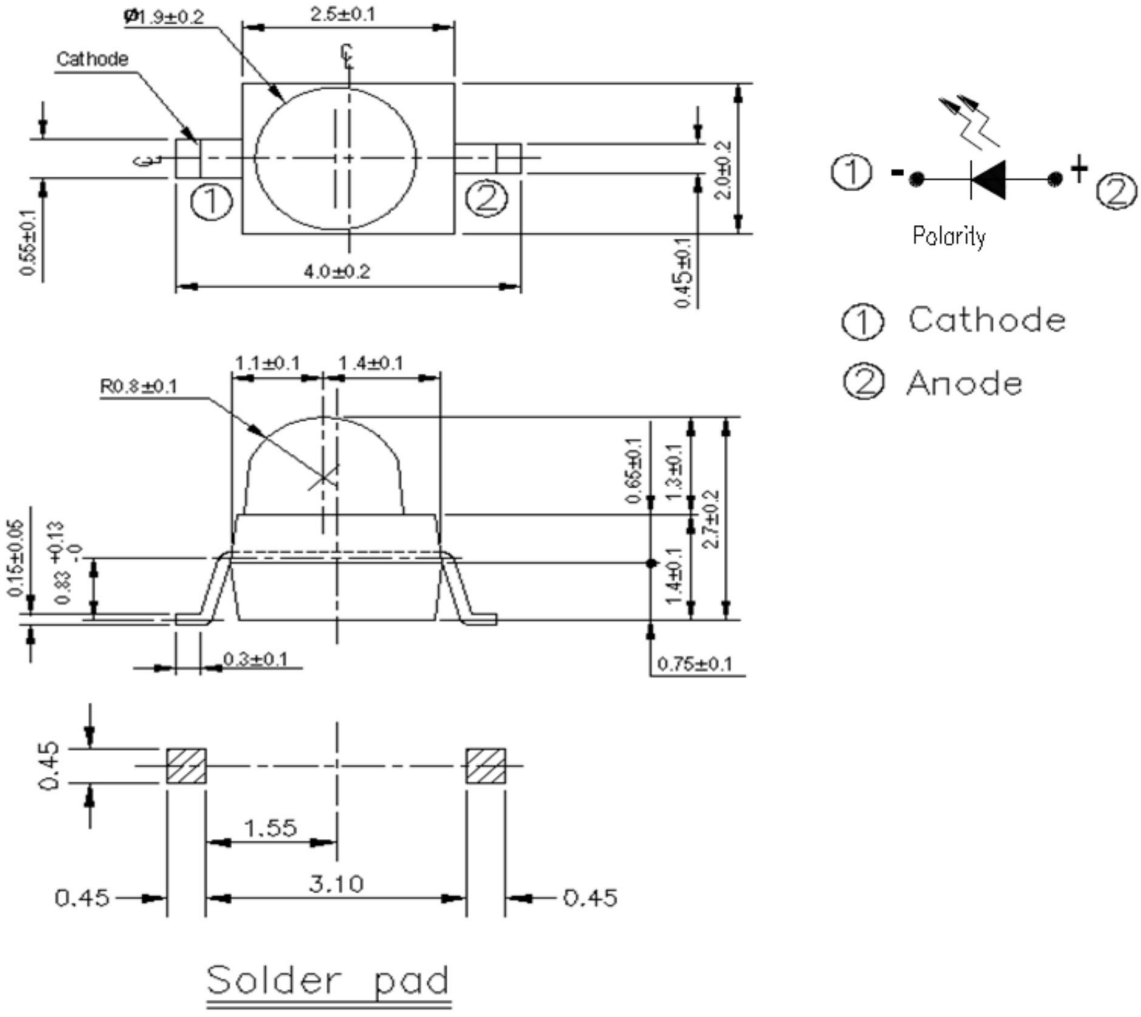
Optoelectronic switch

Smoke detector

Description

KEL-1217C is an infrared emitting diode in miniature SMD package which is molded in a water clear plastic with flat top view lens.The device is spectrally matched with silicon photodiode and phototransistor.

PACKAGE DIMENSIONS



NOTES:

1.All dimensions are in millimeters

2.Tolerances unless dimensions ±0.1mm

3.Suggested pad dimension is just for reference only

Please modify the pad dimension based on individual need

ABSOLUTE MAXIMUM RATINGS AT TA =25℃

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	65	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-25 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +85	℃
Soldering Temperature *1	T_{sol}	260	℃
Power Dissipation at(or below) 25℃Free Air Temperature	P_d	130	mW

Notes: *1 Soldering time≦5 seconds.

ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25℃

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	I_E	I_F=20mA	3.0	5.0	--	mW /sr
		I_F=100mA Pulse Width≦100 μs ,Duty≦1%	--	25	--	
Peak Wavelength	λp	I_F=20mA	--	940	--	nm
Spectral Bandwidth	Δλ	I_F=20mA	--	45	--	nm
Forward Voltage	V_F	I_F=20mA	--	1.2	1.5	V
Reverse Current	I_R	V_R=5V	--	--	10	μA
View Angle	2θ1/2	I_F=20mA	--	25	--	deg

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

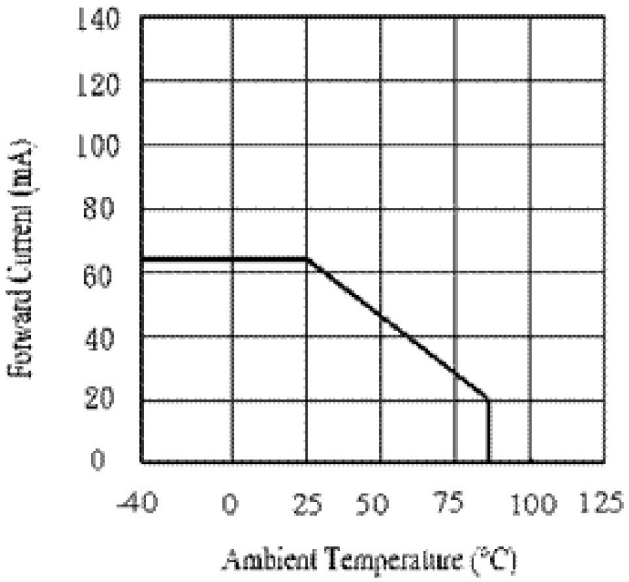


Fig.2 Spectral Distribution

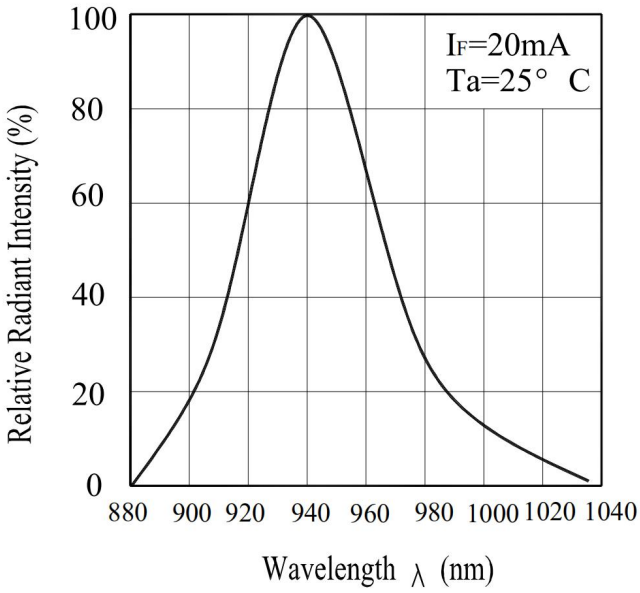


Fig.3 Forward Current vs. Forward Voltage

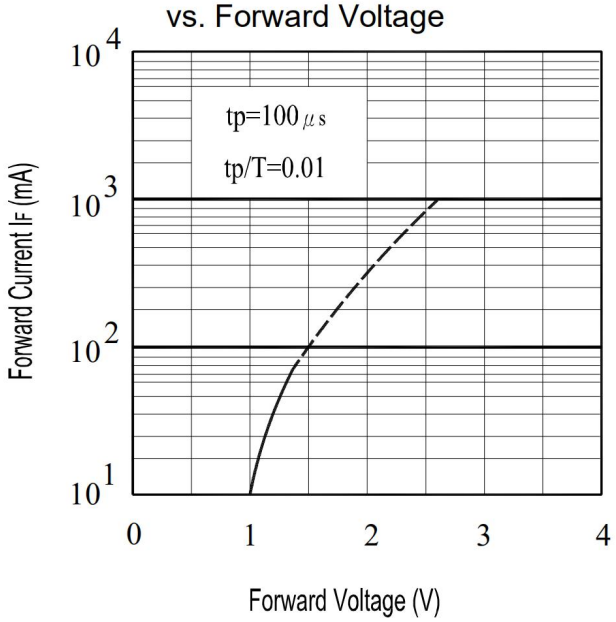
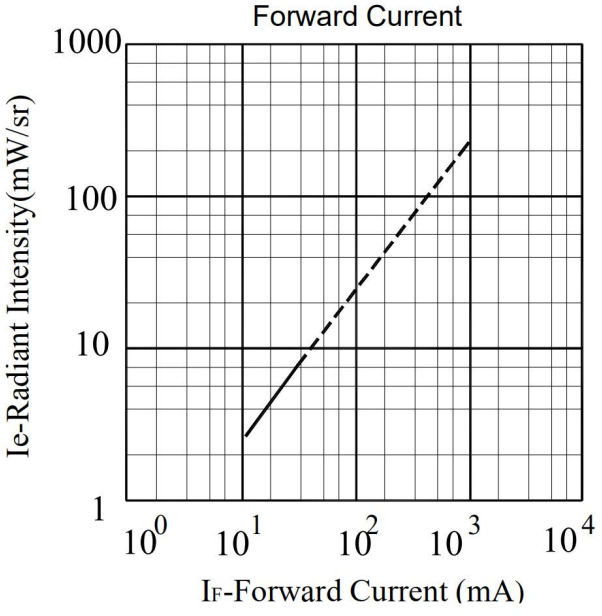
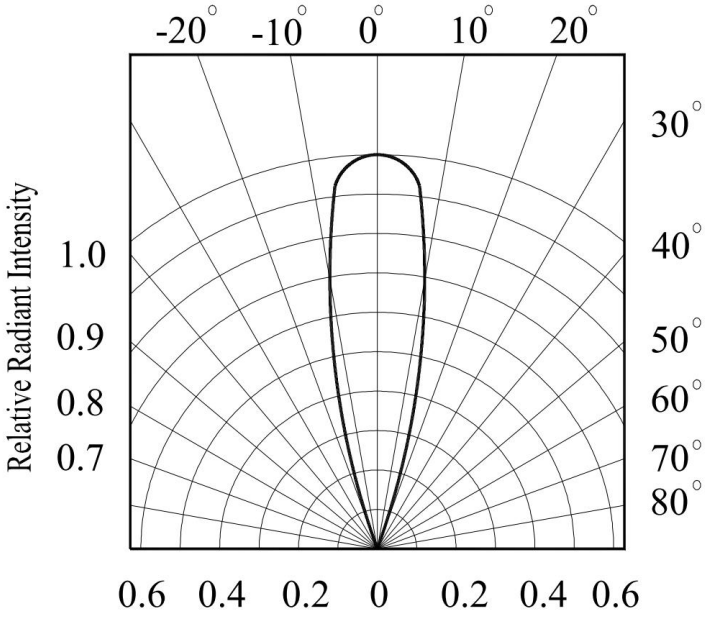


Fig.4 Relative Intensity vs. Forward Current



Typical Electro-Optical Characteristics Curves

Fig.5 Relative Radiant Intensity vs.
Angular Displacement



Precautions For Use

1. Over-current-proof

   Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

   2.1 Do not open moisture proof bag before the products are ready to use.

   2.2 Before opening the package, the LEDs should be kept at 10℃~30℃ and 90%RH or less.

   2.3 The LEDs suggested be used within one year.

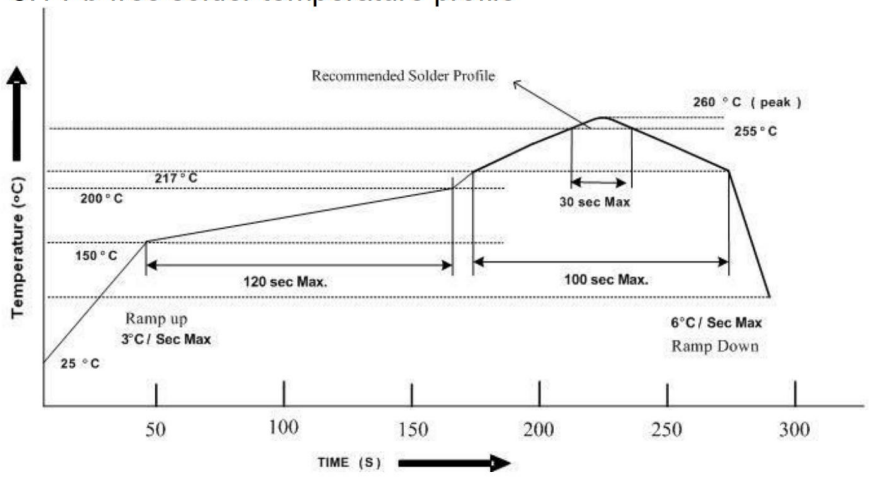
   2.4 After opening the package, the devices must be stored at 10°C~30°C and ≤ 60%RH, and used within 168 hours (floor life). If unused LEDs remain, it should be stored in moisture proof packages.

   2.5 If the moisture absorbent material (desiccant material) has faded or unopened bag has exceeded the shelf life or devices (out of bag) have exceeded the floor life, baking treatment is required.

   2.6 If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the following conditions:
   96 hours at 60°C ± 5°C and < 5 % RH (reeled/tubed/loose units)

3. Soldering Condition

   3.1 Pb-free solder temperature profile



   3.2 Reflow soldering should not be done more than two times.

   3.3 When soldering, do not put stress on the LEDs during heating.

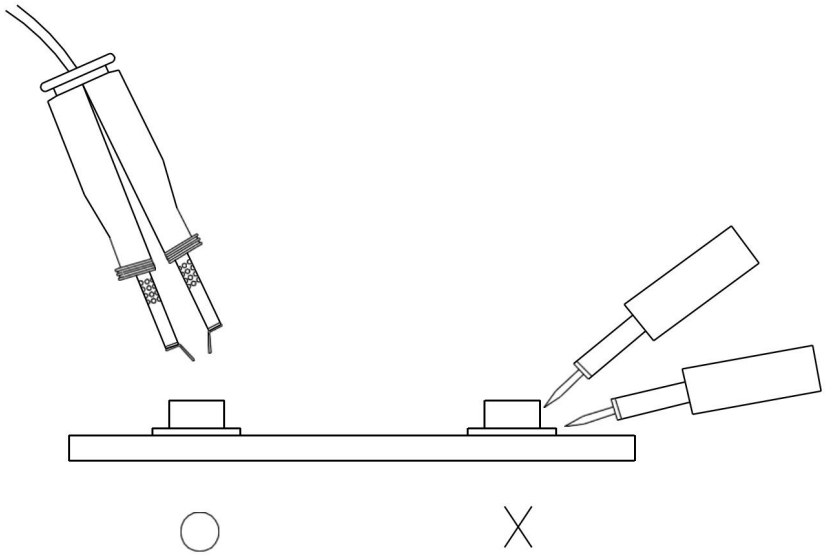
   3.4 After soldering, do not warp the circuit board.

4.Soldering Iron

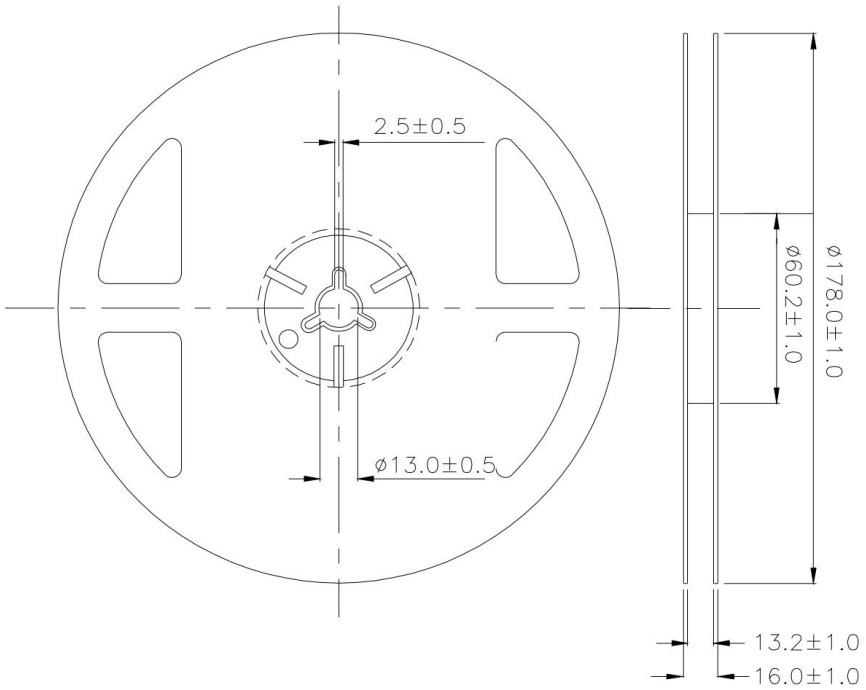
Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5.Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

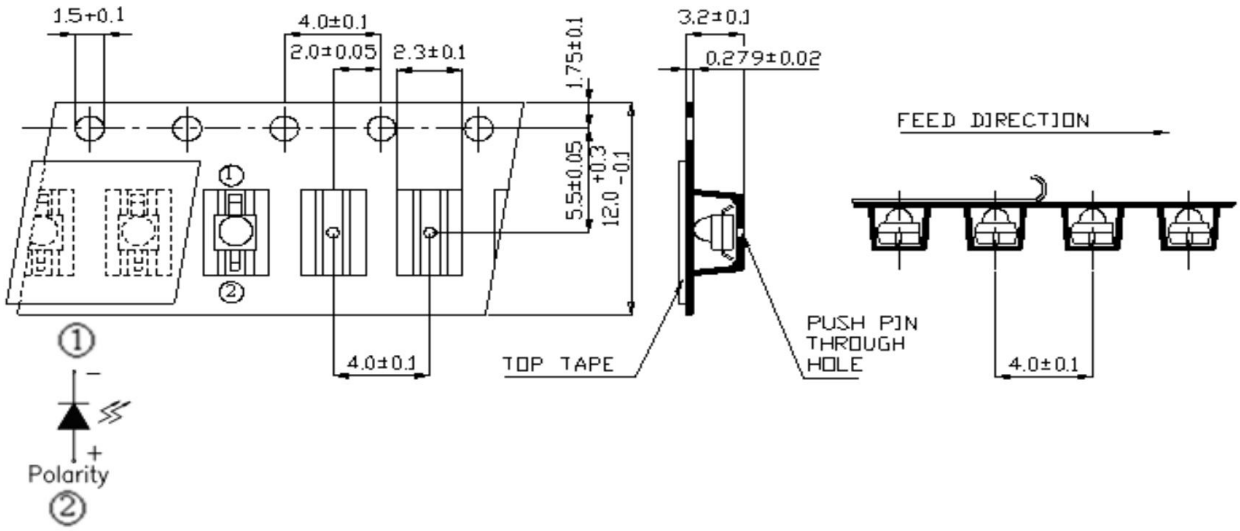


Package Dimensions



Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Carrier Tape Dimensions:Loaded quantity 1000 PCS per reel



Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Packing Quantity Specification

1. 1000Pcs/1Reel,10 Bag/1Box

2. 4Boxes/1Carton

Label Form Specification

- PRODUCT: Part Number
- CODE NO.: Product Serial Number
- QTY: Packing Quantity
- LOT No: Lot Number
- REMARKS:Remarks

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