

Technical Data Sheet

Mini-Top Infrared LEDs-RoHS Compliance

HIR16-213C/L423/TR8

Features

- High reliability
- Small double-end package
- Package in 8mm tape on 7" diameter reel
- Compatible with infrared and vapor phase reflow solder process.
- Pb free
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm)



Description

- HIR16-213C/L423/TR8 is an infrared emitting diode in miniature SMD package which is molded in a water clear epoxy.
- The device is spectrally matched with silicon photodiode and phototransistor.

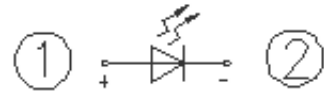
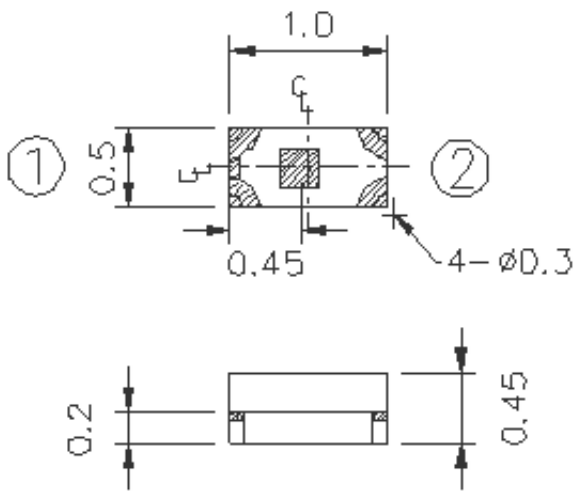
Applications

- PCB mounted infrared sensor
- Infrared remote control units with high power requirement
- Scanner
- Infrared applied system

Device Selection Guide

| Device No. | Chip Material | Lens Color |
|---------------------|---------------|-------------|
| HIR16-213C/L423/TR8 | AlGaAs | Water Clear |

Package Dimensions

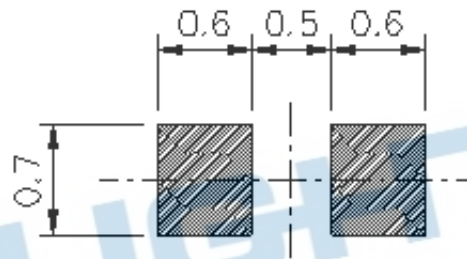
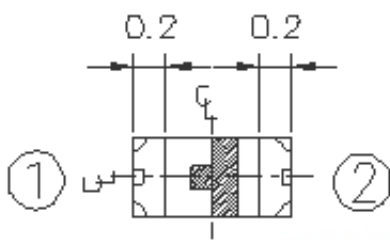


POLARITY

① Anode

② Cathode

Recommend solder pad



- Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions $\pm 0.1\text{mm}$

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

| Parameter | Symbol | Rating | Unit |
|--|-----------|------------|------------------|
| Continuous Forward Current | I_F | 65 | mA |
| Reverse Voltage | V_R | 5 | V |
| Operating Temperature | T_{opr} | -40 ~ +100 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -40 ~ +100 | $^\circ\text{C}$ |
| Soldering Temperature *1 | T_{sol} | 260 | $^\circ\text{C}$ |
| Power Dissipation at(or below) 25 $^\circ\text{C}$ Free Air Temperature | P_d | 100 | mW |

Notes: *1:Soldering time ≤ 5 seconds.

Electro-Optical Characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|--------------------|-------------------|------|------|------|--------|--|
| Radiant Intensity | I _e | 0.5 | 1.5 | --- | mW /sr | I _F =20mA |
| Peak Wavelength | λ _p | 840 | 850 | 870 | nm | I _F =100mA |
| Spectral Bandwidth | Δ λ | -- | 30 | -- | nm | I _F =100mA |
| Forward Voltage | V _F | -- | 1.45 | 1.65 | V | I _F =20mA |
| | | -- | 1.70 | 2.00 | | I _F =100mA Pulse Width ≤ 100 μs ,Duty ≤ 1% |
| Reverse Current | I _R | -- | -- | 10 | μ A | V _R =5V |
| View Angle | 2θ _{1/2} | -- | 145 | -- | deg | I _F =20mA |

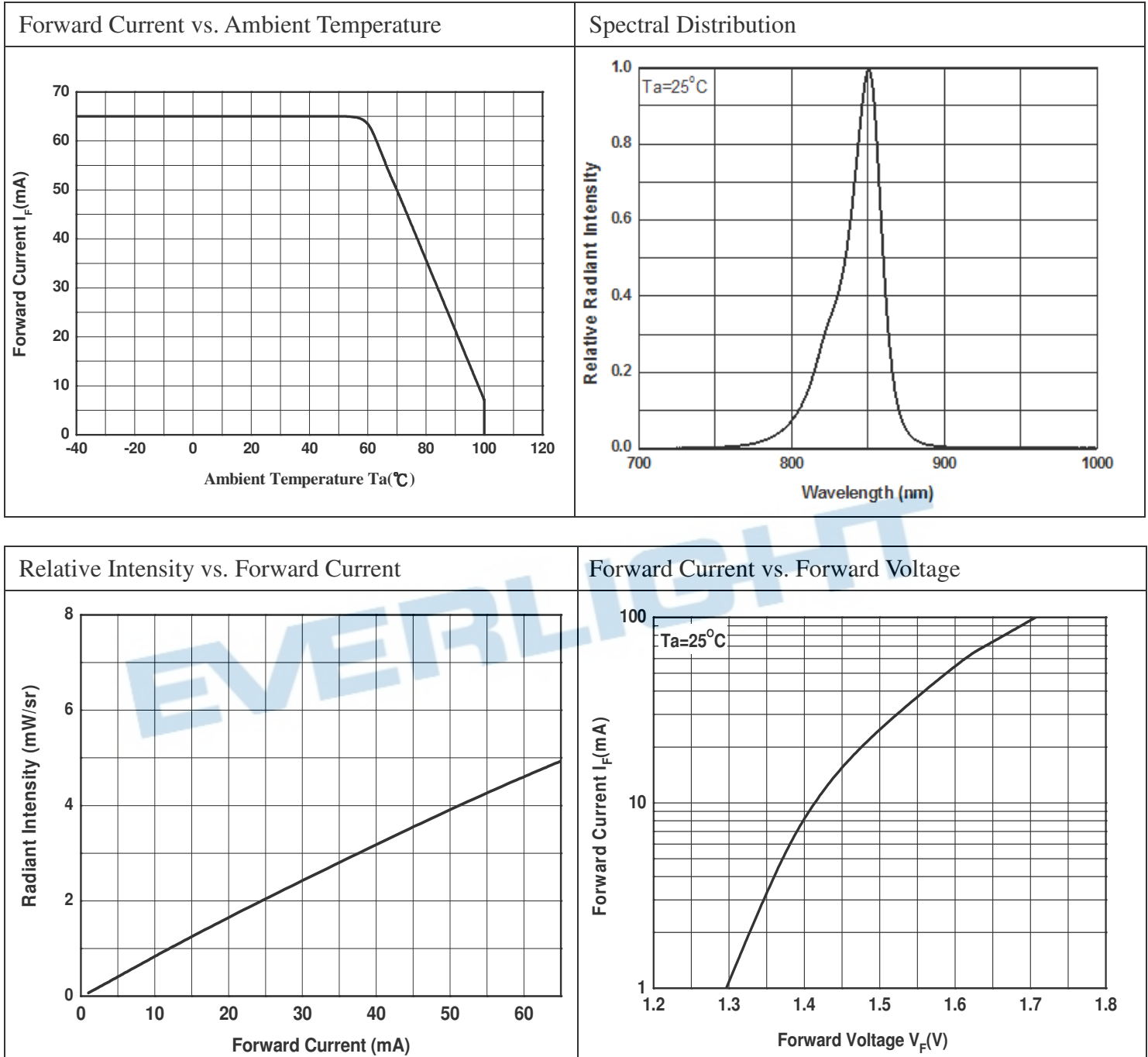
Rank

Condition: I_F=20mA

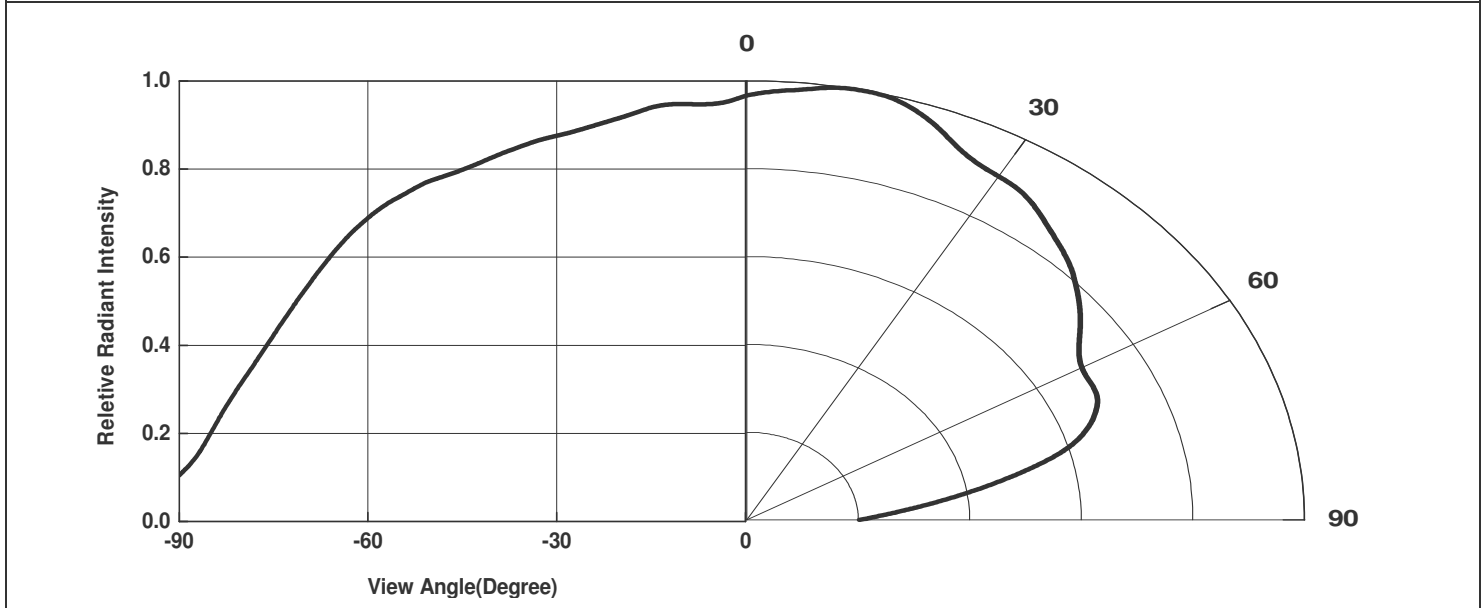
Unit: mW/sr

| Bin number | F | G-1 | G-2 | H |
|------------|-----|-----|-----|-----|
| Min | 0.5 | 1.0 | 1.5 | 2.0 |
| Max | 1.5 | 2.0 | 2.5 | 3.5 |

Typical Electrical/Optical/Characteristics Curves for IR



Relative Radiant Intensity vs. Angular Displacement



EVERLIGHT

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 30°C or less and 90%RH or less.

2.3 The LEDs should be used within a year.

2.4 After opening the package, the LEDs should be kept at 30°C or less and 60%RH or less.

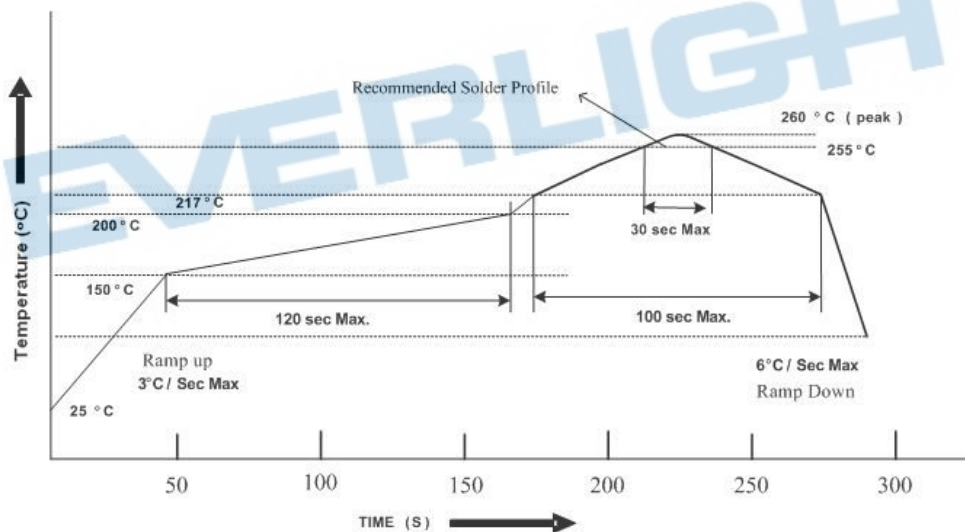
2.5 The LEDs should be used within 168 hours (7 days) after opening the package

2.6 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : 60±5°C for Min 24 hours.

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.

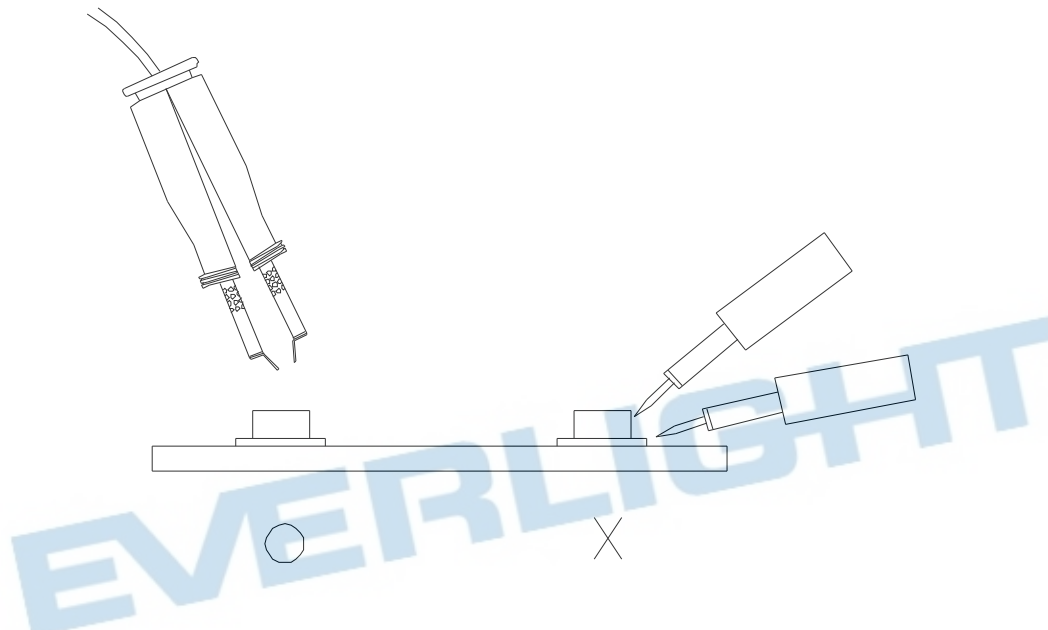
3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

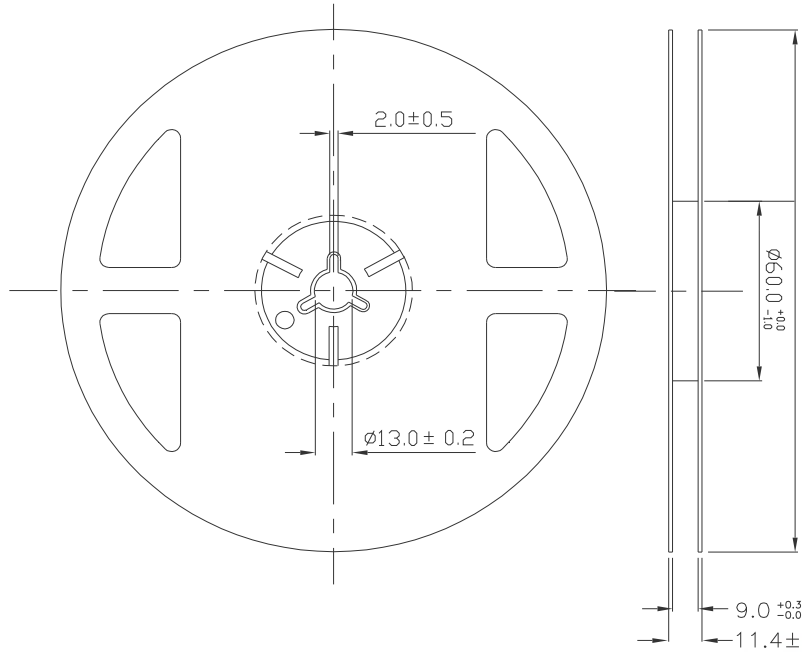
Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

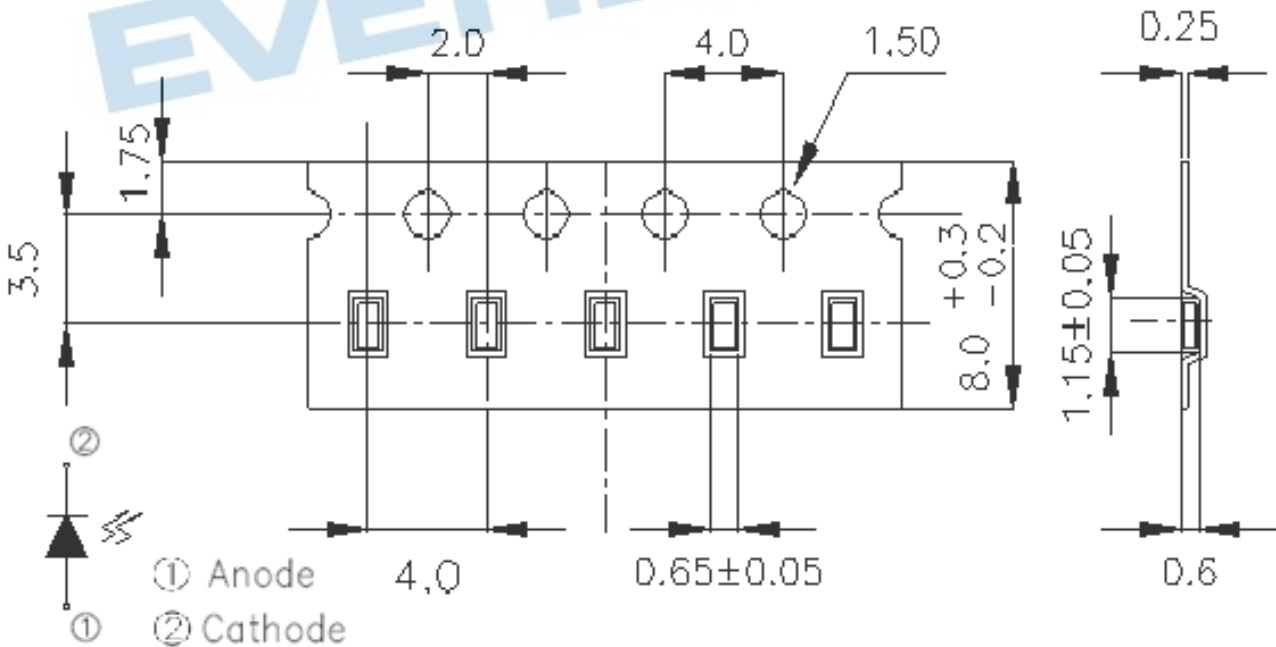


Package Dimensions



Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$, Unit = mm

Carrier Tape Dimensions:(Quantity: 3000pcs/reel)



Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$, Unit = mm

