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DATA SHEET

PART NO.: L-T2835IR4CT-60-HX

REV: A / 1

CUSTOMER'S APPROVAL: _____

DCC: _____

DRAWING NO.: DS-31P-18-0218

DATE: 2019-05-21

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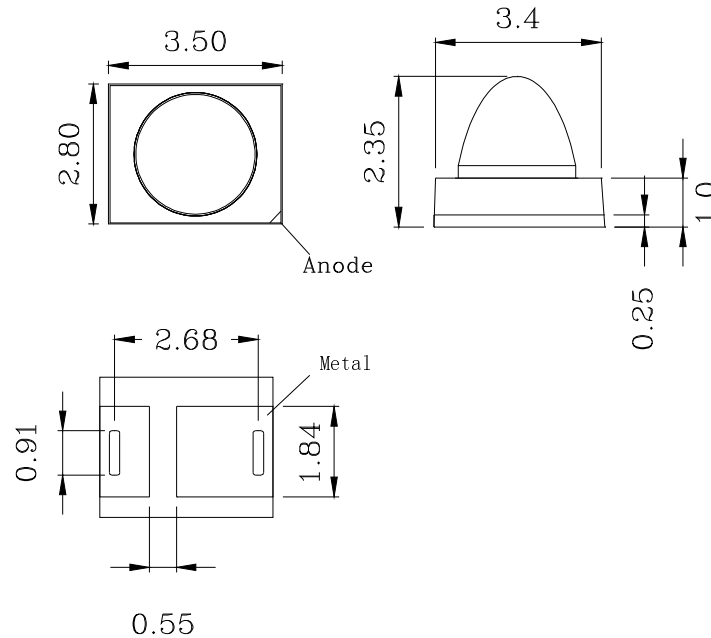


SURFACE MOUNT DEVICE LED

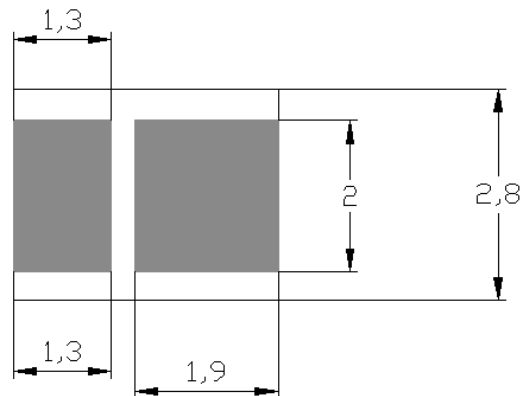
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● Appearance size



● Suggested pad size map



NOTES:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.10 mm unless otherwise specified.
3. Specifications are subject to change without notice.



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● Features

- * High radiation power and high radiation intensity infrared output
- * Lens material: colorless transparent silica gel material
- * Standard size: 2.8 * 3.5 * 1.0 mm
- * The overall height of the lamp bead is 2.35 mm
- * Lens illumination angle : 60°
- * Applicable to all SMT chip assembly and soldering methods
- * It can be used for high temperature reflow soldering and infrared scanning in the range of 265 °C
- * RoHS – compliant

● Applications

- * Auxiliary light source of monitoring camera
- * Infrared sensor
- * Other special uses

● Maximum Rated Parameter Value (Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	135	mW
Forward Current	I _F	≤100	mA
* ¹ Peak Forward Current	I _{FP}	100	mA
Operating Temperature	Topr	-30 ~ +80	°C
Storage Temperature	Tstg	0 ~ +40	°C
Soldering Temperature	Tsol	265°C for 5sec	-



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● Product photoelectric parameter value (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Radiant Intensity	I _e	I _F =100mA	~	40	~	mW/sr
Forward Voltage	V _F	I _F =100mA	1.5	~	1.95	V
Reverse Current	I _R	V _R =5V	-	-	10	μA
Peak Wavelength	λ _p	I _F =100mA	-	850		nm
Spectral Line Half- Width	Δλ	I _F =100mA	-	50	-	nm
Viewing Angle	2θ _{1/2}	I _F =100mA	-	60	-	deg

● Voltage bin (At 100 mA)

BIN CODE	Min	Max
8	1.5	1.65
9	1.65	1.8
10	1.8	1.95

Tolerance for each Bin limit is ±10%.

Note:

1. The error range of the transmission power test values shown above is 10 %
2. The error range of the voltage test value shown above is ±0.1V



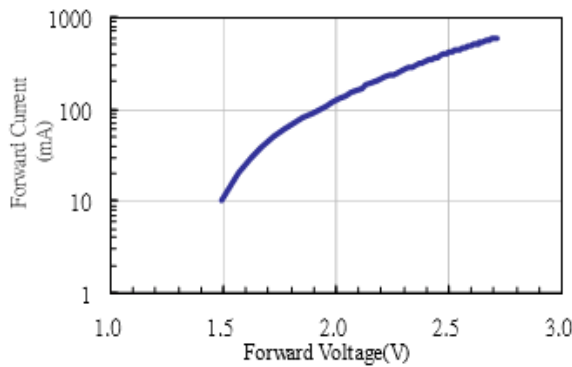
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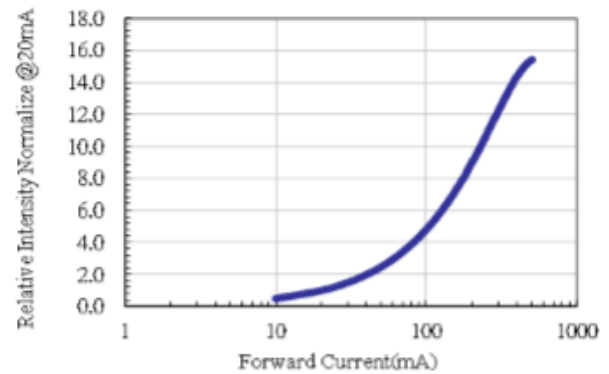
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● Chip characteristic curve

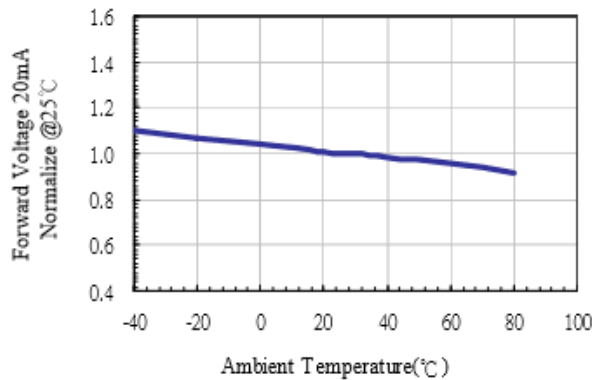
Forward current vs. Forward Voltage



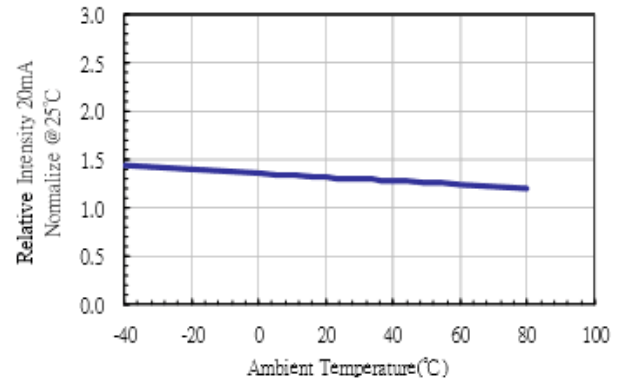
Relative Intensity vs. Forward Current



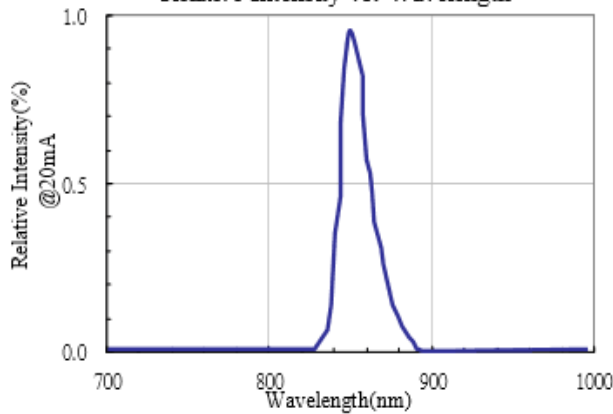
Forward Voltage vs. Temperature



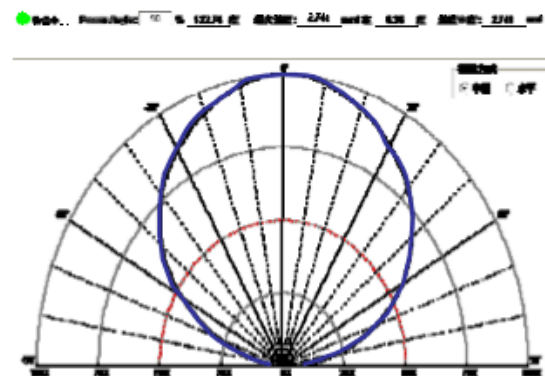
Relative Intensity vs. Temperature



Relative Intensity vs. Wavelength



Half power angle on TO-18



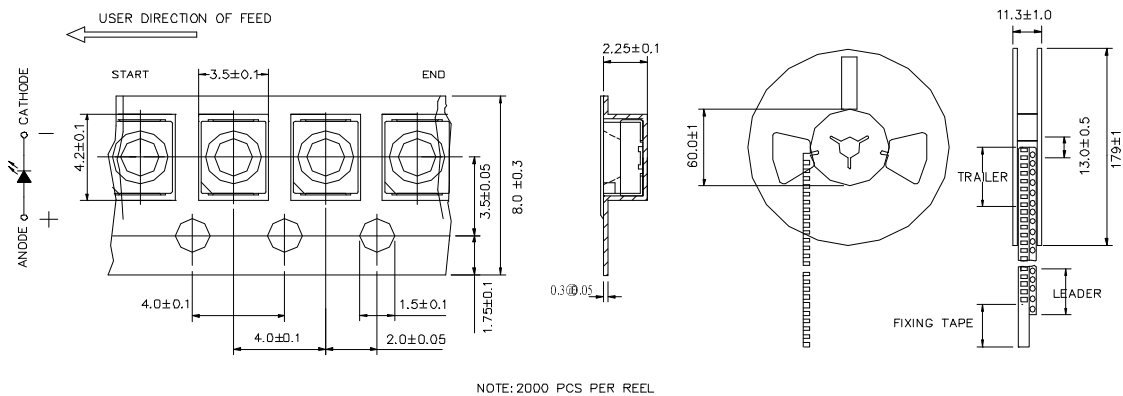


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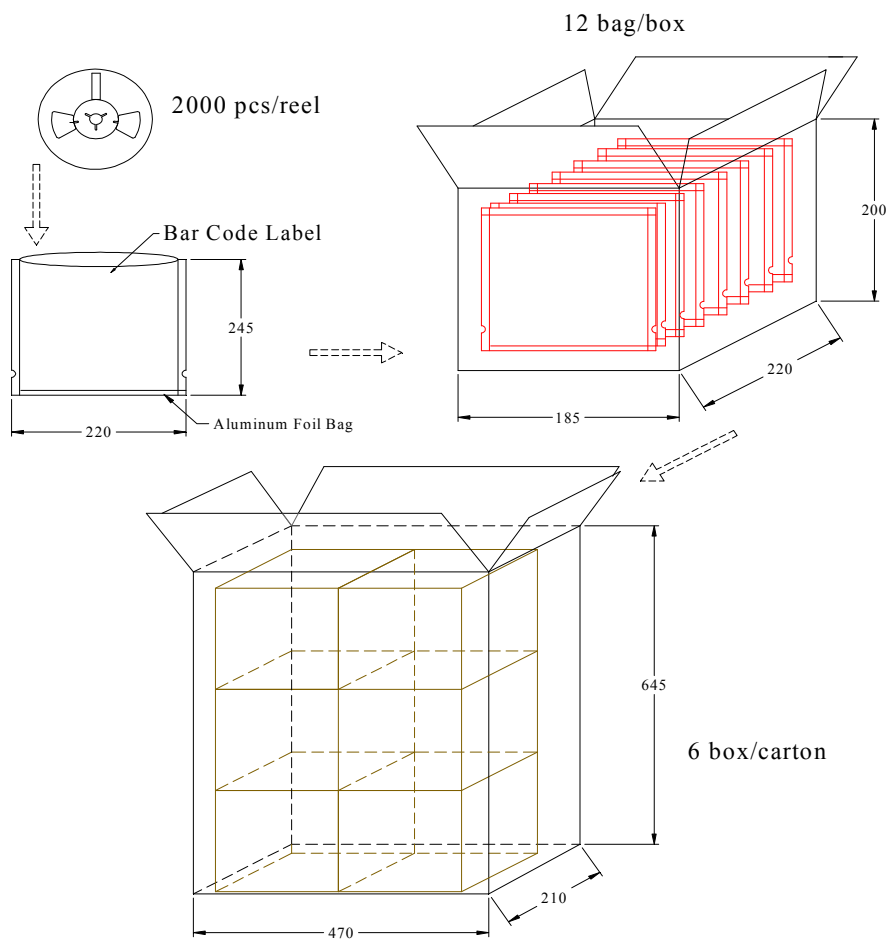
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● Specifications and dimensions of product tapes (Units: mm)



● Packing and packing specifications (unit:mm)





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● Reliability

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS-C-7021 :B-1	I _F =100mA Ta=Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS-C-7021 :B-11	Ta=+65°C±5°C RH=90%-95% Test time=240hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High Ta=+85°C±5°C Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-12	Low Ta=-35°C±5°C Test time=1,000hrs	0/20
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS-C-7021 :A-4	-35°C ~ +25°C ~ +85°C ~ +25°C 60min 20min 60min 20min Test Time=5cycle	0/20
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	-35°C±5°C ~ +85°C±5°C 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS-C-7021 :A-1	Preheating : 140°C-160°C, within 2 minutes. Operation heating : 245°C(Max.), within 10seconds. (Max.)	0/20

● Reliability Criteria

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Forward voltage	V _F (V)	I _F =100mA	Over U ¹ x1.2
Reverse current	I _R (uA)	V _R =5V	Over U ¹ x2
Luminous intensity	I _v (mcd)	I _F =100mA	Below S ¹ X0.5

Note:

1. U means the upper limit of specified characteristics. S means initial value.
2. After each test, remove test pieces, wait for 2 hours and test pieces have returned to ambient temperature, then take next measurement

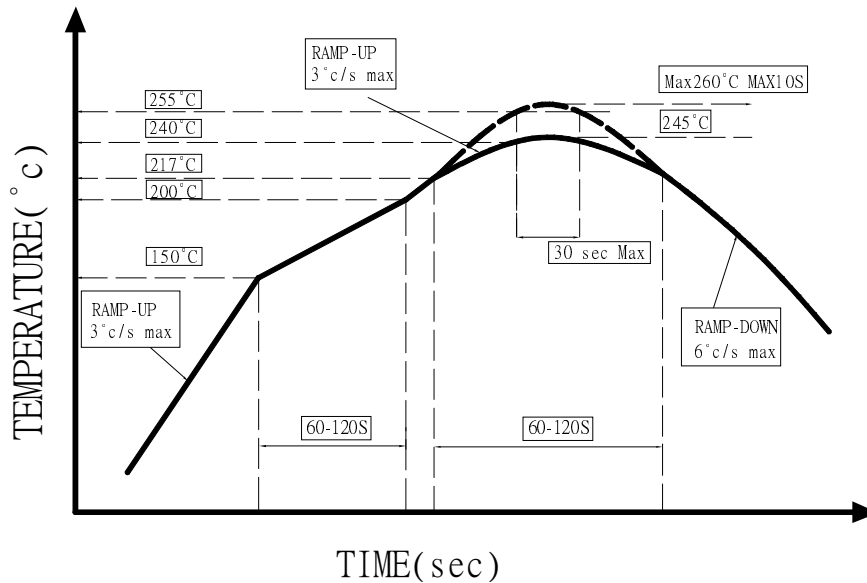


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● SMT Operating Instructions and Recommended Standards



1. Customers should avoid multiple high-temperature reflow soldering as much as possible during use, if the temperature is too long, the silica gel body of the lamp bead will be damaged, suggested reflow soldering maximum temperature $\leq 245^{\circ}\text{C}$, high temperature heating time $\leq 5\text{ sec}$
2. When the customer uses LED lamp beads, Especially when the lamp bead is heated at high temperature, avoid any external force pressing the silica gel body of the LED lamp bead, during the temperature drop process, please do not artificially cool the silica gel quickly and any excessive oscillation.
3. Before unpacking LED lamp beads, Should check the lamp bead aluminum foil bag packaging for air leakage, Bake and dehumidify at 65°C for 4 - 6 hours before pasting.

● Handling protective measures :

Soldering (including manual and reflow soldering) :

When welding by hand, The temperature of the soldering iron must be kept below 300°C , and When welding by hand, The temperature of the soldering iron must be kept below 300°C , and each electrode can only be weld once, The duration of each welding shall not exceed 3 seconds. Because of the small size of the led, It is difficult to control the consistency of winter vacation temperature and tin addition time by manual welding, and that structure of the lamp body is easy to damage, May cause LED failure in severe cases, Please try your best to use reflow soldering machine.



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Storage :

This product is encapsulated in a sealed, moisture-proof and antistatic aluminum foil bag with desiccant attached. Avoid squeezing as much as possible during handling, The case of piercing the package bag occurs. At the same time, in order to avoid the possibility of product failure caused by moisture, Storage and moistureproof measures should be taken before welding LED products.

Before opening the product, LED products are not higher than 30 C in temperature, The storage time in the environment with humidity not higher than 60 % RH is 90 days.

After unsealing, LED products must be at a temperature not higher than 30 C. Humidity is not higher than 60 % RHD environment, and is used up within 24 hours. If the humidity card is found to exceed 10 % after opening, Low temperature dehumidification treatment is required at 60 degrees / 24 hours.

Electrostatic protection :

Static electricity and power surges can cause product characteristics to change, For example, direct voltage has decreased, the situation is serious and may even damage the product. Therefore, employees who are in direct contact with LED in the whole process (production, testing, packaging, etc.) should take measures to prevent and eliminate static electricity.

All relevant equipment and machines should be properly grounded. The grounding AC resistance is less than 1.0 ohms, A cushion with surface resistance of $10^6 - 10^9$ ohms is required on the workbench.

In environments and equipment where static electricity is easily generated, An ion fan must also be installed. In the process of operation, The operator needs to use an antistatic bracelet, Antistatic cushion, Anti - static overalls, work shoes, Gloves, Anti - static container, etc.



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Any other business :

The resin packaging part of LED products is quite fragile . Do not scratch the resin part of the package with a hard, sharp object. Also be very careful when clamping LED with tweezers. Do not directly take LED products by hand. Taking LED products directly by hand will not only pollute the surface of LED packaging resin , the performance of LED products may also be changed due to static electricity and other factors.

Do not exert excessive pressure on LED products , especially when the led is in a high temperature state (for example during reflow soldering) , Excessive pressure may directly affect the chip and gold wire inside the package. The sulfur element and compound components in the LED working environment and LED - adapted materials shall not exceed 100 ppm. Do not stack module materials together , It may damage the internal circuit. Not available in acidic sites with $\text{ph} < 7$.

