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DATA SHEET

PART NO.: L-T69FRGBCT-1.5W-S2-U1

REV: A / 2

CUSTOMER'S APPROVAL : _____

DCC : _____

DRAWING NO. : DS-31P-17-0068

DATE : 2021-01-28 PAGE

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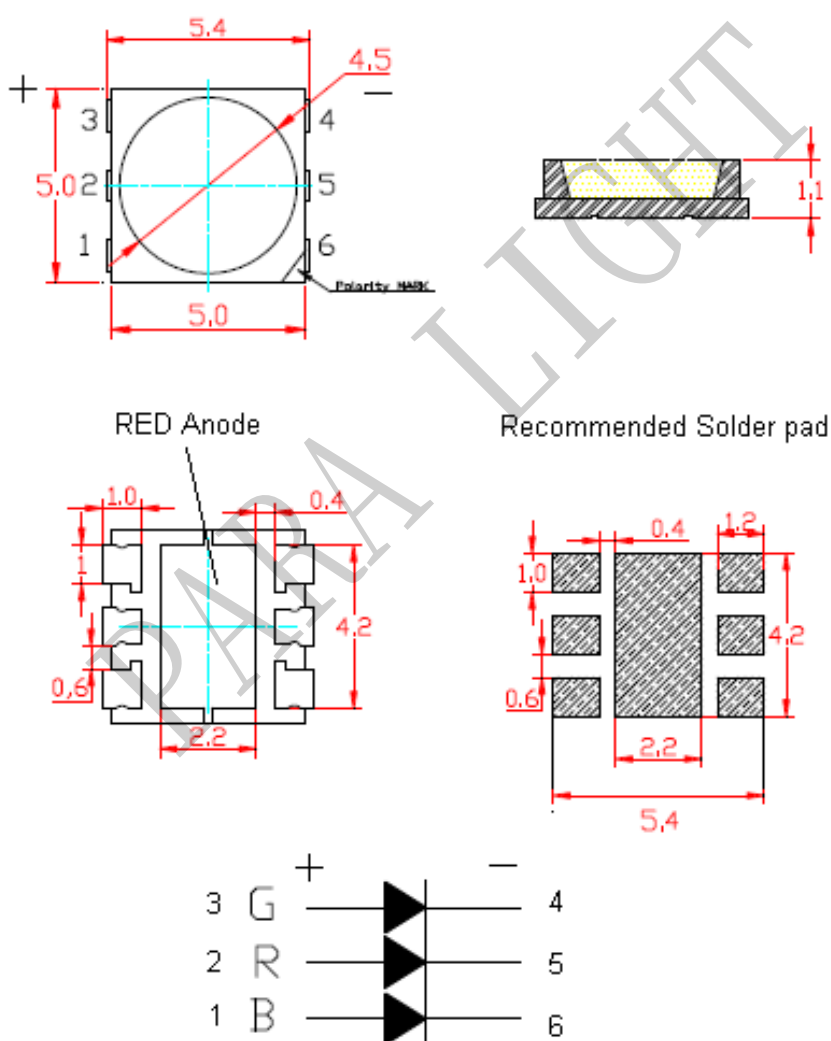
Mechanical Specification

5.00mm*5.30mm*1.10mm SMD LED

The materials of the LED dice is InGaN

Suitable for all SMT assembly and welding process

Package Outline



NOTES:

1. All dimensions are in millimeters
2. Tolerances are 0.2mm unless otherwise noted

Absolute maximum ratings at Ta=25℃

Parameters	Symbol	Value	Unit
Power Dissipation	Pd	1500	mW
Forward Current	IF	150*3	mA
Pulse Forward Current	IFP	700	mA
Reverse Voltage	VR	5	V
Electrostatic Discharge	ESD	2000(HBM)	V
Operating Temperature	Topr	-40 ~ +85 ℃	℃
Storage Temperature	Tstg	-40 ~ +100 ℃	℃

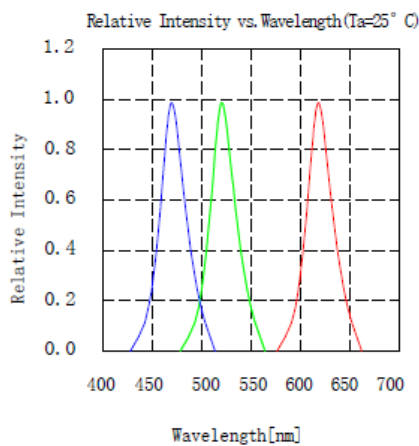
Electro-optical characteristics at Ta=25℃

Item	Symbol	Mix	Typ	Max	Unit	Conditions
Forward voltage	VF	G	3.0	3.2	V	IF=150*3mA
		R	2.0	2.2		
		B	3.0	3.2		
Reverse current	IR	--	--	5	μA	VR = 5V
Dominant wavelength	λd	G	525	530	nm	IF=150*3mA
		R	620	625		
		B	460	465		
Viewing angle	2θ 1/2		120		Deg	IF=150*3mA
Luminous intensity	IV	G	9000	10000	mcd	IF=150*3mA
		R	5500	6500		
		B	2500	3500		

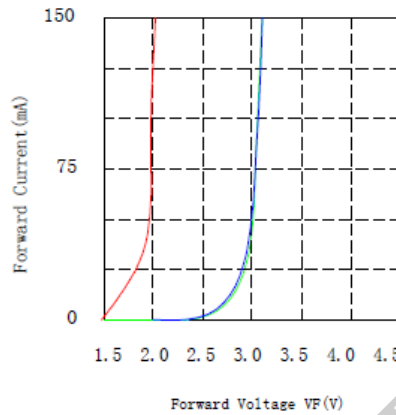
NOTE: (Tolerance: Iv ±10%, λd ±2nm, Vf ±0.05V)

Typical optical characteristics curves

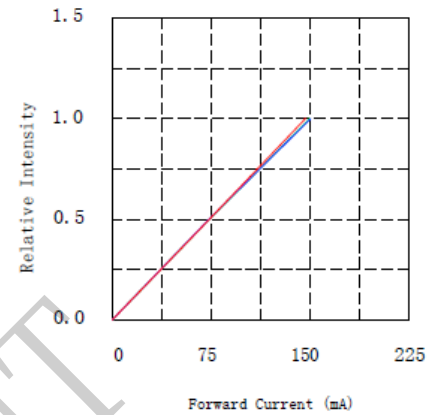
Spectral Distribution



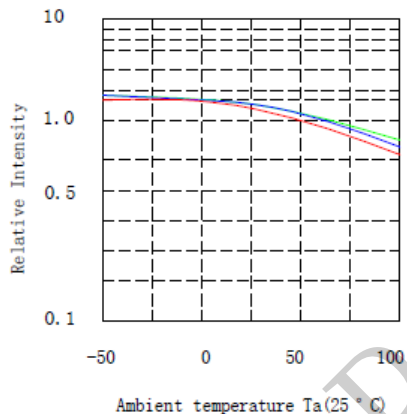
Forward current vs. Forward Voltage (Ta=25° C)



Relative Intensity vs. Forward Current (Ta=25° C)

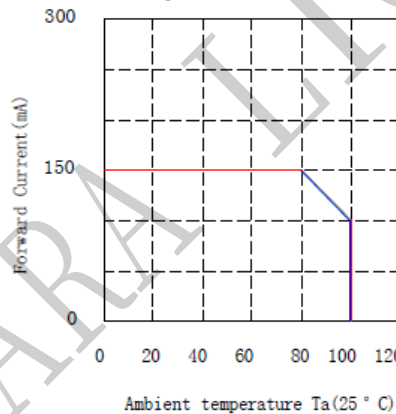


Relative Intensity vs. Ambient temperature



Derating

Ambient temperature vs. Maximum Forward Current



Forward Current vs. Chromaticity (Ta=25° C)

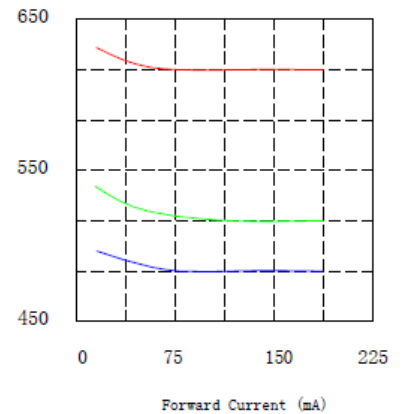
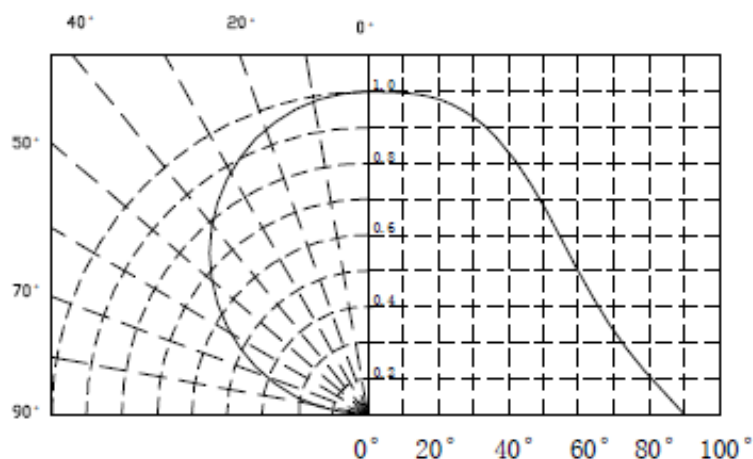
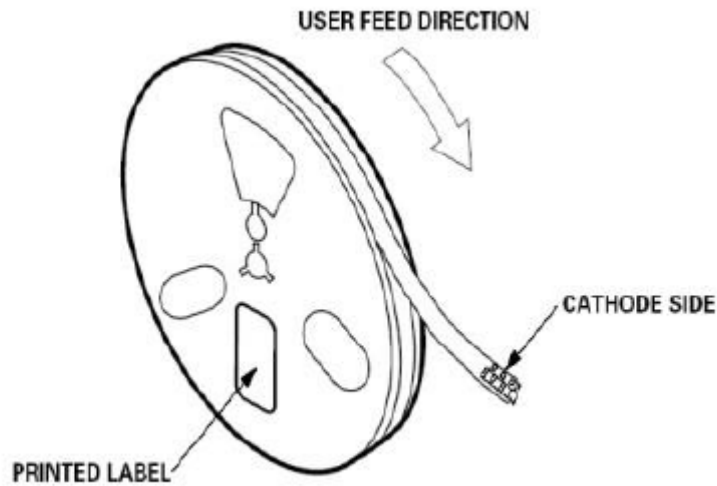


Diagram characteristics of radiation

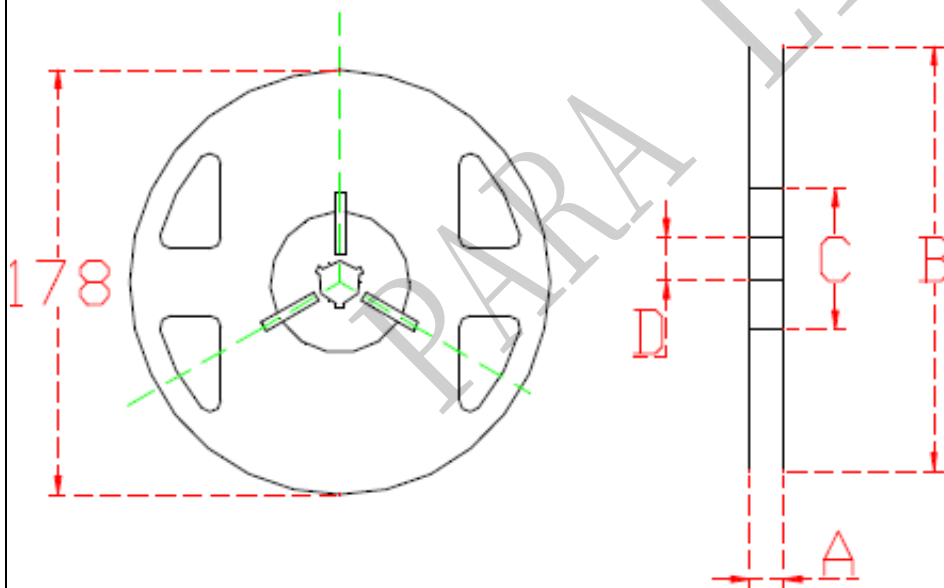


Packaging Specifications

Feeding Direction

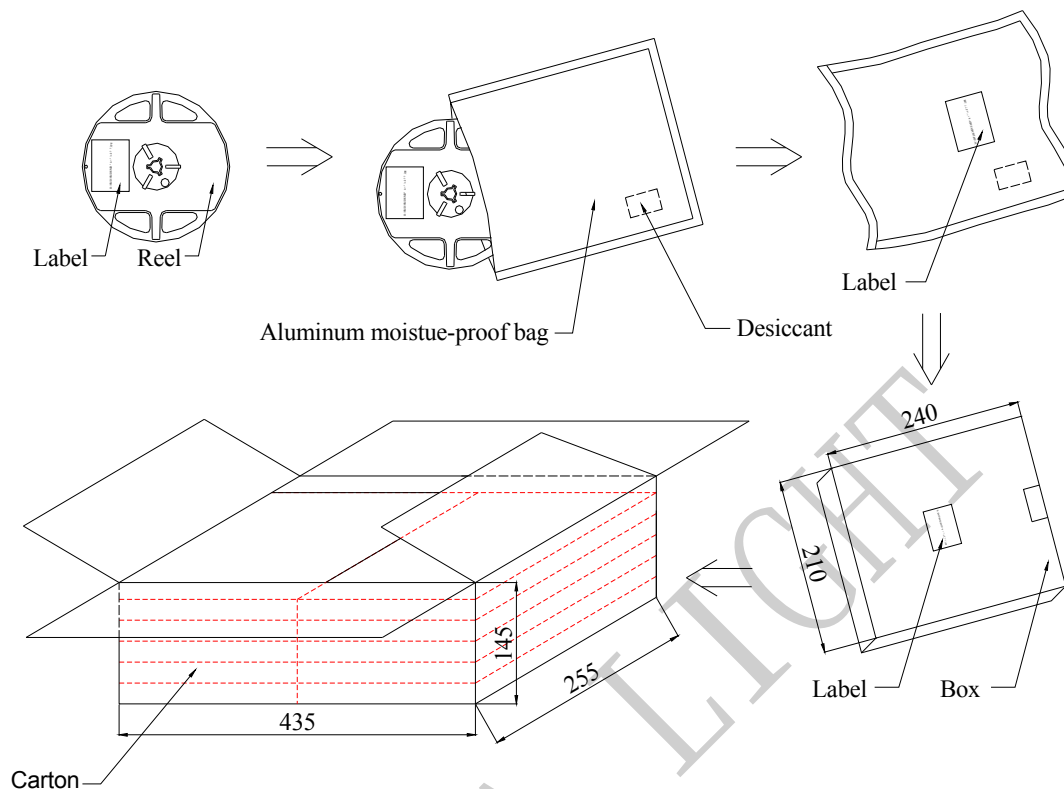


Dimensions of Reel (Unit: mm)



A	$8.0 \pm 0.1 \text{ mm}$
B	$178 \pm 1 \text{ mm}$
C	$60 \pm 1 \text{ mm}$
D	$13.0 \pm 0.5 \text{ mm}$

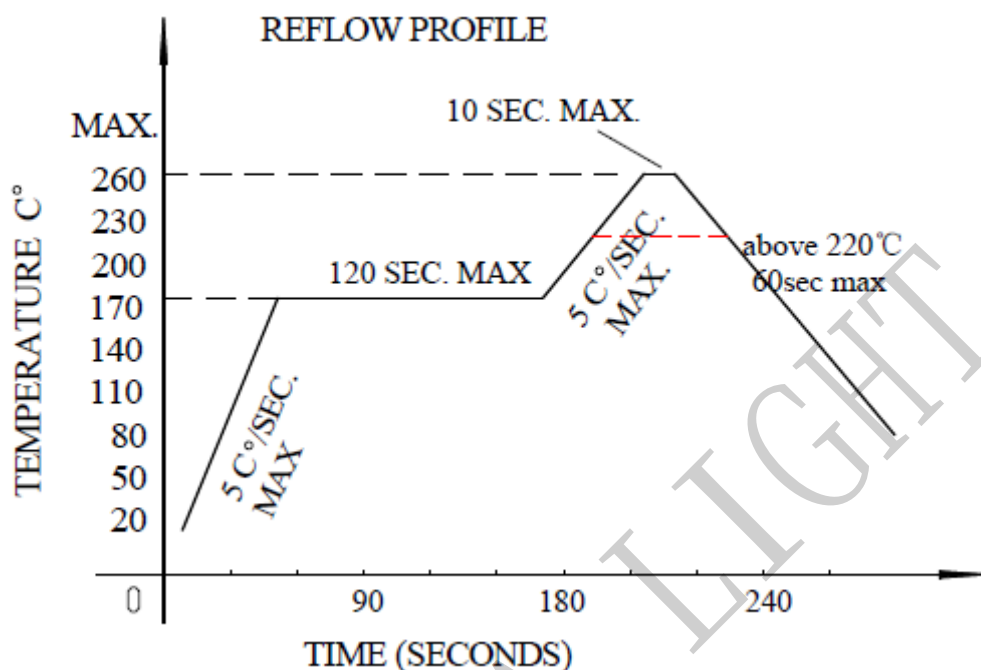
Moisture Resistant Packaging



Notes : One reel in a bag, one bag in a inner box, ten inner boxes in a carton. Unit : mm.

Reflow profile

SMD Reflow Soldering Instructions



1. Reflow soldering should not be done more than two times
2. When soldering ,do not put stress on the LEDs during heating

Soldering iron

1. When hand soldering, keep the temperature of the iron under 300°C , and at that temperature keep the time under 3 sec.
2. The hand soldering should be done only a time

Rework

1. Customer must finish rework within 5 sec under 260°C
2. The head of iron can not touch the LEDs
3. Twin-head type is preferred.

CAUTIONS

The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when using the picking up nozzle, the pressure on the silicone resin should be proper.



SURFACE MOUNT DEVICE LED

Part No. : L-T69FRGBCT-1.5W-S2-U1

REV: A / 2

Storage :

* Before opening the package :

The LEDs should be kept at 30°C or less and 85%RH or less. When storing the LEDs, moisture proof packaging with absorbent material (silica gel) is recommended.

* After opening the package :

The LEDs should be kept at 30°C or less and 70%RH or less. The LEDs should be soldered within 168 hours (7 days) after opening the package. If unused LEDs remain, they should be stored in moisture proof packages, such as sealed containers with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.

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: more than 24hours at 65±5°C.

* Please avoid rapid transitions in ambient temperature in high humidity environments where condensation may occur.

Test Items And Results

Test Item	Reference Standard	Test Condition	Note	Number of Damaged
Reflow Soldering	JESD22-B106	Tsld=260℃,10sec	3 times	0/22
Temperature Cycle	JESD22-A104	-20℃ 30min ↑↓15min 120℃ 30min	200 cycle	0/22
Thermal Shock	JESD22-A106	-40℃ 15min ↑↓15sec 125℃ 15min	200 cycle	0/22
High Temperature Storage	JESD22-A103	Ta=100℃	1000 hrs	0/100
Low Temperature Storage	JESD22-A119	Ta=-40℃	1000 hrs	0/100
Power temperature Cycling	JESD22-A105	On5min-40℃>15min ↑↓↑↓<15min Off5min100℃>15min	200 cycle	0/100
Life Test	JESD22-A108	Ta=25℃ IF=180mA	1000 hrs	0/100
High Humidity Heat Life Test	JESD22-A101	60℃ RH=90% IF=180mA	1000 hrs	0/100