


TOP LED:2835RGB-12S

(2835 SMD LED - RGB LED Flashing Fast)



	<p>ATTENTION OBSERVE PRECAUTIONS ELECTROSTATIC SENSITIVE DEVICES</p>
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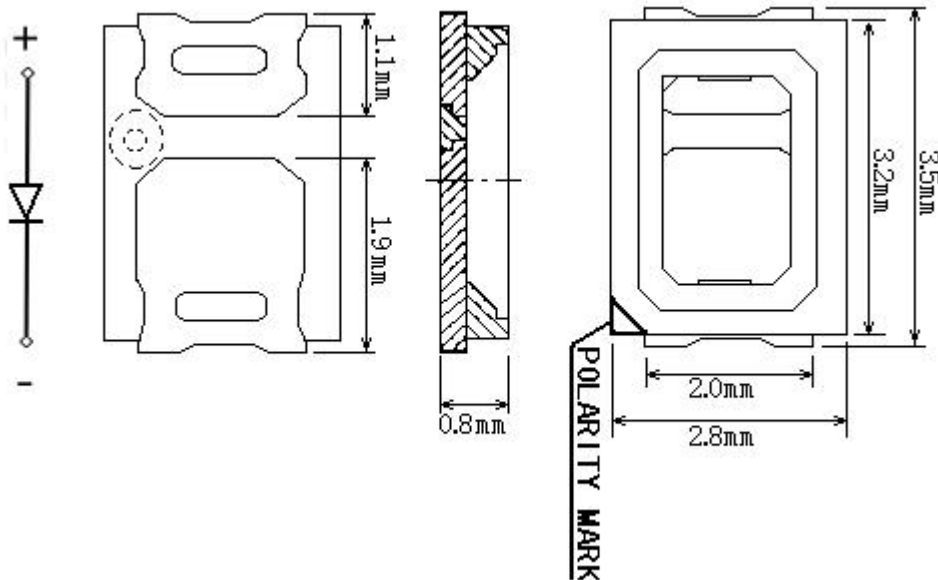


CUSTOMER APPROVED SIGNATURES	SALES APPROVED	APPROVED BY	CHECKED BY	PREPARED BY

1. Features

- Color :R+G+B+IC
- Lens: water clear
- High Luminous LEDs
- Flashing Type
- Compatible With Infrared Reflow Solder And Wave Solder Process

2. Package Profile & Soldering PAD Suggested

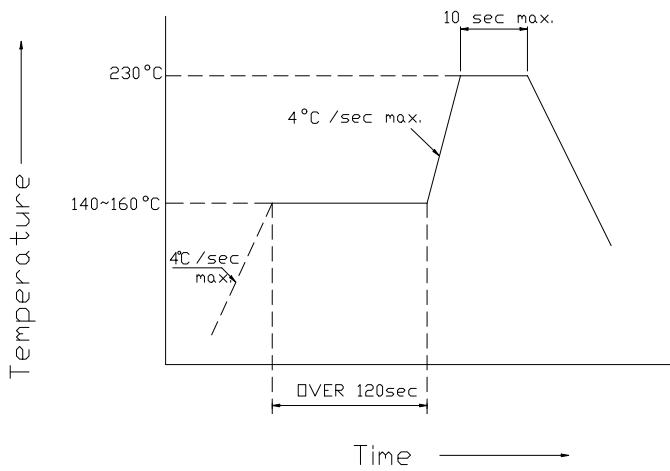


- Notes:
1. All dimensions are in millimeters ;
 2. Tolerance is ± 0.10 mm unless otherwise noted.

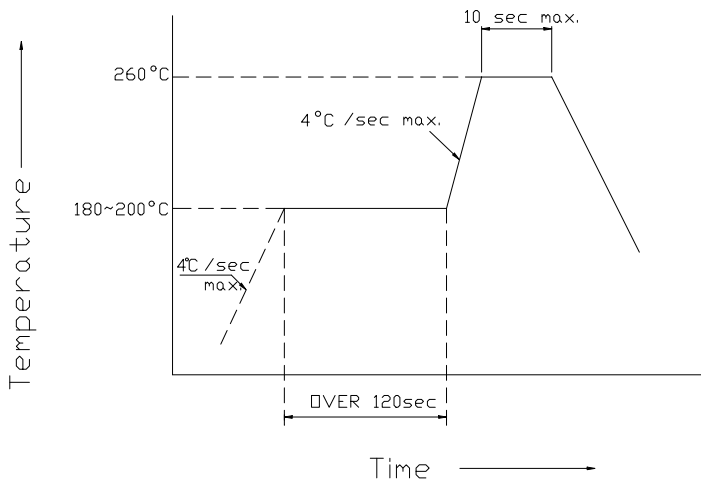
3. Soldering Profile Suggested

Reflow Soldering			Hand Soldering	
	Lead Solder	Lead-free Solder	Temperature	350°C Max.
Pre-heat	140 ~ 160°C	180 ~ 200°C	Soldering time	3 sec. Max.
Pre-heat time	120 sec. Max.	120 sec. Max.		(one time only)
Peak temperature	230°C Max.	260°C Max.		
Soldering time	10 sec. Max.	10 sec. Max.		
Condition				

Lead Solder:



Lead-Free Solder:



4. Absolute Maximum Ratings At Ta=25°C

Parameter		Symbol	Min	Typ	Max	Unit	Test Condition
Luminous Intensity	Red	VF	200		400	mcd	IF=20mA
	Blue		200		400		
	Green		1000		1500		
Peak emission wavelength	Red	λ_D	620	625	630	nm	IF=20mA
	Blue		460	465	472		
	Green		520	525	530		
Viewing Half Angle		2 θ 1/2		\pm 60		deg	IF=20mA
Power Supply		Voltage	5				V
Operating Temperature		Topr	-40 ~ +80				°C
Storage Temperature Range		Tstg	-40 ~ +100				°C
Soldering Temperature		Tsol	260				°C
Electro-Static-Discharge(HBM)		ESD	1000				V
Service life under normal conditions		Time	80000				H
Warranty		Time	5				Years
Antistatic bag		Piece	4000				Back

***Soldering Condition:Soldering condition must be completed with 3 seconds at 260°C**



5.Direct Current Characteristics (Tc=25°C)

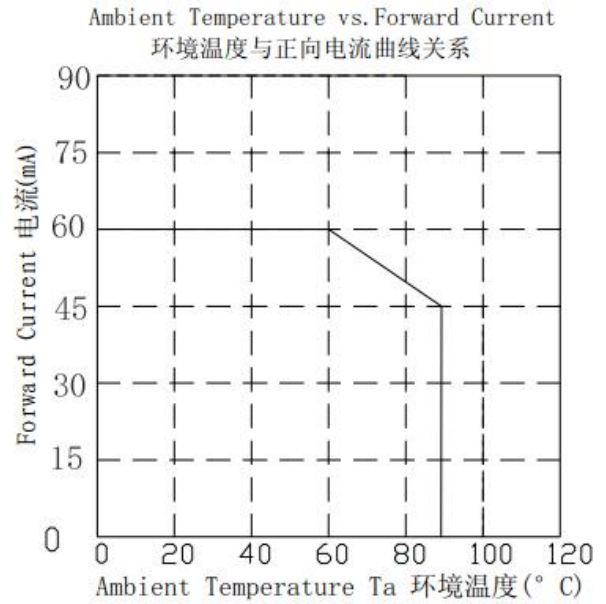
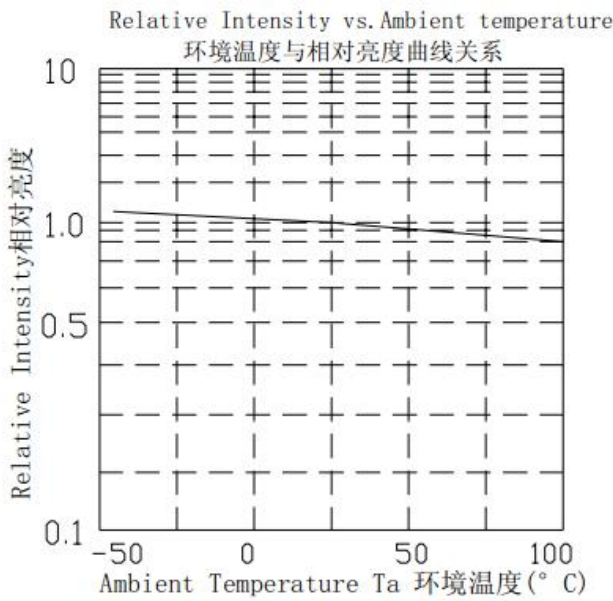
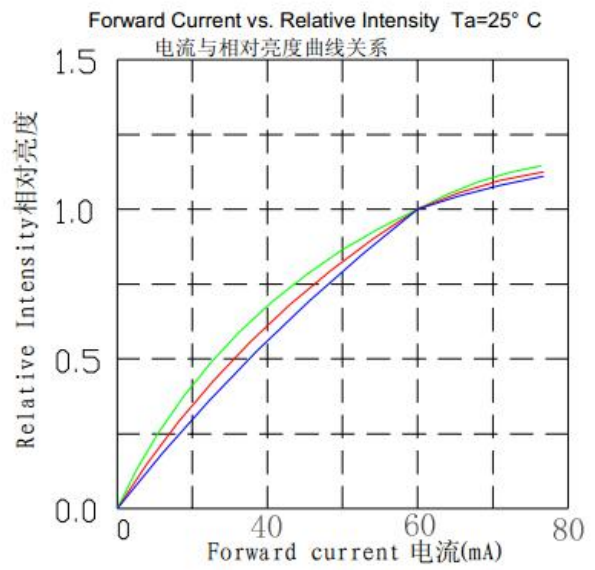
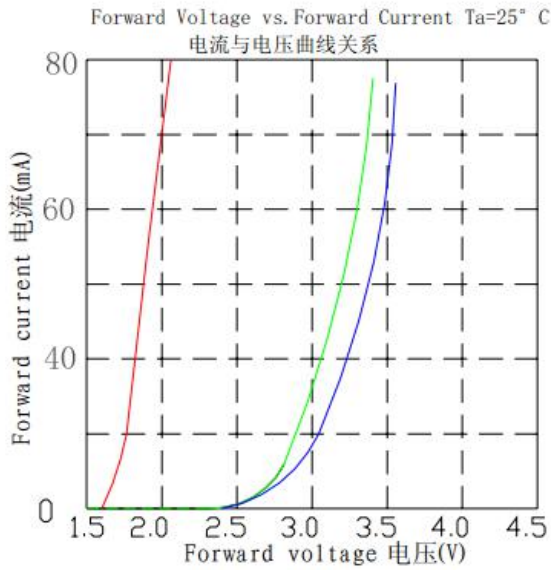
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Operating Voltage	VDD	3.8	4.5	5.0	V	
Oscillator Frequency	Fled		12		S	VDD=4.5V
Driver Current	Iol		25		mA	
Power Consumption	PO		120		mW	VDD=4.5V

*Luminous Intensity is measured by ZWL600.

* $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

* λ_D is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

6. Typical Electrical-Optical Characteristics Curves



7. Reliability Test

Classification	Test Item	Test Condition	Reference Standard	Reference Standard
Endurance Test	Operation Life	Ta= Under Room Temperature As Per Data Sheet Maximum Rating	1000HRS (-24HRS,+72HRS)*@20mA	MIL-STD-750D:1026 MIL-STD-883D:1005 JIS C 7021:B-1
	High Temperature, High Humidity Storage	IR-Reflow In-Board, 2 Times Ta= 65±5°C,RH= 90~95%	240HRS±2HRS	MIL-STD-202F:103B JIS C 7021:B-11
	High Temperature Storage	Ta= 105±5°C	1000HRS (-24HRS,+72HRS)	MIL-STD-883D:1008 JIS C 7021:B-10
	Low Temperature Storage	Ta= -55±5°C	1000HRS (-24HRS,+72HRS)	JIS C 7021:B-12
	Environmental Test	Temperature Cycling	105°C ~ 25°C ~ -55°C ~ 25°C 30mins 5mins 30mins	10 Cycles
Thermal Shock		IR-Reflow In-Board, 2 Times 85 ± 5°C ~ -40°C ± 5°C 10mins 10mins	10 Cycles	MIL-STD-202F:107D MIL-STD-750D:1051 MIL-STD-883D:1011
Solder Resistance		T.sol= 260 ± 5°C	10 ± 1secs	MIL-STD-202F:210A MIL-STD-750D:2031 JIS C 7021:A-1
IR-Reflow Normal Process		Ramp-up rate(183°C to Peak) +3°C / second max Temp. maintain at 125(±25)°C 120 seconds max Temp. maintain above 183°C 60-150 seconds Peak temperature range 235°C+5/-0°C Time within 5°C of actual Peak Temperature (tp) 10-30 seconds Ramp-down rate +6°C/second max	----	MIL-STD-750D:2031.2 J-STD-020C
IR-Reflow Pb Free Process		Ramp-up rate(217°C to Peak) +3°C / second max Temp. maintain at 175(±25)°C 180 seconds max Temp. maintain above 217°C 60-150 seconds Peak temperature range 260°C+0/-5°C Time within 5°C of actual Peak Temperature (tp) 20-40 seconds Ramp-down rate +6°C/second max	----	MIL-STD-750D:2031.2 J-STD-020C
Solderability		T.sol= 235 ± 5°C Immersion rate 25±2.5 mm/sec Coverage ≥95% of the dipped surface	Immersion time 2±0.5 sec	MIL-STD-202F:208D MIL-STD-750D:2026 MIL-STD-883D:2003 IEC 68 Part 2-20 JIS C 7021:A-2



3. Use anti-static package or boxes to carry and storage LEDs. And ordinary plastic package or boxes is forbidden to use.
4. Use ionizer to neutralize the static charge during handling or operating.
5. All surfaces and objects within 1 ft close to LEDs measure less than 100V.

Cleaning

Use alcohol-based cleaning solvents such as IPA (isopropyl alcohol) to clean LEDs if necessary.

Soldering

1. Soldering condition refer to the draft "Soldering Profile Suggested" on page 1.
2. Reflow soldering should not be done more than 2 times.
3. Manual soldering is only suggested on repair and rework. The maximum soldering temperature should not exceed 300°C within 3 sec. And the maximum capacity of soldering iron is 30W in power.
4. During the soldering process, do not touch the lens at high temperature.
5. After soldering, any mechanical force on the lens or any excessive vibration shall not be accepted to apply, also the circuit board shall not be bent as well.

Others

1. The LEDs described here are intended to be used for ordinary electronic equipment (such as office equipment, communication equipment and household applications).Consult BYT's Sales in advance for the applications in which exceptional reliability is required, particularly when the failure or malfunction of the LEDs may directly jeopardize life or health. (such as in aviation, transportation, traffic control equipment, medical and life support systems and safety devices).
2. The light output from the high luminous intensity LEDs may cause injury to human eyes when viewed directly.
3. The appearance and specifications of the product may be modified for improvement without prior notice.