广州市东裕光电科技有限公司

产品规格书
SPECIFICATION

客户名称 CUSTOMER	
产品名称 PRODUCTION	贴片　SMD
产品型号 MODEL	DYWH-18-038BT/BDGAR6S1/38T
版本号 VERSION NO	A1.0

厂址(Add)：广东省广州市番禺区石基镇海涌路 3 号 10 号厂房 2 楼

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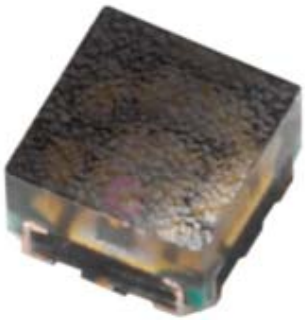
客户确认 CUSTOMER CONFIRMATION	审　核 CHECKED BY	编　制 PREPARED BY
	周毅兴	陈少龙

DYWH-18-038BT/BDGAR6S1/38T



产品描述 Descriptions

- 外观尺寸：1.0*1.0*0.65mm ，红、蓝、翠绿全彩贴片发光二极管

产品特性 Features

- 发光强度高，功耗低 (High Luminous Intensity ,Low Power Dissipation,)
- 可靠性好，使用寿命长 (Good Reliability and Long Life)
- 无铅 (Pb free)
- 符合 RoHS 要求 (This product itself will remain within RoHS compliant version)

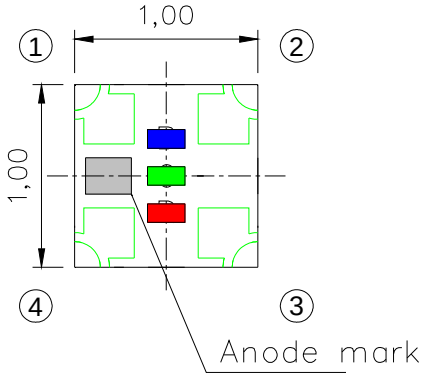
产品应用 Applications

- 办公室和家庭设备的指示灯 (Indicatorand back light in office and family equipment.)
- LCD 背光源 (LCD Back Light)
- 光管应用 (Light pipe application）
- 一般应用 (General use)

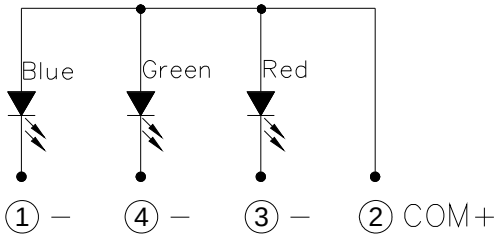
包装方式 Packing Quantity Specification

- 编带 38000 个/卷 (38000PCS/rolls)

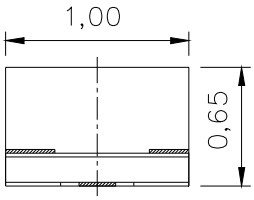
一、外形图 Outline dimensions：



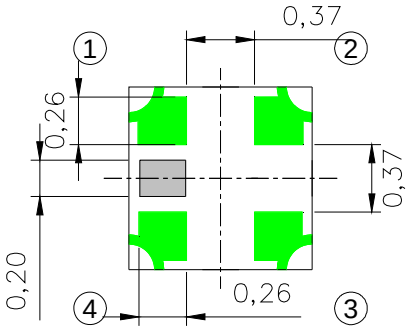
Top



Polarity

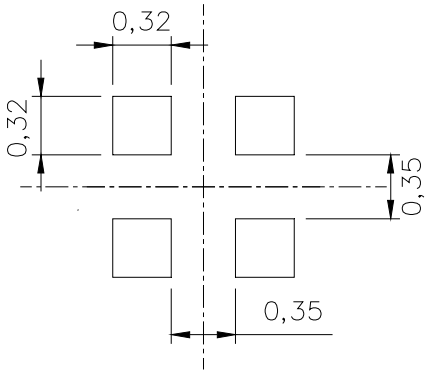


Side



Top Perspective

Recommend soldering pad



Suggested pad dimension is just for reference only.
Please modify the pad dimension based on individual need.

注：所有尺寸均为毫米，除非另有说明，公差为±0.1。
Notes: All dimensions are in mm, tolerance is ±0.1 unless otherwise noted.

单位 Unit	公差 Tolerance	芯片材料 Die material	发光颜色 Emission color	胶体颜色 Lens color
mm	±0.1mm	AlGaInP	Red	Black Surface Diffused
mm	±0.1mm	InGaN	Green	
mm	±0.1mm	InGaN	Blue	

※备注：承认书之编号和型号可用于查询，客户如有需要，请提供相应的编号和型号。
Remark：P/N & Model in samples approval sheet can be used to inquire，please provide corresponding P/N & model if customer need.

二、光电参数 Electro-Optical Characteristics：

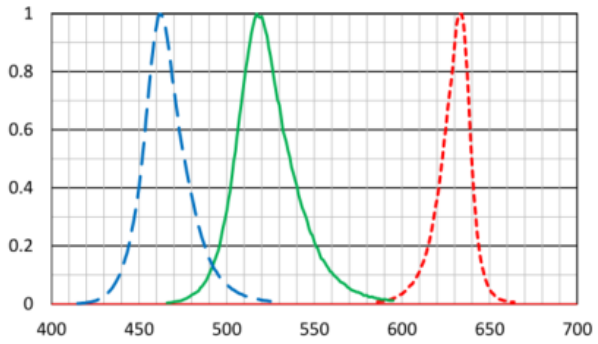
（环境温度 Ambient temperature：25℃，环境湿度 Humidity：RH60%）

Parameter	Symbol		Min.	Typ.	Max.	Unit	Condition
Luminous Intensity*1	Iv	R6	10	18	30	mcd	I_F=5mA
		GA	20	35	50		I_F=2mA
		BD	2.8	5	10		I_F=2mA
Viewing Angle	$2\theta_{1/2}$		-----	120	-----	deg	I_F=5mA
Dominant Wavelength*2	Λd	R6	615	-----	630	nm	I_F=5mA
		GA	520		545		I_F=2mA
		BD	460		480		I_F=2mA
Forward Voltage*3	V_F	R6	1.6	1.9	2.4	V	I_F=5mA
		GA	2.2	2.5	3.4		I_F=2mA
		BD	2.2	2.6	3.4		I_F=2mA
Reverse Current4	I_R		-----	-----	1	μA	V_R=10V

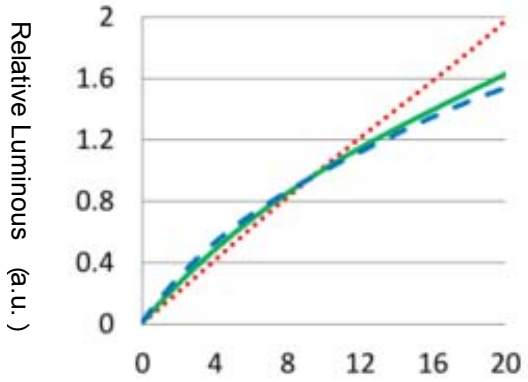
Note:
1. Tolerance of Luminous Intensity: ±10%
2. Tolerance of Dominant Wavelength: ±1nm
3. Tolerance of Forward Voltage: ±0.1V
4. Only for Electronic test
5. RA test @ 5mA

三、典型光电特性曲线图 Typical photoelectricity characteristic curve chart：

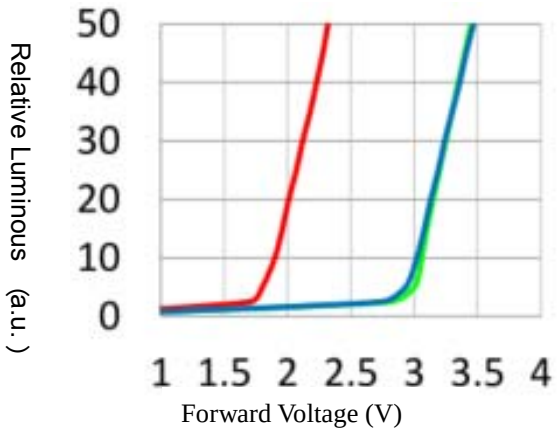
1. Spectrum Distribution
(T_A=25℃,IF=10mA)



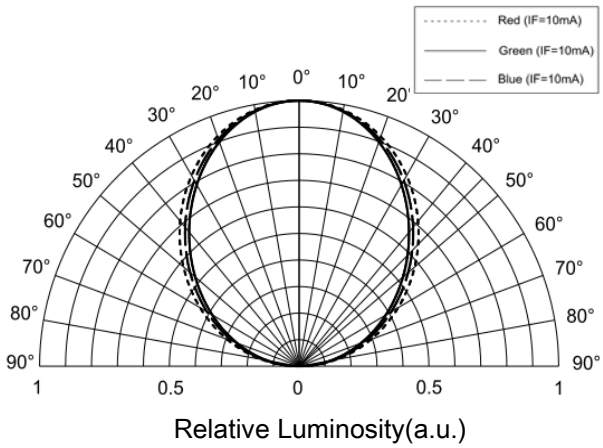
2. Relative Lumious vs. Forward Current
(T_A=25℃)



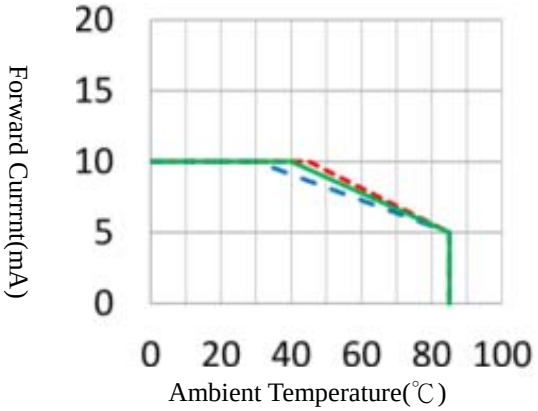
3. Relative Forward Voltage vs. Forward Current
(T_A=25℃)



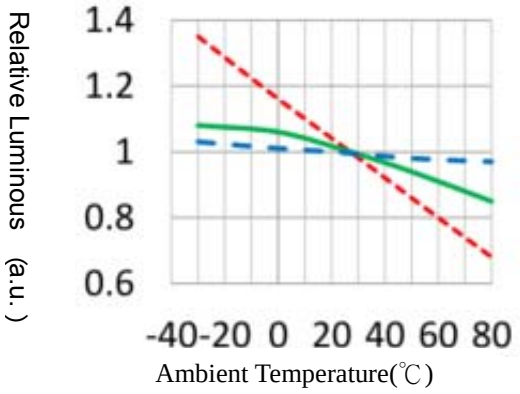
4. Radiation Diagram
(T_A=25℃)



5. Forward Currrnt vs. Ambient Temperature



6. Relative Lumious vs. Temperature



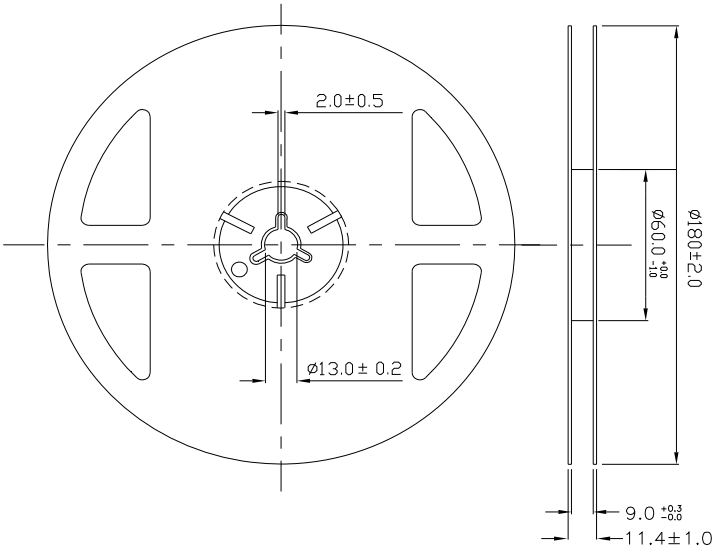
五、极限参数 Absolute Maximum Rating：

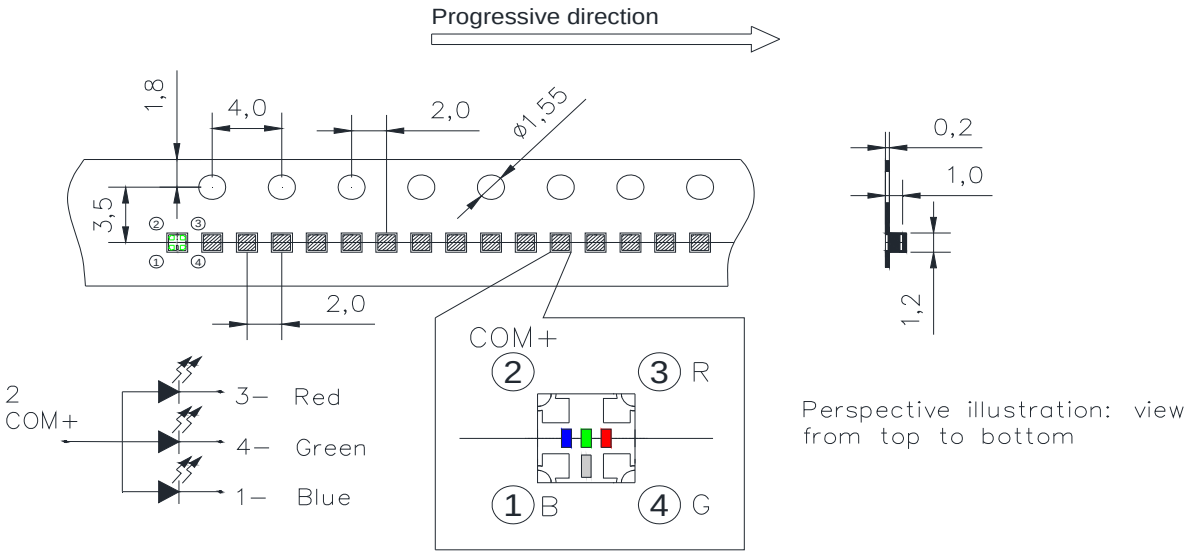
（环境温度 Ambient temperature：25℃，环境湿度 Humidity：RH60%）

Parameter	Symbol	Rating	Unit
Forward Current	I_F	R6:10 GA:10 BD:10	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	R6:20 GA:20 BD:20	mA
Power Dissipation	Pd	R6:24 GA:34 BD:34	mW
Junction Temperature	T_j	100	℃
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Soldering Temperature	T_{sol}	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

六、包装载带与圆盘尺寸 Package carrier and disk dimensions

包装数量：38000 个/卷 **Packing quantity:** 38000 **PCS/rolls**

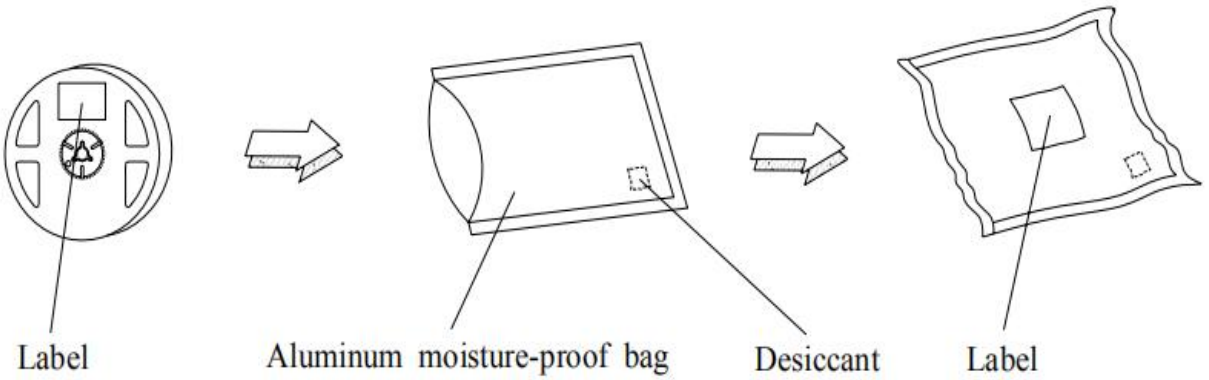




注：所有尺寸均为毫米，除非另有说明，公差为±0.1。

Notes: All dimensions are in mm, tolerance is ±0.1 unless otherwise noted.

产品包装及外标签 Moisture Resistant Packaging:



七、可靠性实验项目 Reliability Test Project

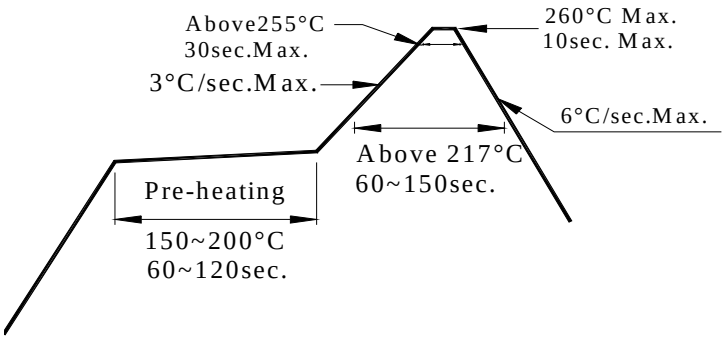
描述 Description	项目 Item	测试标准 Test criterion	测试条件 Test condition	测试时间 Test time	数量 Qty.	失效数量 Fail Qty.
寿命测试 Life test	常温寿命测试 Life test (room temperature)	JIS7021:B4	Ta=25℃±5℃，IF=20mA	1000Hrs	22	0
环境测试 Ambience test	高温存储 High temperature store	JIS7021:B10 MIL-STD-202:210A MIL-STD-750:2031	Ta=85℃±5℃	1000Hrs	22	0
	低温存储 Low temperature store	JIS7021:B12	Ta= -35℃±5℃	1000Hrs	22	0
	高温高湿测试 High temperature/ humidity test	JIS7021:B11 MIL-STD-202:103D	Ta=85℃±5℃ RH=85%	1000Hrs	22	0
	冷热冲击测试 Cold / Heat strike test	JIS7021:B4 MIL-STD-202:107D MIL-STD-750:1026	30min -10℃±5℃←→100℃±5℃ 5min 5min	50Cycles	22	0
	冷热循环测试 Cold and heat cycle test	JIS7021:A3 MIL-STD-202:107D MIL-STD-705:105E	5min 5min 5min -35℃～25℃～85℃～-35℃ 30min 5min 30min 5min	50Cycles	22	0

八、注意事项 Note

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 After opening the package: The LEDs should be kept at 30℃ or less and 60%RH or less.
2.3 The LEDs should be used within 168 hours (7days) after opening the package .
If unused LEDs remain, it should be stored in moisture proof packages.
2.4 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℃ for 24 hours.

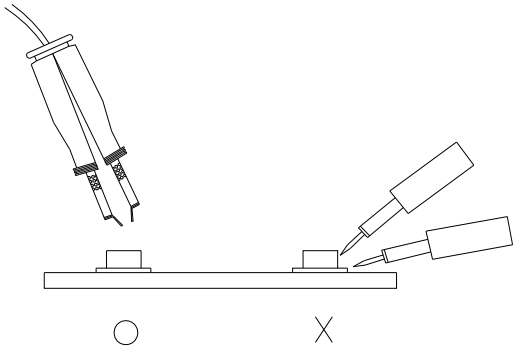
3. Soldering Condition
3.1 Pb-free solder temperature profile



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℃ 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.



Application Restrictions

High reliability applications such as military/aerospace, automotive safety/security systems, and medical equipment may require different product. If you have any concerns, please contact Everlight before using this product in your application. This specification guarantees the quality and performance of the product as an individual component. Do not use this product beyond the