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Technical Data Sheet

MODEL NO : S2835UVA4-PL

3528 Package 3.5(L)*2.8mm(W)*0.8(T) Chip LEDs

Features :

- Compatible with automatic placement equipment
- Compatible with reflow solder process

Applications :

- Indicators
- Automotive : backlighting in dashboard and switch
- Backlight for LCD

Dice material	Emitted color	Lens Color	Resin
InGaN	Purple	Water Clear	Silicon

Electrical/Optical Characteristics(Ta=25°C)

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Peak Wave Length	IF=60mA	λ_p	380		385	nm
Forward voltage	IF=60mA	V_F	3.2		3.6	V
Radiant flux	IF=60mA	ϕ_e	30		40	mW
Luminous intensity	IF=60mA	I_V	1		10	mcd
Viewing angle at 50% Iv	IF=60mA	$2\theta_{1/2}$		120		Deg
Reverse current	VR=5V	I_R			10	μA

Absolute Maximum Ratings(Ta=25°C)

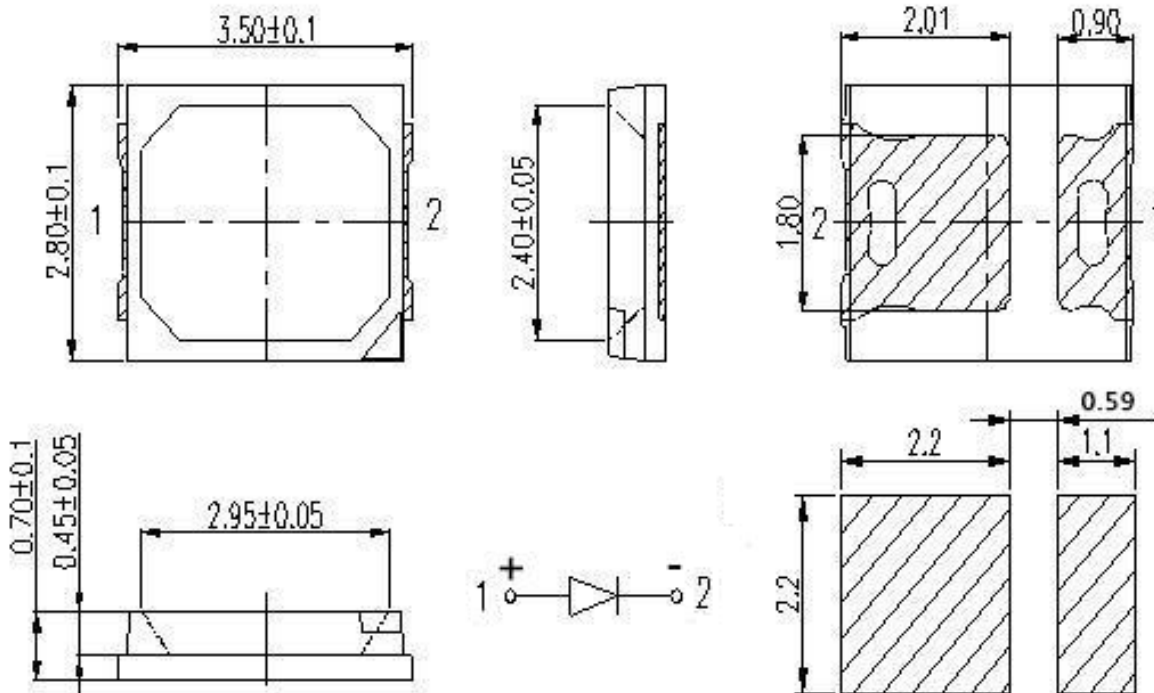
Parameter	Symbol	Value	Unit
Power dissipation	P_d	216	mW
Forward current	I_F	60	mA
Reverse voltage	V_R	5	V
Operating temperature range	Top	-20 ~+80	°C
Storage temperature range	Tstg	-40 ~+100	°C
Peak pulsing current (1/8 duty f=1kHz)	I_{fp}	60	mA

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PACKAGING DIMENSIONS



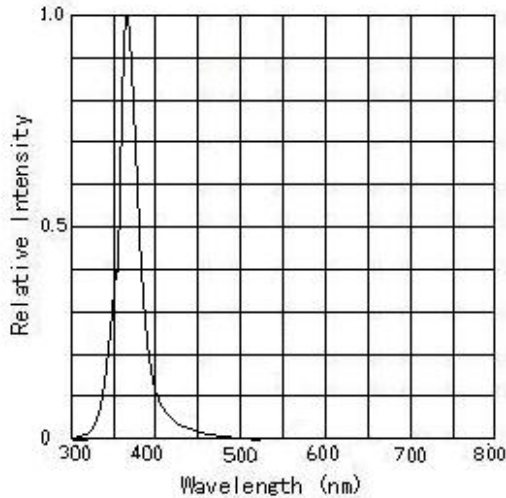
NOTES :

1. All dimensions are in millimeters (inches) ;
2. Tolerances are ± 0.2 mm (0.008 inch) unless otherwise noted .

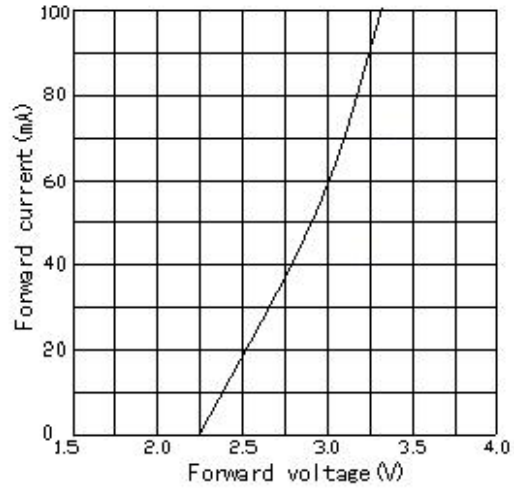


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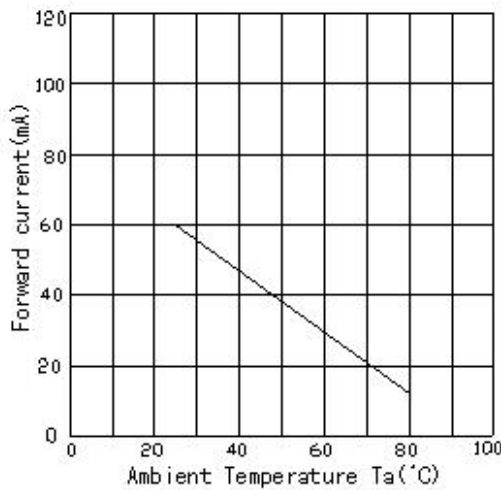
Typical Electro-Optical Characteristics Curve:



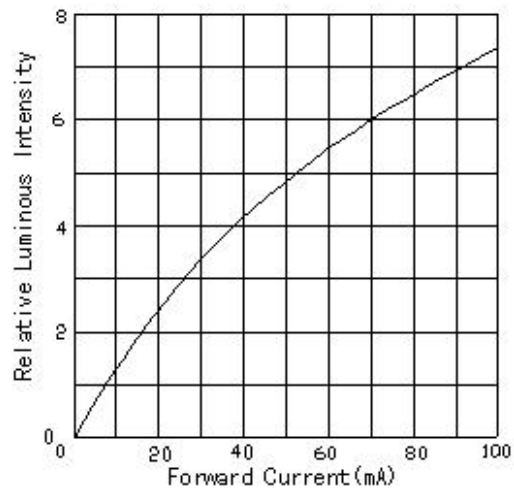
Relative Intensity vs. Wavelength



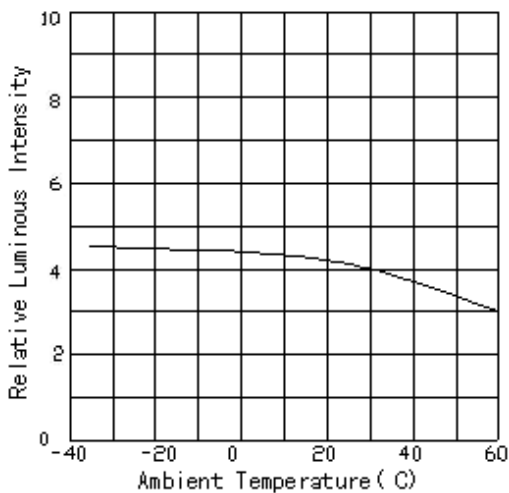
Forward current vs. Forward voltage



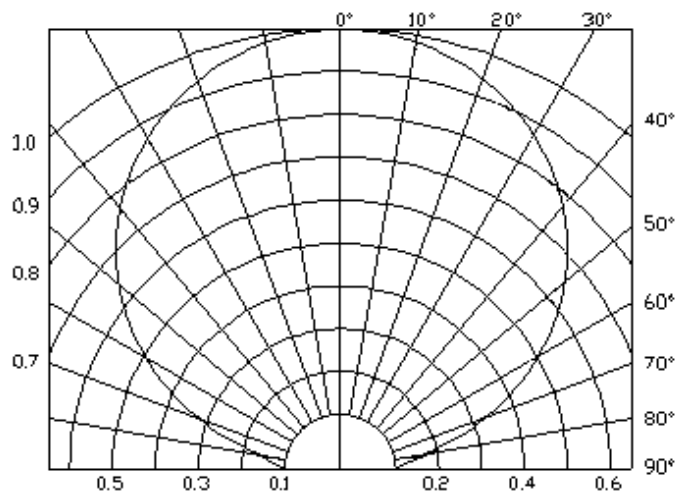
Forward current Derating Curve



Relative Luminous Intensity vs. Forward Current



Luminous Intensity vs. Ambient Temperature



Radiation Diagram



Reliability Test Items And Conditions

實驗項目 Test Items	參考標準 Reference	實驗條件 Test Conditions	時間 Time	樣品數 Quantity	判據 Criterion
冷熱衝擊 Thermal Shock	MIL-STD-202G	-20°C (30min) -80°C (30min)	100迴圈 100 Cycles	22	0/22
濕熱迴圈 Temperature And Humidity Cyclic	JEITA ED-4701 200 203	-10°C~65°C ; 0%~90%RH	10迴圈 10cycles	22	0/22
高溫儲存 High Temperature Storage	JEITA ED -4071 200 201	Ta=80°C	1000H	22	0/22
低溫儲存 Low Temperature Storage	JEITA ED -4071 200 202	Ta=-20°C	1000H	22	0/22
高溫高濕儲存 High Temperature High Humidity Storage	JEITA ED -4071 100 103	Ta=60°C ; RH=90%	1000H	22	0/22
高溫壽命 High Temperature Life Test	JESD22-A108D	Ta=80°C	1000H	22	0/22
常溫壽命試驗 Life Test	JESD22-A108D	Ta=25°C IF=60mA	1000H	22	0/22
耐焊接熱 Resistance to Soldering Heat	GB/T 4937, II , 2.2&2.3	Tsol*=(240±5)°C 10secs	2次 2 times	22	0/22

失效判斷標準 Criteria For Judging Damage

測試項目 Test Items	符號 Symbol	測試條件 Test Conditions	判定標準 Criteria For Judging Damage
正向電壓 Forward Voltage	V _F	I _F =I _{FT}	初始值±10% Initial Data±10%
反向電流 Reverse Current	I _R	V _R =5V	I _R ≤10uA
光強 Luminous Intensity	IV	I _F =I _{FT}	平均I _V 衰減≤30% ; 單個I _V 衰減≤50% Average I _V degradation≤30% ; Single LED I _V degradation≤50%
耐焊接熱 Resistance to Soldering Heat			材料內部無裂痕、無材料間爆裂、剝離、無 死燈 Material without internal cracks, no material between stripped, no dead light

*注：Tsol-錫液溫度 *Note Tsol-Temperature of tin liquid



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Precautions For Use :

Over - current - proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen)

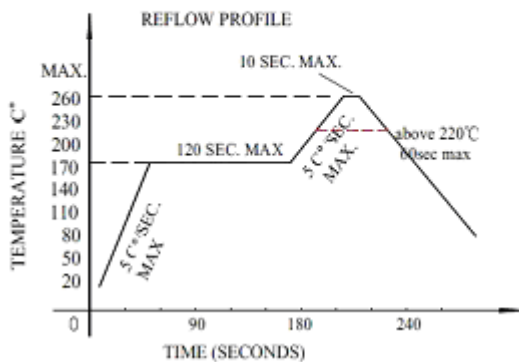
Storage

1. The operation of temperature and R.H. are : $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$, 60%R.H. Max.
2. Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a dampproof box with desiccating regent. Considering the tape life, we suggest our customers to use our products within 1.5 year (from production date) .
3. It's recommended to bake before soldering when the package is unsealed after 72 hrs. The condition is : $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 15hrs.

■ Reflow Temp/Time

■ Temperature-profile (Surface of circuit board)

Use the following conditions shown in the figure.



NOTES:

1. We recommend the reflow temperature $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■Soldering iron

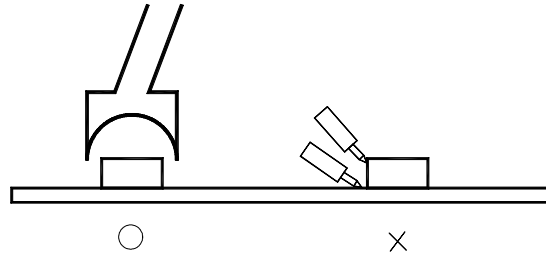
Basic spec is $\leq 5\text{sec}$ when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec}$). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 230°C .



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■ Rework

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



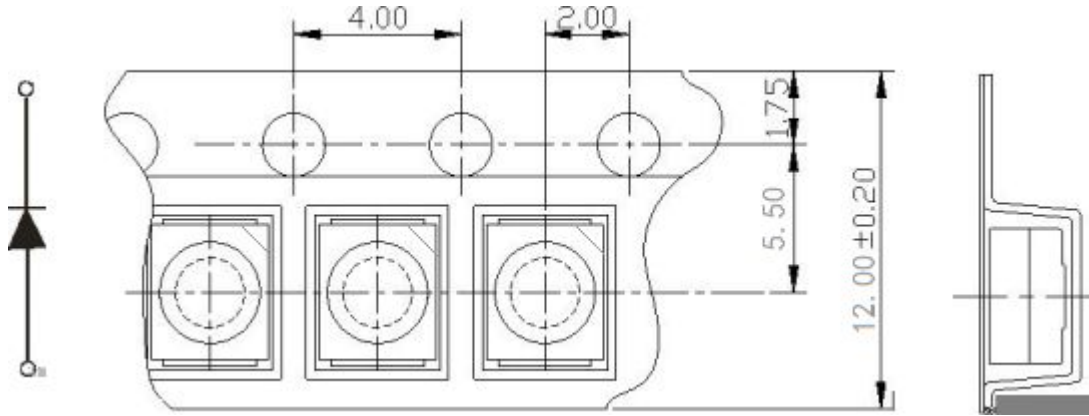
- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow 、solder etc.



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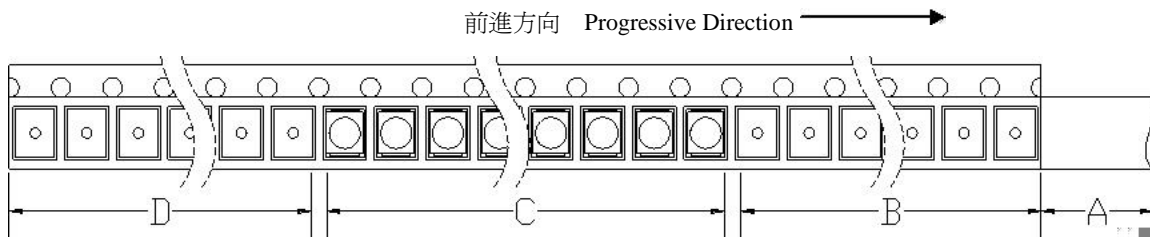
■Dimensions of Tape (Unit: mm)

Carrier Tape



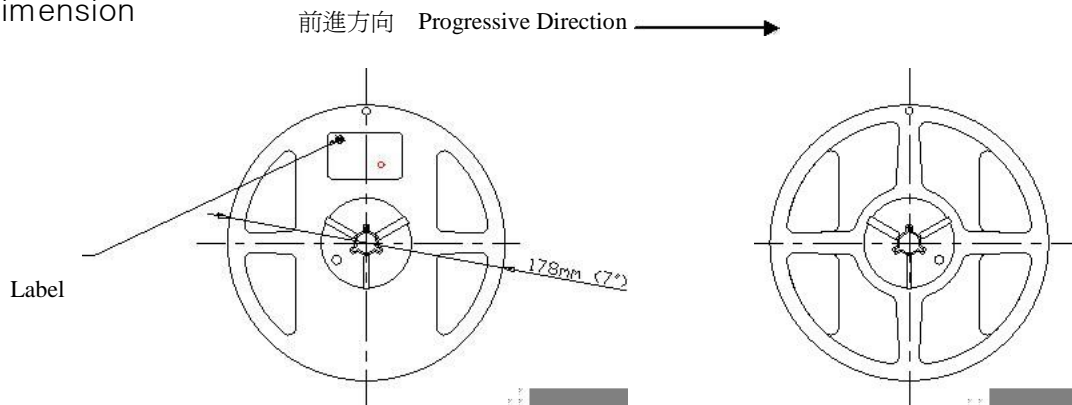
单位：mm，未注公差：±0.1 mm
All dimensions in mm, tolerances unless mentioned is ±0.1 mm.

◇ Details Of Carrier Tape



A：蓋帶，300 mm；B：引導，空帶，200mm；C：編載產品 4000只；D：尾部，空帶，200mm
A: Top Cover Tape, 300mm; B: Leader, Empty, 200mm; C: 4000 Lamps Loaded; D: Trailer, Empty, 200mm.

◇ Reel Dimension



■Note

1. Empty component pockets are sealed with top cover tape;
2. The maximum number of missing lamps is two.
3. 4,000 pcs/Reel