



Technical Data Sheet

Chip LED with Right Angle Lens

12-215SUBC/S400-A4/S229/TR8

Features

- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.

Descriptions

- The 12-215 SMD Taping is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- Besides, lightweight makes them ideal for miniature applications. etc.

Applications

- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

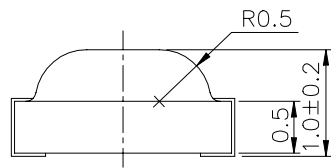
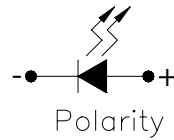
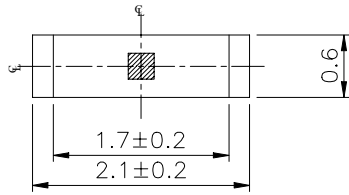


Device Selection Guide

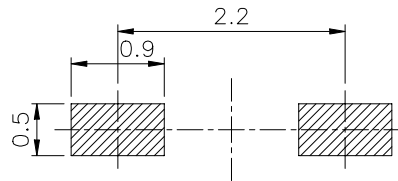
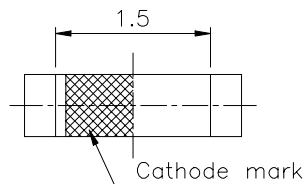
Chip		Lens Color
Material	Emitted Color	
InGaN	Super Blue	Water Clear

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Package Outline Dimensions



For reflow soldering



Notes: Tolerances Unless Dimension $\pm 0.1\text{mm}$, Angle $\pm 0.5^\circ$,Unit = mm

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	25	mA
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +90	°C
Soldering Temperature	T _{sol}	260 (for 5 second)	°C
Electrostatic Discharge	ESD	150	V
Power Dissipation	P _d	110	mW
Peak Forward Current (Duty 1/10 @1KHz)	I _F	100	mA

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Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	8	-----	26	mcd	I _F =5mA
Viewing Angle	2θ 1/2	-----	130	-----	deg	I _F =20mA
Peak Wavelength	λ _p	-----	468	-----	nm	I _F =20mA
Dominant Wavelength *1	λ _d	470	-----	475	nm	I _F =5mA
Spectrum Radiation Bandwidth	△λ	-----	35	-----	nm	I _F =20mA
Forward Voltage *2	V _F	2.8	-----	3.1	V	I _F =5mA
Reverse Current	I _R	-----	-----	50	μA	V _R =5V

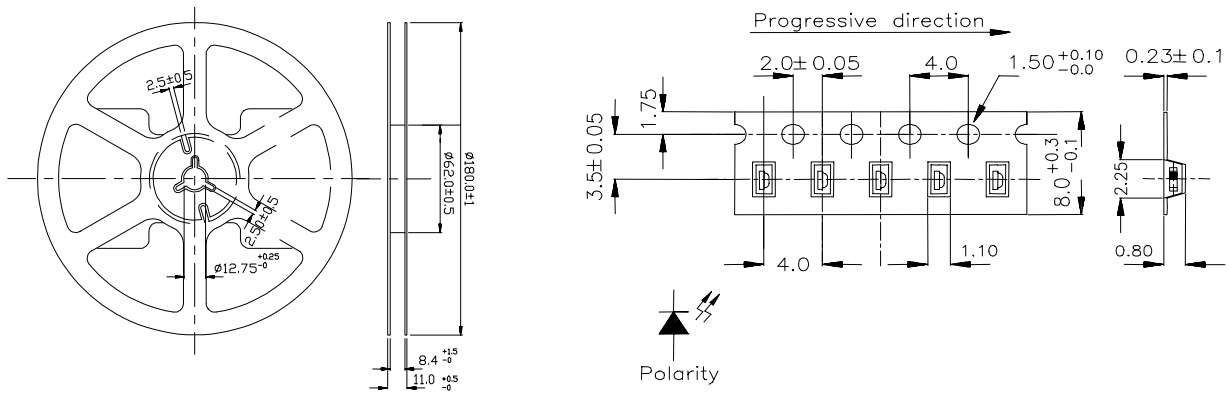
Note

***1:Tolerance of Dominant Wavelength ± 1nm**

***2:Tolerance of Forward Voltage ± 0.1V**

Reel & Carrier Tape Dimensions

Loaded quantity per reel 3000 PCS/reel



Notes: Tolerances Unless Dimension ± 0.1mm , Angle± 0.5° ,Unit = mm



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Bin Range Of Luminous Intensity $I_F=5mA$

Bin	Min	Typ	Max	Unit
I1	8.0	----	16.0	mcd
I2	13.0	----	26.0	mcd

Bin Range Of Dom. Wavelength $I_F=5mA$

Bin	Min	Typ	Max	Unit
W2	470	----	475	nm

Bin Range Of Forward Voltage $I_F=5mA$

Bin	Min	Typ	Max	Unit
V1	2.80	----	2.95	V
V2	2.95	----	3.10	V

Label explanation

CAT: Luminous Intensity (mcd) HUE: Dom. Wavelength (nm) REF: Forward Voltage (V)

EVERLIGHT

CPN :
P/N: XXXXXXXXXXXX



XX-XXXXXXXX

QTY: XXXX



LOT NO: XXXXXXXXXXX

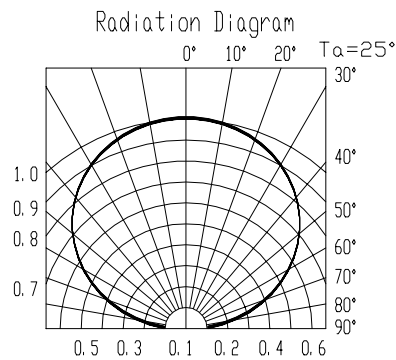
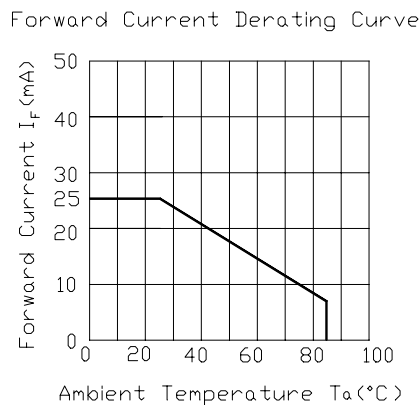
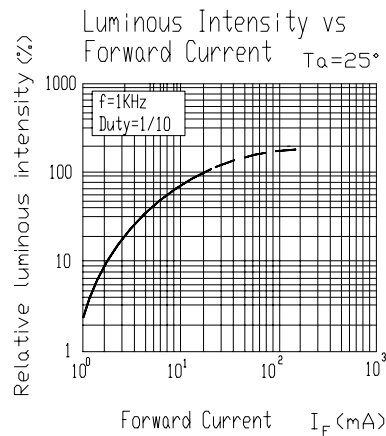
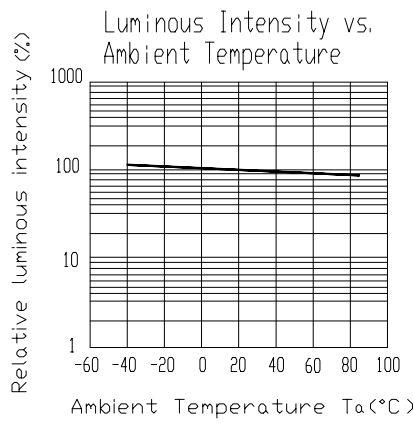
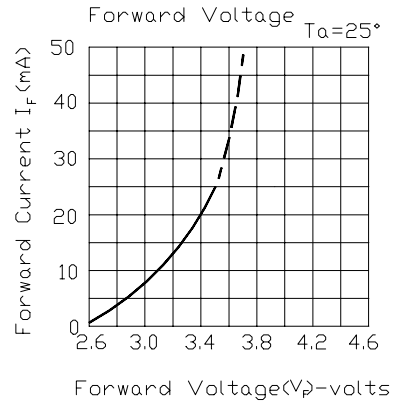
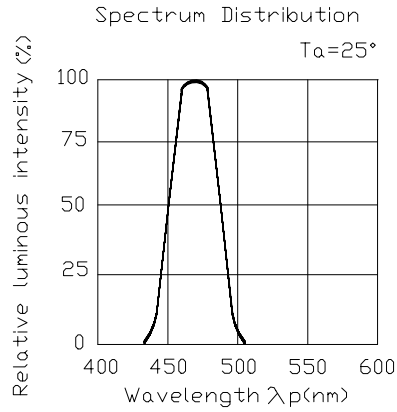


CAT:
HUE:
REF:

MADE IN TAIWAN

Iv λd VF

Typical Electro-Optical Characteristics Curves



12-215SUBC/S400-A4/S229/TR8**Reliability Test Items And Conditions**

The reliability of products shall be satisfied with items listed below.

Confidence level : 90 %

LTPD : 10 %

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Rc
1	Reflow	Temp. : 240°C ± 5°C Min. 5 sec.	5 Sec.	22 Pcs.	0/1
2	Temperature Cycle	H : +85°C 30 min. ∫ 5 min. L : -55°C 30 min.	100 Cycles	22 Pcs.	0/1
3	Thermal Shock	H : +100°C 5 min. ∫ 10 sec. L : -10°C 5 min.	100 Cycles	22 Pcs.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	22 Pcs.	0/1
5	Low Temperature Storage	Temp. : -55°C	1000 Hrs.	22 Pcs.	0/1
6	DC Operating Life	IF = 20 mA	1000 Hrs.	22 Pcs.	0/1
7	High Temperature / High Humidity	85°C/RH 85%	1000 Hrs.	22 Pcs.	0/1

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Precautions For Use

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 time

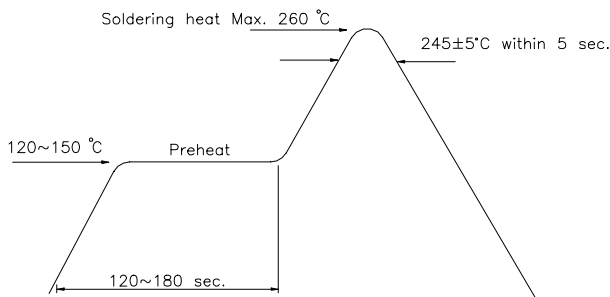
2.1 The operation of Temperature and RH are : 5°C ~35°C , RH60%.

2.2 Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp proof box with descanting agent. Considering the tape life , we suggest our customers to use our products within a year(from production date).

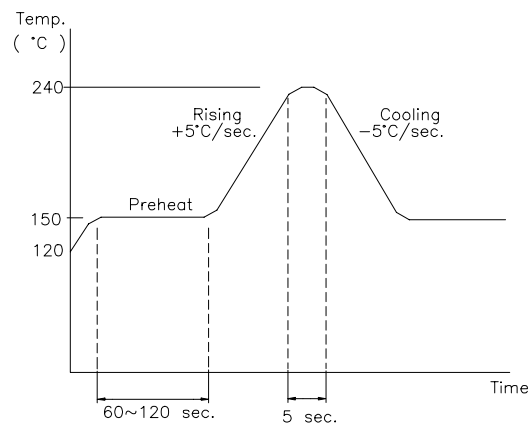
2.3 If opened more than one week in an atmosphere 5°C ~35°C , RH 60%, they should be treated at 60°C± 5°C for 15hrs.

2.4 When you discover that the desiccant in the package has a pink color (Normal = blue) , you should treat them in the same conditions as 2.3.

Soldering heat



Reflow Temp / Time

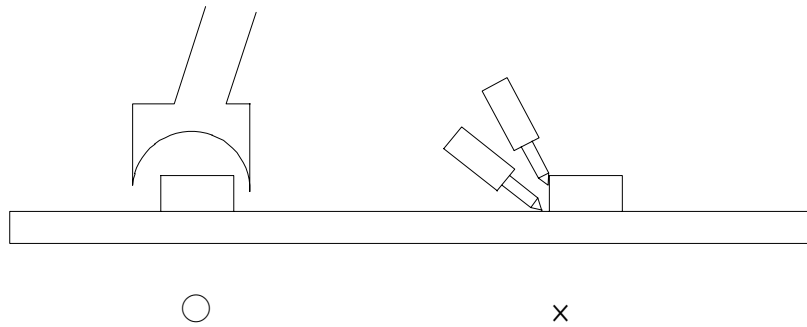


Soldering Iron

Basic spec is ≤ 5 sec when 260°C. If temperature is higher, time should be shorter (+10°C → -1sec). Power dissipation of Iron should be smaller than 15 W , and temperature should be controllable. Surface temperature of the device should be under 230 °C .

Rework

1. Customer must finish rework within 5 sec under 245°C.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.



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