

AM2520SECK08

Subminiature Solid State Lamp



PACKAGE DIMENSIONS

DESCRIPTIONS

- The Super Bright Orange device is made with AIGaInP (on GaAs substrate) light emitting diode chip
- · Electrostatic discharge and power surge could damage the LEDs
- · It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs
- · All devices, equipments and machineries must be electrically grounded

FEATURES

- Subminiature package
- Yoke lead
- · Long life solid state reliability
- · Low package profile
- Moisture sensitivity level: 3
- Package: 1000 pcs / reel
- RoHS compliant

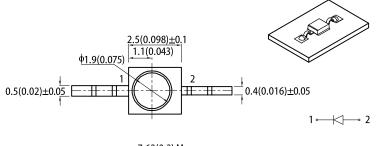
APPLICATIONS

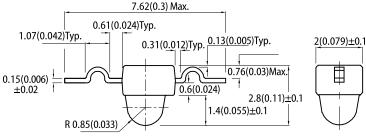
- Backlight
- · Status indicator
- · Home and smart appliances
- · Wearable and portable devices
- · Healthcare applications

ATTENTION

Observe precautions for handling electrostatic discharge sensitive devices

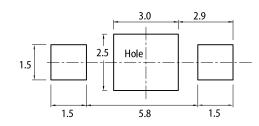






RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes

1. All dimensions are in millimeters (inches).

Tolerance is ±0.25(0.01") unless (therwise noted.
The specifications, characteristics and technical data described in the datasheet are subject to change

without prior notice. The device has a single mounting surface. The device must be mounted according to the specifications 4.

SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	lv (mcd) @ 20mA ^[2]		Viewing Angle ^[1]	
			Min.	Тур.	201/2	
AM2520SECK08	Super Bright Orange (AlGaInP)	Water Clear	2700	4800	aa°	
			*1900	*3500	20°	

Notes:

1. 61/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
Luminous intensity / luminous flux: +/-15%.
Luminous intensity value is traceable to CIE127-2007 standards.

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ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

Parameter	Symbol	Euritium Oalan	Value		1114
Parameter		Emitting Color	Тур.	Max.	Unit
Wavelength at Peak Emission $I_F = 20 \text{mA}$	λ_{peak}	Super Bright Orange	610	-	nm
Dominant Wavelength I _F = 20mA	λ_{dom} ^[1]	Super Bright Orange	605	-	nm
Spectral Bandwidth at 50% Φ REL MAX I _F = 20mA	Δλ	Super Bright Orange	29	-	nm
Capacitance	с	Super Bright Orange	15	-	pF
Forward Voltage I _F = 20mA	V _F ^[2]	Super Bright Orange	2.1	2.5	V
Reverse Current ($V_R = 5V$)	I _R	Super Bright Orange	-	10	μA
Temperature Coefficient of λ_{peak} I_F = 20mA, -10°C \leq T \leq 85°C	TC _{λpeak}	Super Bright Orange	0.13	-	nm/°C
Temperature Coefficient of λ_{dom} I_{F} = 20mA, -10°C \leq T \leq 85°C	TC _{λdom}	Super Bright Orange	0.06	-	nm/°C
Temperature Coefficient of V_F I _F = 20mA, -10°C \leq T \leq 85°C	TCv	Super Bright Orange	-1.9	-	mV/°C

Notes:

1. The dominant wavelength (λd) above is the setup value of the sorting machine. (Tolerance λd : ±1nm.) 2. Forward voltage: ±0.1V.

Wavelength value is traceable to CIE127-2007 standards.
Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

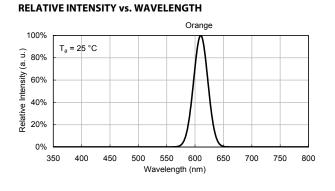
ABSOLUTE MAXIMUM RATINGS at $T_A=25^{\circ}C$

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	75	mW
Reverse Voltage	V _R	5	V
Junction Temperature	Tj	115	°C
Operating Temperature	T _{op}	-40 to +85	°C
Storage Temperature	T _{stg}	-40 to +85	°C
DC Forward Current	١ _F	30	mA
Peak Forward Current	۱ _{FM} ^[1]	195	mA
Electrostatic Discharge Threshold (HBM)	-	3000	V
Thermal Resistance (Junction / Ambient)	R _{th JA} ^[2]	620	°C/W
Thermal Resistance (Junction / Solder point)	$R_{th}{}_{JS}{}^{[2]}$	455	°C/W

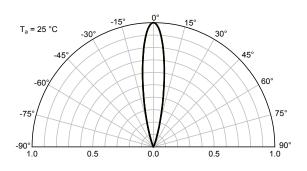
Notes: 1. 1/10 Duty Cycle, 0.1ms Pulse Width. 2. R_{In JA}, R_{In IS} Results from mounting on PC board FR4 (pad size ≥ 16 mm² per pad). 3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

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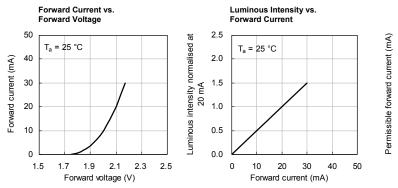
TECHNICAL DATA



SPATIAL DISTRIBUTION



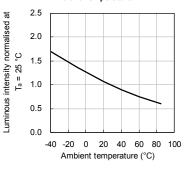
SUPER BRIGHT ORANGE



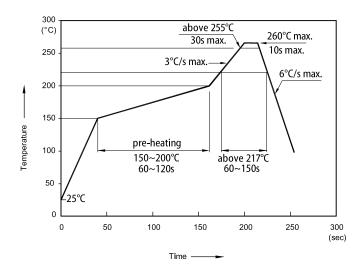
50 at 40 30 20 10 0 -40 -20 0 20 40 60 80 100 Ambient temperature (°C)

Forward Current Derating Curve

Luminous Intensity vs. Ambient Temperature



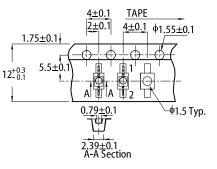
REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

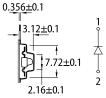


Notes.

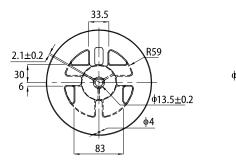
 Don't cause stress to the LEDs while it is exposed to high temperature.
The maximum number of reflow soldering passes is 2 times.
Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

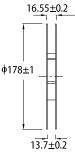
TAPE SPECIFICATIONS (units : mm)





REEL DIMENSION (units : mm)

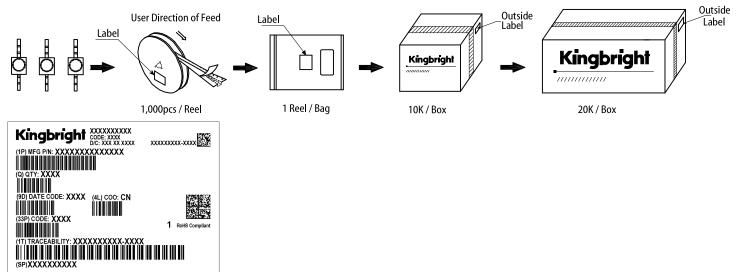




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PACKING & LABEL SPECIFICATIONS



PRECAUTIONARY NOTES

- 1. 2.
- The information included in this document reflects representative usage scenarios and is intended for technical reference only. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
- When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening 3.
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- 5. Notes

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