

AM23ESGW

SOT-23 Surface Mount LED Lamp



DESCRIPTIONS

- The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode
- The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode

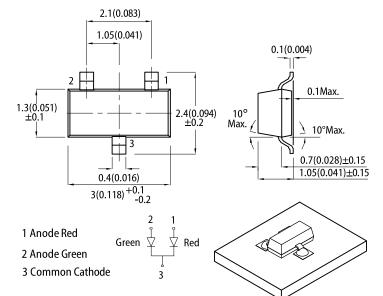
FEATURES

- SOT-23 package surface mount LED lamp
- · Low power consumption
- · Long life solid state reliability
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- · RoHS compliant

APPLICATIONS

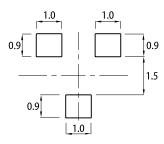
- Backlight
- · Status indicator
- · Home and smart appliances
- · Wearable and portable devices
- · Healthcare applications

PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes

1. All dimensions are in millimeters (inches)

Tolerance is ±0.25(0.01") unless otherwise noted.
 Lead spacing is measured where the lead emerge from the package.

4. The specifications, characteristics and technical data described in the datasheet are subject to change

without prior notice. 5.The device has a single mounting surface. The device must be mounted according to the specifications.

SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	lv (mcd) @ 20mA ^[2]		Viewing Angle [1]	
			Min.	Тур.	201/2	
AM23ESGW	High Efficiency Red (GaAsP/GaP)	White Diffused	5	12		
			*3	*5	160°	
	Super Bright Green (GaP)		5	9		
			*5	*9		

Notes

1. 01/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
 2. 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	Emitting Color	Value		l l mit
Parameter		Emitting Color	Тур.	Max.	Unit
Wavelength at Peak Emission I_F = 20mA	λ_{peak}	High Efficiency Red Super Bright Green	627 565	-	nm
Dominant Wavelength I _F = 20mA	λ_{dom} ^[1]	High Efficiency Red Super Bright Green	617 568	-	nm
Spectral Bandwidth at 50% Φ REL MAX I _F = 20mA	Δλ	High Efficiency Red Super Bright Green	45 30	-	nm
Capacitance	С	High Efficiency Red Super Bright Green	15 15	-	pF
Forward Voltage $I_F = 20 \text{mA}$	$V_{F}^{[2]}$	High Efficiency Red Super Bright Green	2.0 2.2	2.5 2.5	V
Reverse Current (V _R = 5V)	I _R	High Efficiency Red Super Bright Green	-	10 10	uA

Notes:

Notes:
 The dominant wavelength (λd) above is the setup value of the sorting machine. (Tolerance λd : ±1nm.)
 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.

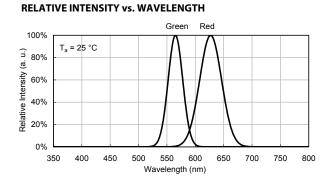
ABSOLUTE MAXIMUM RATINGS at $T_A=25^{\circ}C$

Parameter	Symbol	Valı	Unit	
Farameter		High Efficiency Red	Super Bright Green	Unit
Power Dissipation	PD	75	62.5	mW
Reverse Voltage	VR	5	5	V
Junction Temperature	TJ	125	110	°C
Operating Temperature	Тор	-40 To	°C	
Storage Temperature	Tstg	-40 To +85		°C
DC Forward Current	lF	30	25	mA
Peak Forward Current	IFM ^[1]	160	140	mA
Electrostatic Discharge Threshold (HBM)	-	8000	8000	V

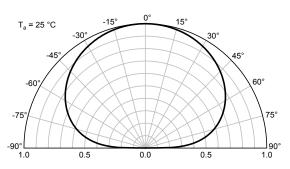
Notes: 1. 1/10 Duty Cycle, 0.1ms Pulse Width. 2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

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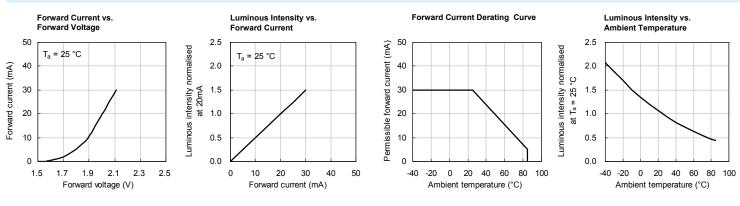
TECHNICAL DATA

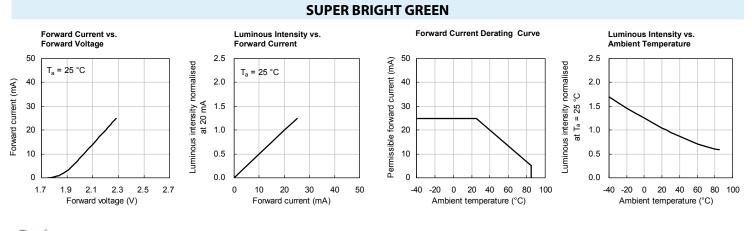


SPATIAL DISTRIBUTION



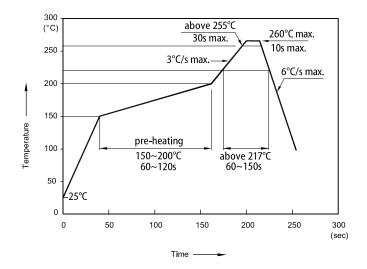






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REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

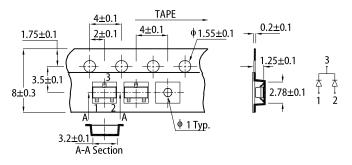


Notes:

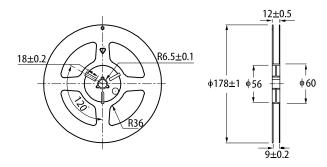
Don't cause stress to the LEDs while it is exposed to high temperature.

- 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.

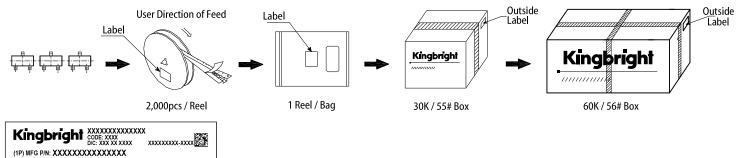
TAPE SPECIFICATIONS (units : mm)



REEL DIMENSION (units : mm)



PACKING & LABEL SPECIFICATIONS



PRECAUTIONARY NOTES

ODE: XXXX (4L) COO: XX

xxxxxxxxxxxxxxx

- 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. 2
- 3. 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
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1 RoHS Complian