

Cree® PLCC4 1 in 1 SMD LED

CLM4B-RKW&AKW

Data Sheet

SMD LEDs is packaged in the industry standard package. These LEDs have high reliability performance and are designed to work under a wide range of environmental conditions. This high reliability feature makes them ideally suited to be used under architectural lighting application conditions.

Its wide viewing angle makes these LEDs ideally suited for channel letter, or architectural lighting applications. The flat top emitting surface makes it easy for these LEDs to mate with light pipes.



FEATURES

- Size (mm): 3.2 x 2.7
- Color and Typical Dominant Wavelength (nm):
Red (624)
Amber (591)
- Luminous Intensity (mcd)
CLM4B-RKW (1120-2800)
CLM4B-AKW (1120-2800)
- Viewing Angle: 120 degree
- Lead-Free
- RoHS Compliant

APPLICATIONS

- Light Strip
- Channel Letter
- Architectural Lighting



Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$)

Items	Symbol	Absolute Maximum Rating	Unit
		Red/Amber	
Forward Current	I_F	70	mA
Peak Forward Current ^{Note}	I_{FP}	200	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	210	mW
Operation Temperature	T_{opr}	-40 ~ +100	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
Junction Temperature	T_J	110	$^\circ\text{C}$
Junction/Ambient	R_{THJA}	300	$^\circ\text{C}/\text{W}$
Junction/Solder Point	R_{THJS}	150	$^\circ\text{C}/\text{W}$
Electrostatic Discharge Classification(MIL-STD-883E)	ESD	Class 2	

Note: Pulse width ≤ 0.1 msec, duty cycle $\leq 1/10$.

Typical Electrical & Optical Characteristics ($T_A = 25^\circ\text{C}$)

Characteristics	Color	Symbol	Condition	Unit	Minimum	Typical	Maximum
Forward Voltage	Red/Amber	V_F	$I_F = 50$ mA	V		2.4	3.0
Reverse Current	Red/Amber	I_R	$V_R = 5$ V	μA			10
Dominant Wavelength	Red	λ_D	$I_F = 50$ mA	nm	618	624	630
	Amber	λ_D	$I_F = 50$ mA	nm	584	591	599
Luminous Intensity	Red	I_V	$I_F = 50$ mA	mcd	1120	1600	
	Amber	I_V	$I_F = 50$ mA	mcd	1120	1500	
50% Power Angle	Red/Amber	$2\theta_{1/2}$	$I_F = 50$ mA	deg		120	



Intensity Bin Limit ($I_F = 50 \text{ mA}$)

Red (CLM4B-RKW)

Bin Code	Min.(mcd)	Max.(mcd)
Wa	1120	1400
Wb	1400	1800
Xa	1800	2240
Xb	2240	2800

Amber (CLM4B-AKW)

Bin Code	Min.(mcd)	Max.(mcd)
Wa	1120	1400
Wb	1400	1800
Xa	1800	2240
Xb	2240	2800

Tolerance of measurement of luminous intensity is $\pm 10\%$.

Color Bin Limit ($I_F = 50 \text{ mA}$)

Red (CLM4B-RKW)

Bin Code	Min.(nm)	Max.(nm)
RA	618	630

Amber (CLM4B-AKW)

Bin Code	Min.(nm)	Max.(nm)
A2	584	587
A3	587	590
A4	590	593
A5	593	596
A6	596	599

Tolerance of measurement of dominant wavelength is $\pm 1 \text{ nm}$

Graphs

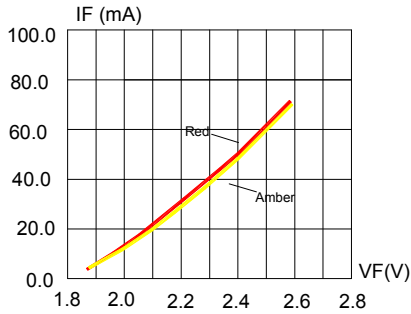


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

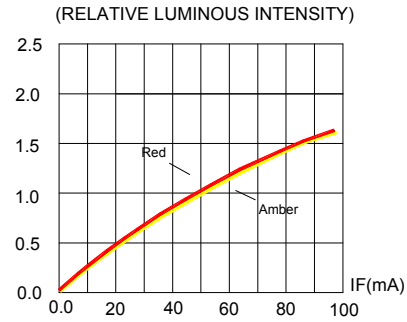


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

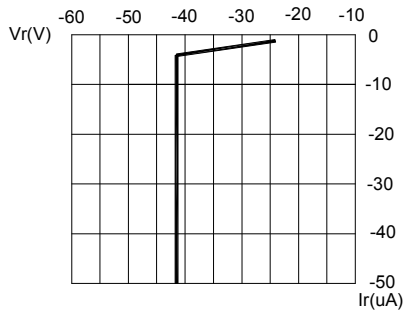


FIG.3 RED&AMBER REVERSE CURRENT VS. REVERSE VOLTAGE.

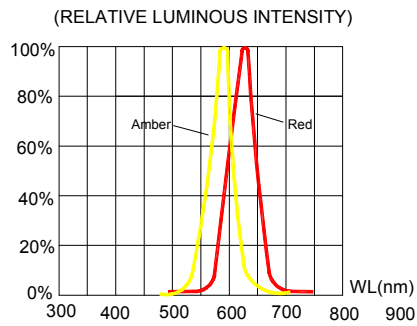


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

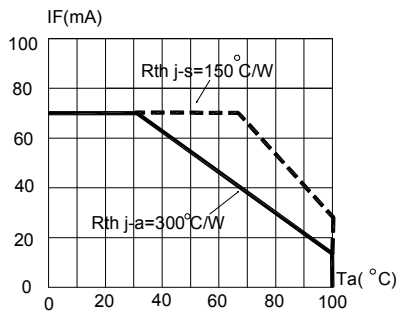


FIG.5 RED&AMBER MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ($T_{jmax}=110^{\circ}C$)

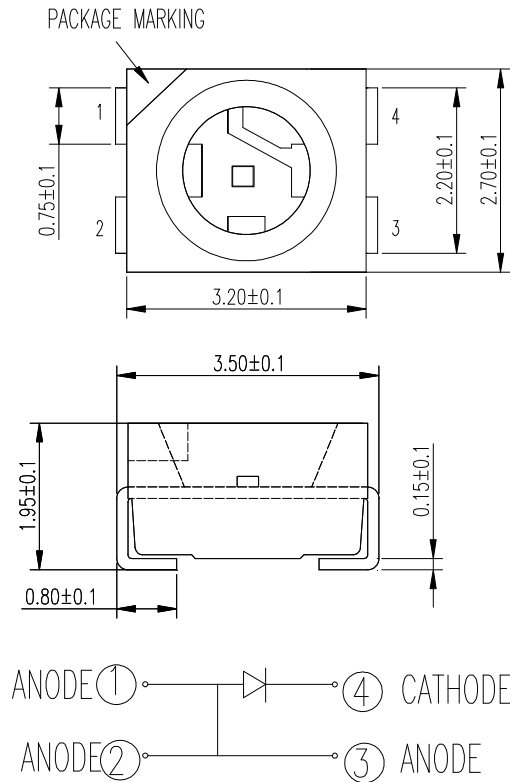


FIG.6 FAR FIELD PATTERN

The above data are collected from statistical figures which do not necessarily correspond to the actual parameters of each single LED. Hence, these data will be changed without further notice.

Mechanical Dimensions

All dimensions are in mm.



Notes

RoHS Compliance

The levels of environmentally sensitive, persistent biologically toxic (PBT), persistent organic pollutants (POP), or otherwise restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), as amended through April 21, 2006.

Vision Advisory Claim

Users should be cautioned not to stare at the light of this LED product. The bright light can damage the eye.

Packaging

- The boxes are not water resistant and they must be kept away from water and moisture.
- The LEDs are packed in cardboard boxes after packaging in normal or anti-electrostatic bags.
- Cardboard boxes will be used to protect the LEDs from mechanical shocks during transportation.
- The reel pack is applied in SMD LED.
- Max 2000 pcs per reel.

