Marktech Optoelectronics

Cree XM-L Color Series on Board

Cree XM-L Color Series

Cree XLamp XM-L color LEDs are the brightest and smallest multi-colored LEDs of their class, delivering red, green, royal-blue and white in one LED at twice the lumens-per-dollar of the MC-E color LED. The XM-L color LED is 60% smaller than the MC-E LED, reducing the distance between LED die to create a small optical source for excellent optical control, efficient color mixing and simplified design.

FEATURES

> Red, green, blue and white in a single 5 mm x 5 mm package
> Maximum drive current per LED die: 1 A
> Individually addressable LEDs
> Electrically Neutral Thermal Path

APPLICATIONS

> Architectural
> Entertainment
> Vehicle

FLUX CHARACTERISTICS @ 25°C

COLOR	DWL (nm) or CCT (TYP.)	MIN.FLUX (LM) @350MA	KIT USED
Red	620-635	45.7	
Green	520-535	87.4	C3ABC02
Royal Blue	450-465	13.9	(6000K)
Cool White	5700-8000	80-100	C2ABCB1
Neutral White	3700-4300	80-100	(4000K)

CHARACTERISTICS	UNIT	MINIMUM	TYPICAL	MAXIMUM
Viewing angle (FWHM)	degrees		130	
Thermal Resistance, Junction to Solder Point	°C/W		3.5	
ESD classification (HBM per Mil-Std-883D)			Class 2	
LED junction temperature	°C			150
Temperature coefficient of voltage - red	mV/°C		-1.8	
Temperature coefficient of voltage - green	mV/°C		-4	
Temperature coefficient of voltage - blue, white	mV/°C		-3	
Reverse voltage - red, green, blue, white	V		2.25	2.6
Reverse voltage - green	V		3.3	3.9
Reverse voltage - blue, white	V		3.1	3.7

It is highly recommended for the user to review the CREE Series page for additional and most recent technical data at:
http://www.cree.com/led-components-and-modules/products/xlamp/arrays-directional/xlamp-xml-color

Global Headquarters, 3 Northway Lane North, Latham, NY 12110, USA www.marktechopto.com
TOLL FREE: 1-800-984-5337 • PHONE: 518-956-2980 • FAX: 518-785-4725 • EMAIL: info@marktechopto.com

* Exceeding maximum ratings may damage the LED and cause potential safety hazards.
* Elevated operating temperatures can be expected to negatively impact the service life (lumen output)
* All data is related to entire assembly. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process.
* End users need to take into account the lumen depreciation as the temperature rises with various thermal solutions installed.

Note 1: Using continuously under elevated loads (i.e. the application of high temperature/current/voltage or a significant change in temperature, etc.) may cause this product to significantly decrease in reliability even if the operating conditions are within the
absolute maximum ratings.
Note 2: The thermal resistance from the LED junction to ambient temperature, Rth(j-a), should be kept below 10°C/W so that the LED is not exposed to a condition beyond the absolute maximum ratings.
Note 3: The temperature of the LED assembly must be measured at the TC-point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label.

Hardware (not included)
> Mount with #4 Machine Screws.
> 16AWG Maximum Wire Gauge.
> Use only with constant current power supplies.

PCB Fabrication
> Layer Count: 1
> Core Material: 6061-T6 Aluminum
> Single Layer Copper Weight: 1oz
> Solder Mask: White
> Finishing Plating: Pb Free HASL