

### Cree ML-E White Series

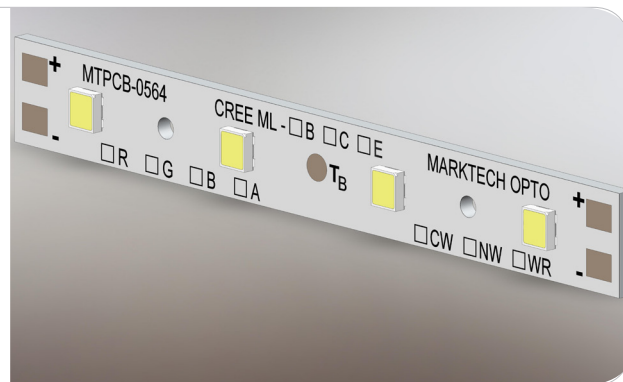
The lighting class ½-watt XLamp ML-E LED brings high performance and a smooth look to a wide range of lighting applications, including linear lighting, LED replacement lamps, fluorescent retrofits and retail-display lighting.

#### FEATURES

- > Wide Viewing Angle: 120°
- > Thermal Resistance: 11°C/W
- > Maximum Drive Current: 0.5A for MLEAWT  
0.167A for MLESWT

#### APPLICATIONS

- > Linear Lighting
- > Fluorescent Retrofits
- > Retail Display



### Flux Characteristics ( $T_j=25^{\circ}\text{C}$ --White)(per LED)



COLOR TEMPERATURE	CCT(TYP.)(°K)*	MIN.FLUX (LM) @150MA	KIT USED
Cool White	4750--5250	45.7	03E3
Neutral White	3700--4300	45.7	03E5
Warm White	2800--3200	39.8	02E7

\*See Cree Specifications

### \*Absolute Maximum Ratings (Note 1)

ITEMS	SYMBOL	RATING	UNIT
Forward Current (Parallel Chip White MLEAWT)	$I_F$	500	mA
Forward Current (Series Chip White MLESWT)	$I_F$	167	mA
Forward Voltage (TYPICAL)(@150mA)(Parallel Chip White MLEAWT)	$V_F$	12.8	V
Forward Voltage (TYPICAL)(@50mA)(Series Chip White MLESWT)	$V_F$	38.4	V
Reverse Voltage (All White)	$V_R$	-20.0	V
Operating Temperature at $T_C$ Point (Note 2&3)	$T_{OPR}$	100	°C
Junction Temperature	$T_J$	150	°C
ESD Classification (HBM per MIL-STD-883D)	--	Class 2	--

\* 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.

\* It is highly recommended for the user to review the CREE ML-E Series page for additional and most recent technical data at <http://www.cree.com/led-components-and-modules/products/xlamp/discrete-nondirectional/xlamp-mle>

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,  $R_{th(j-a)}$ , should be kept below  $20^{\circ}\text{C/W}$  (all colors) so that the LED is not exposed to a condition beyond the absolute maximum ratings.

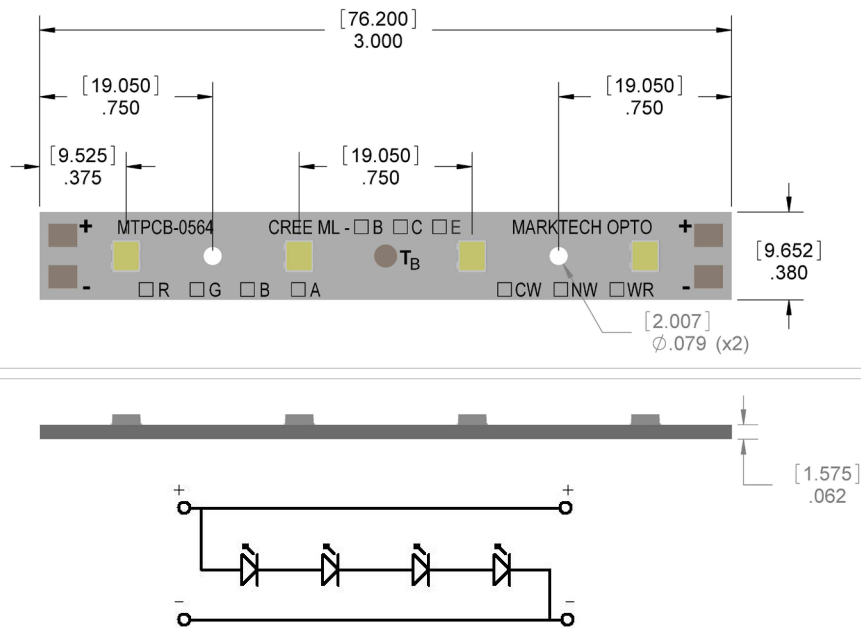
Note 3: The temperature of the LED assembly must be measured at the  $T_B$ -point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label.

### Hardware (not included)

- > Mount with M1.6 Machine Screws.
- > 18AWG 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



The information contained herein is subject to change without notice.

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