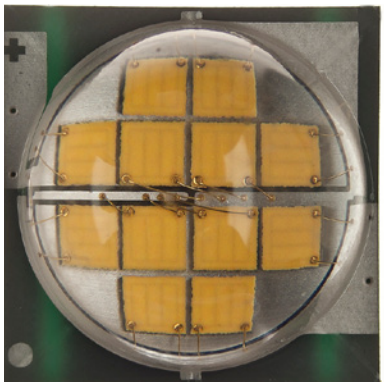
Cree® XLamp® MT-G EasyWhite™ LEDs



PRODUCT DESCRIPTION

The XLamp MT-G EasyWhite LED maximizes lumen density, eliminates chromaticity binning, and enables luminaire and bulb manufacturers to deliver consistent color and high efficacy light output in a new, compact, multi-die package. XLamp MT-G EasyWhite LEDs can reduce LED-to-LED color variation to within a 2-step MacAdam ellipse, 94% smaller than the total area of the corresponding ANSI C78.377 color region.

The XLamp MT-G EasyWhite LED is the perfect choice for lighting applications where high luminous flux output is required from a single, small point source. Example applications include: LED retrofit bulbs, commercial/retail display spotlights, and other indoor general illumination applications.

FEATURES

- Cree EasyWhite color temperatures from 2700 K to 5000 K CCT
- Wide range of operating power - up to 25 W
- 85 °C binning and characterization
- Two voltage options: 6 V, 36 V
- Low effective thermal resistance: 1.5 °C/W
- High lumen density
- Wide viewing angle: 120°
- 80-minimum CRI at 2700 K and 3000 K CCT
- 85- and 90-minimum CRI available in 2700 K and 3000 K CCT
- Electrically neutral thermal path
- RoHS- and REACh-compliant
- UL-recognized component (E349212)

APPLICATIONS

- MR, PAR and other directional retrofit bulbs
- Commercial/residential directional lighting
- General illumination

TABLE OF CONTENTS

Cree, Inc.
4600 Silicon Drive
Durham, NC 27703
USA Tel: +1.919.313.5300

PRODUCT CHARACTERISTICS

Characteristics	Unit	Minimum	Typical	Maximum
Viewing Angle (FWHM)	degrees		120	
ESD Classification (HBM per Mil-Std-883D)			Class 2	
Effective Thermal Resistance, Junction to Solder Point	°C/W		1.5	
LED Junction Temperatures	°C			150
DC Forward Current (6 V)	mA		1100	4000
DC Forward Current (36 V)	mA		185	700
Forward Voltage (6 V, 1100 mA, 85 °C)	V		5.6	6.7
Forward Voltage (36 V, 185 mA, 85 °C)	V		33.5	40.2
Temperature Coefficient of Voltage (6 V)	mV/°C		-4.5	
Temperature Coefficient of Voltage (36 V)	mV/°C		-27	
Reverse Voltage (6 V)	V			-5
Reverse Current (6V, 36 V)	mA			0.1

FLUX CHARACTERISTICS, STANDARD ORDER CODES, BINS, 6 VOLT MT-G (1100 mA, T_j = 85 °C)

The following table provides several base order codes for 6 Volt XLamp MT-G EasyWhite LEDs. For a complete description of the order-code nomenclature, please reference page 11 of this document.

Color	CCT Range	Base Order Codes Min. Luminous Flux @ 1100 mA			2-Step Order Code		4-Step Order Code	
		Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Chromaticity Region		Chromaticity Region	
Standard CRI EasyWhite	5000 K	H0	560	642	50H	MTGEZW-00-0000-0B00H050H	50F	MTGEZW-00-0000-0B00H050F
		J0	600	688		MTGEZW-00-0000-0B00J050H		MTGEZW-00-0000-0B00J050F
		K0	650	745		MTGEZW-00-0000-0B00K050H		MTGEZW-00-0000-0B00K050F
	4000 K	G0	520	596	40H	MTGEZW-00-0000-0B00G040H	40F	MTGEZW-00-0000-0B00G040F
		H0	560	642		MTGEZW-00-0000-0B00H040H		MTGEZW-00-0000-0B00H040F
		J0	600	688		MTGEZW-00-0000-0B00J040H		MTGEZW-00-0000-0B00J040F
	3500 K	F0	480	550	35H	MTGEZW-00-0000-0B00F035H	35F	MTGEZW-00-0000-0B00F035F
		G0	520	596		MTGEZW-00-0000-0B00G035H		MTGEZW-00-0000-0B00G035F
		H0	560	642		MTGEZW-00-0000-0B00H035H		MTGEZW-00-0000-0B00H035F
	3000 K	F0	480	550	30H	MTGEZW-00-0000-0B00F030H	30F	MTGEZW-00-0000-0B00F030F
		G0	520	596		MTGEZW-00-0000-0B00G030H		MTGEZW-00-0000-0B00G030F
		H0	560	642		MTGEZW-00-0000-0B00H030H		MTGEZW-00-0000-0B00H030F
	2700 K	E0	440	504	27H	MTGEZW-00-0000-0B00E027H	27F	MTGEZW-00-0000-0B00E027F
		F0	480	550		MTGEZW-00-0000-0B00F027H		MTGEZW-00-0000-0B00F027F
		G0	520	596		MTGEZW-00-0000-0B00G027H		MTGEZW-00-0000-0B00G027F

Notes:
- Cree maintains a tolerance of ±7% on flux and power measurements, ±0.005 on chromaticity (CCx, CCy) measurements and ±2 on CRI measurements.
- Minimum CRI for EasyWhite color temperatures 27F, 27H, 30F, 30H is 80.
- Minimum CRI for EasyWhite color temperatures 35F, 35H, 40F, 40H is 77.
- Typical CRI for EasyWhite color temperatures 35F, 35H, 40F, 40H is 80.
- Minimum CRI for EasyWhite color temperature 50F, 50H is 75.

* Flux values @ 25 °C are calculated and for reference only.

FLUX CHARACTERISTICS, STANDARD ORDER CODES, BINS, 36 VOLT MT-G (185 mA, T_j = 85 °C)

The following table provides several base order codes for 36 Volt XLamp MT-G EasyWhite LEDs. For a complete description of the order-code nomenclature, please reference page 11 of this document.

Color	CCT Range	Base Order Codes Min. Luminous Flux @ 185 mA			2-Step Order Code		4-Step Order Code	
		Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Chromaticity Region		Chromaticity Region	
Standard CRI EasyWhite	5000 K	H0	560	647	50H	MTGEZW-00-0000-0N00H050H	50F	MTGEZW-00-0000-0N00H050F
		J0	600	693		MTGEZW-00-0000-0N00J050H		MTGEZW-00-0000-0N00J050F
		K0	650	751		MTGEZW-00-0000-0N00K050H		MTGEZW-00-0000-0N00K050F
	4000 K	G0	520	601	40H	MTGEZW-00-0000-0N00G040H	40F	MTGEZW-00-0000-0N00G040F
		H0	560	647		MTGEZW-00-0000-0N00H040H		MTGEZW-00-0000-0N00H040F
		J0	600	693		MTGEZW-00-0000-0N00J040H		MTGEZW-00-0000-0N00J040F
	3500 K	F0	480	555	35H	MTGEZW-00-0000-0N00F035H	35F	MTGEZW-00-0000-0N00F035F
		G0	520	601		MTGEZW-00-0000-0N00G035H		MTGEZW-00-0000-0N00G035F
		H0	560	647		MTGEZW-00-0000-0N00H035H		MTGEZW-00-0000-0N00H035F
	3000 K	F0	480	555	30H	MTGEZW-00-0000-0N00F030H	30F	MTGEZW-00-0000-0N00F030F
		G0	520	601		MTGEZW-00-0000-0N00G030H		MTGEZW-00-0000-0N00G030F
		H0	560	647		MTGEZW-00-0000-0N00H030H		MTGEZW-00-0000-0N00H030F
	2700 K	E0	440	508	27H	MTGEZW-00-0000-0N00E027H	27F	MTGEZW-00-0000-0N00E027F
		F0	480	555		MTGEZW-00-0000-0N00F027H		MTGEZW-00-0000-0N00F027F
		G0	520	601		MTGEZW-00-0000-0N00G027H		MTGEZW-00-0000-0N00G027F

FLUX CHARACTERISTICS, STANDARD ORDER CODES, BINS, 85 CRI, 6 VOLT MT-G (1100 mA, T_j = 85 °C)

Color	CCT Range	Base Order Codes Min. Luminous Flux @ 1100 mA			2-Step Order Code		4-Step Order Code	
		Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Chromaticity Region		Chromaticity Region	
85 CRI EasyWhite	3000 K	D0	400	458	30H	MTGEZW-00-0000-0B0PD030H	30F	MTGEZW-00-0000-0B0PD030F
		E0	440	504		MTGEZW-00-0000-0B0PE030H		MTGEZW-00-0000-0B0PE030F
		F0	480	550		MTGEZW-00-0000-0B0PF030H		MTGEZW-00-0000-0B0PF030F
	2700 K	D0	400	458	27H	MTGEZW-00-0000-0B0PD027H	27F	MTGEZW-00-0000-0B0PD027F
		E0	440	504		MTGEZW-00-0000-0B0PE027H		MTGEZW-00-0000-0B0PE027F

Notes:

- Cree maintains a tolerance of ±7% on flux and power measurements, ±0.005 on chromaticity (CCx, CCy) measurements and ±2 on CRI measurements.
- Minimum CRI for EasyWhite color temperatures 27F, 27H, 30F, 30H is 80.
- Minimum CRI for EasyWhite color temperatures 35F, 35H, 40F, 40H is 77.
- Typical CRI for EasyWhite color temperatures 35F, 35H, 40F, 40H is 80.
- Minimum CRI for EasyWhite color temperature 50F, 50H is 75.

* Flux values @ 25 °C are calculated and for reference only.

FLUX CHARACTERISTICS, STANDARD ORDER CODES, BINS, 85 CRI, 36 VOLT MT-G (185 mA, T_j = 85 °C)

Color	CCT Range	Base Order Codes Min. Luminous Flux @ 185 mA			2-Step Order Code		4-Step Order Code	
		Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Chromaticity Region		Chromaticity Region	
85 CRI EasyWhite	3000 K	D0	400	462	30H	MTGEZW-00-0000-0N0PD030H	30F	MTGEZW-00-0000-0N0PD030F
		E0	440	508		MTGEZW-00-0000-0N0PE030H		MTGEZW-00-0000-0N0PE030F
		F0	480	555		MTGEZW-00-0000-0N0PF030H		MTGEZW-00-0000-0N0PF030F
	2700 K	D0	400	462	27H	MTGEZW-00-0000-0N0PD027H	27F	MTGEZW-00-0000-0N0PD027F
		E0	440	508		MTGEZW-00-0000-0N0PE027H		MTGEZW-00-0000-0N0PE027F

FLUX CHARACTERISTICS, STANDARD ORDER CODES, BINS, 90 CRI, 6 VOLT MT-G (1100 mA, T_j = 85 °C)

Color	CCT Range	Base Order Codes Min. Luminous Flux @ 1100 mA			2-Step Order Code		4-Step Order Code	
		Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Chromaticity Region		Chromaticity Region	
90 CRI EasyWhite	3000 K	C0	370	424	30H	MTGEZW-00-0000-0B0UC030H	30F	MTGEZW-00-0000-0B0UC030F
		D0	400	458		MTGEZW-00-0000-0B0UD030H		MTGEZW-00-0000-0B0UD030F
		E0	440	504		MTGEZW-00-0000-0B0UE030H		MTGEZW-00-0000-0B0UE030F
	2700 K	B0	340	390	27H	MTGEZW-00-0000-0B0UB027H	27F	MTGEZW-00-0000-0B0UB027F
		C0	370	424		MTGEZW-00-0000-0B0UC027H		MTGEZW-00-0000-0B0UC027F
		D0	400	458		MTGEZW-00-0000-0B0UD027H		MTGEZW-00-0000-0B0UD027F

FLUX CHARACTERISTICS, STANDARD ORDER CODES, BINS, 90 CRI, 36 VOLT MT-G (185 mA, T_j = 85 °C)

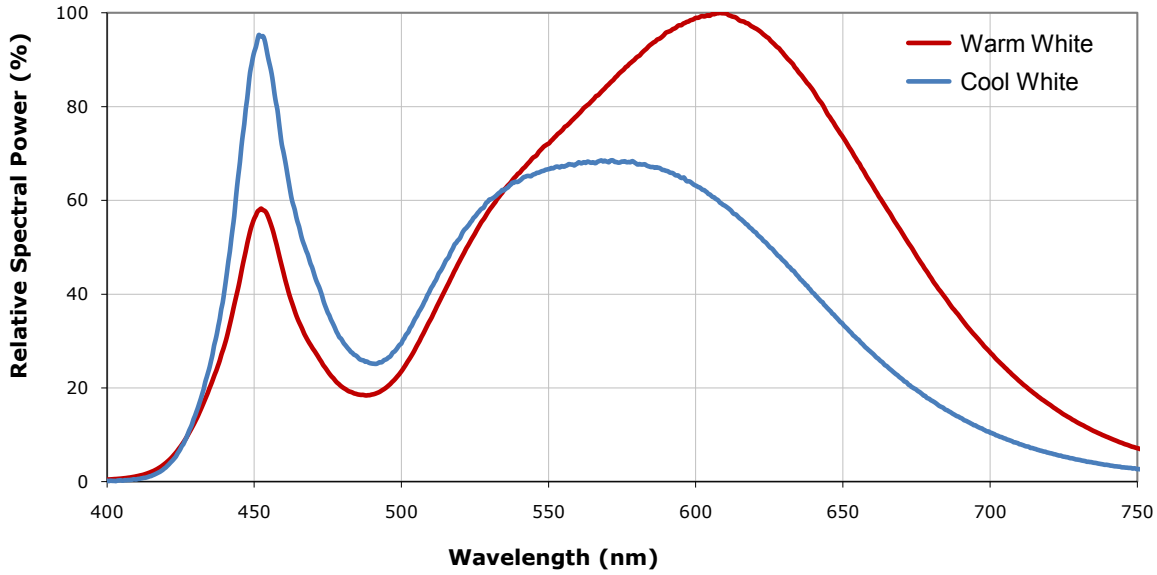
Color	CCT Range	Base Order Codes Min. Luminous Flux @ 185 mA			2-Step Order Code		4-Step Order Code	
		Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Chromaticity Region		Chromaticity Region	
90 CRI EasyWhite	3000 K	C0	370	428	30H	MTGEZW-00-0000-0N0UC030H	30F	MTGEZW-00-0000-0N0UC030F
		D0	400	462		MTGEZW-00-0000-0N0UD030H		MTGEZW-00-0000-0N0UD030F
		E0	440	508		MTGEZW-00-0000-0N0UE030H		MTGEZW-00-0000-0N0UE030F
	2700 K	B0	340	393	27H	MTGEZW-00-0000-0N0UB027H	27F	MTGEZW-00-0000-0N0UB027F
		C0	370	428		MTGEZW-00-0000-0N0UC027H		MTGEZW-00-0000-0N0UC027F
		D0	400	462		MTGEZW-00-0000-0N0UD027H		MTGEZW-00-0000-0N0UD027F

Notes:
- Cree maintains a tolerance of ±7% on flux and power measurements, ±0.005 on chromaticity (CCx, CCy) measurements and ±2 on CRI measurements.

* Flux values @ 25 °C are calculated and for reference only.

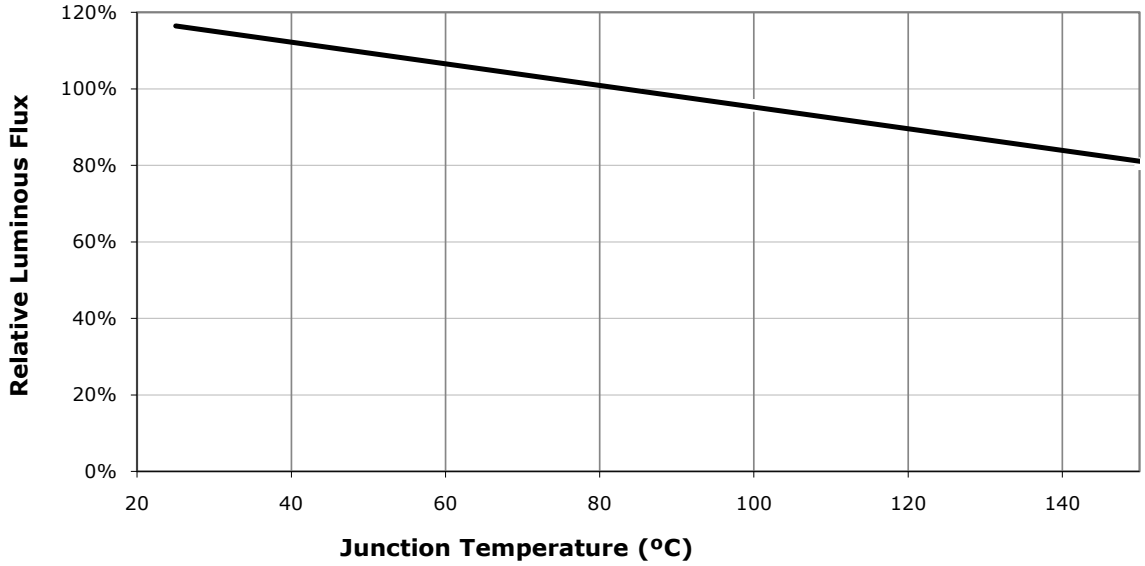
RELATIVE SPECTRAL POWER DISTRIBUTION (6 V, 1100 mA; 36 V, 185 mA; T_J= 85 °C)

The following graph represents typical spectral output of the XLamp MT-G EasyWhite LED.

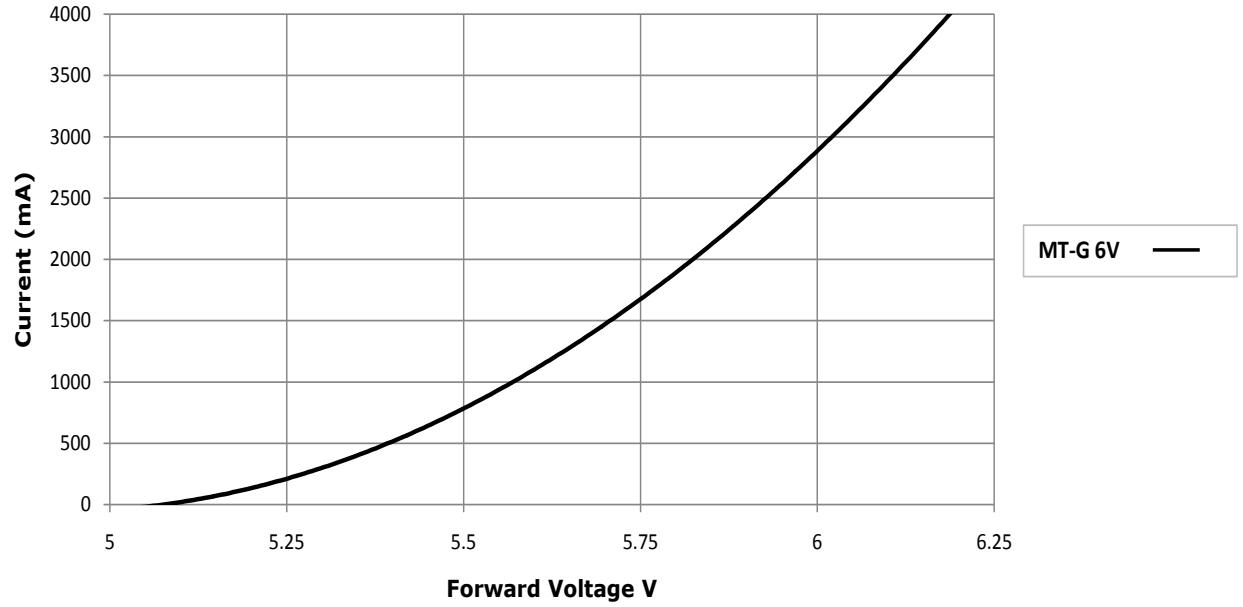


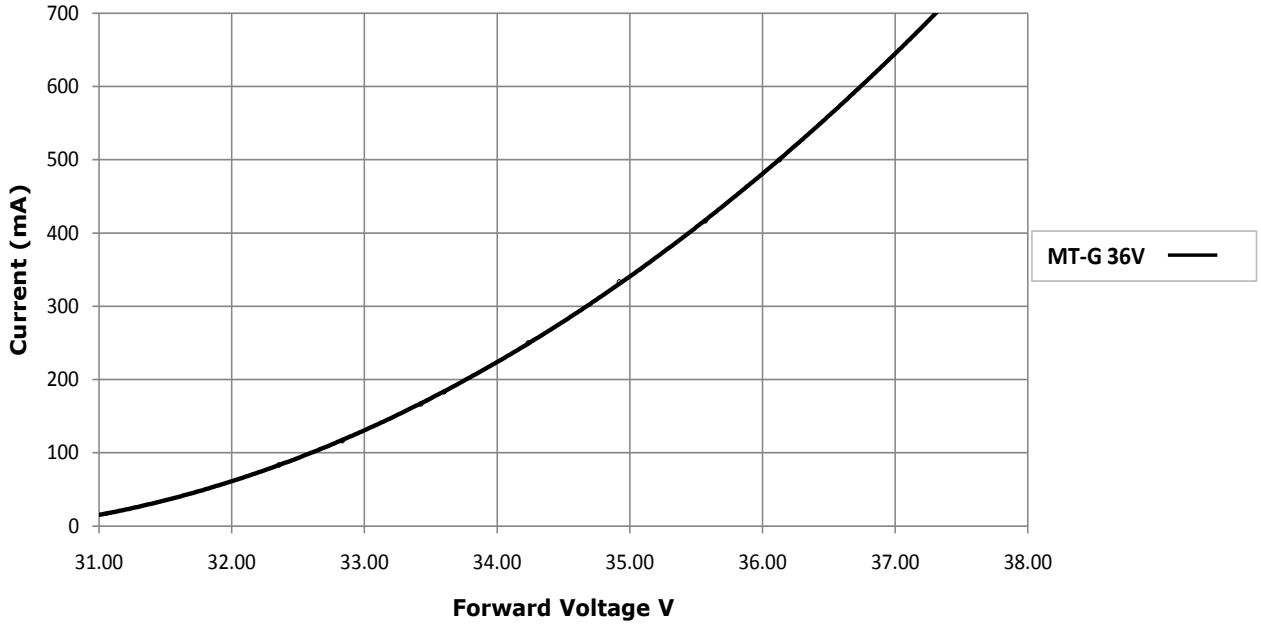
RELATIVE LUMINOUS FLUX VS. JUNCTION TEMPERATURE (6 V, 1100 mA; 36 V, 185 mA)

The following graph represents typical performance of the XLamp MT-G EasyWhite LED.

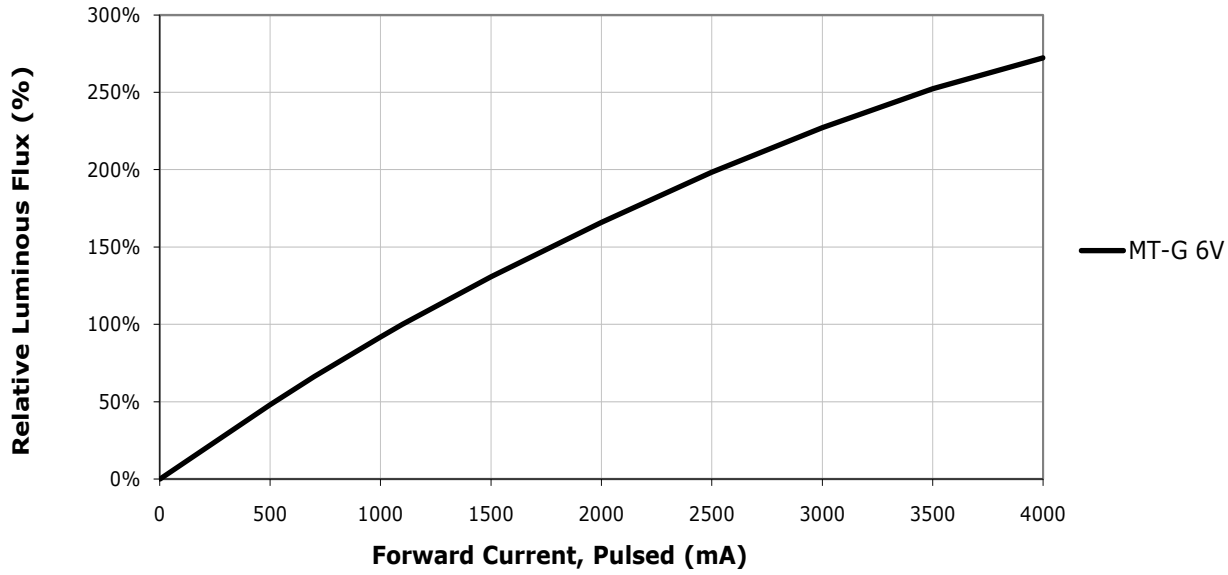


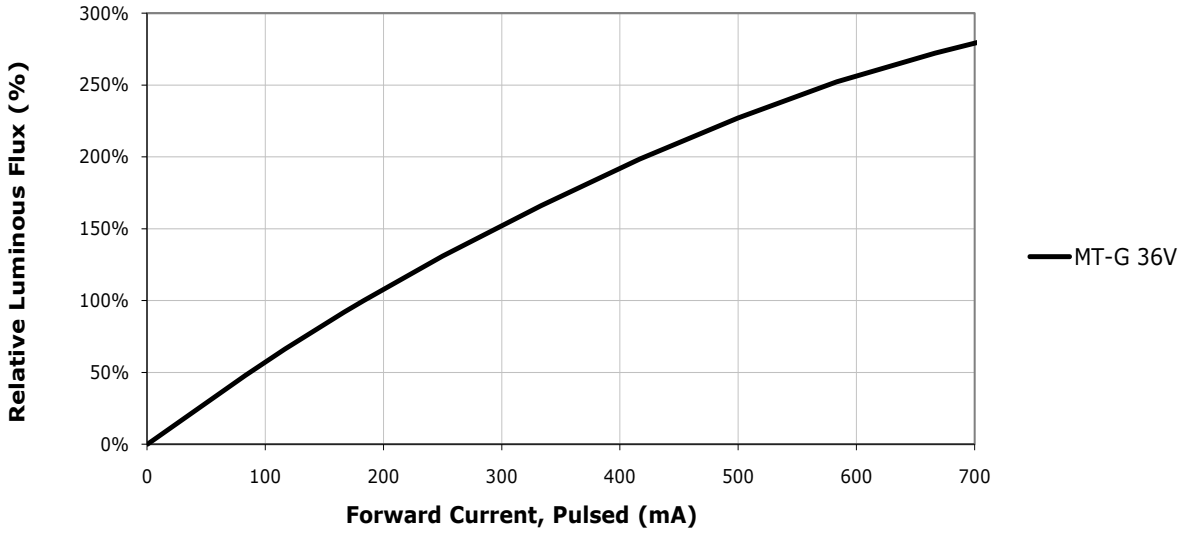
ELECTRICAL CHARACTERISTICS (T_J = 85 °C)





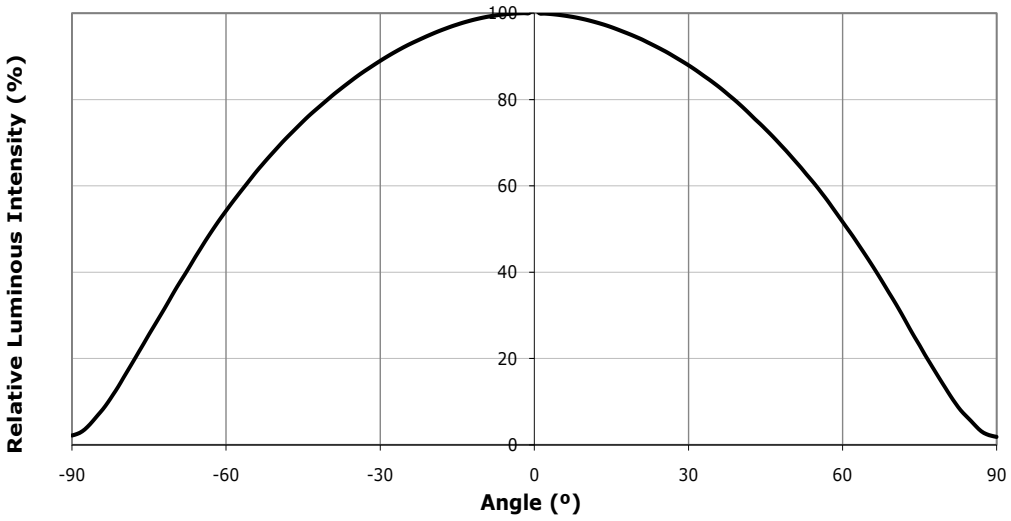
RELATIVE LUMINOUS FLUX VS CURRENT (T_J = 85 °C)





TYPICAL SPATIAL DISTRIBUTION

The following graph represents typical performance of the XLamp MT-G EasyWhite LED.



PERFORMANCE GROUPS – BRIGHTNESS (T_J = 85 °C)

XLamp MT-G EasyWhite LEDs are tested for luminosity and placed into one of the following bins.

Group Code	Min. Luminous Flux @ 1100 mA, 6 V; @185 mA, 36 V	Max. Luminous Flux @ 1100 mA, 6 V; @185 mA, 36 V
A0	310	340
B0	340	370
C0	370	400
D0	400	440
E0	440	480
F0	480	520
G0	520	560
H0	560	600
J0	600	650
K0	650	700

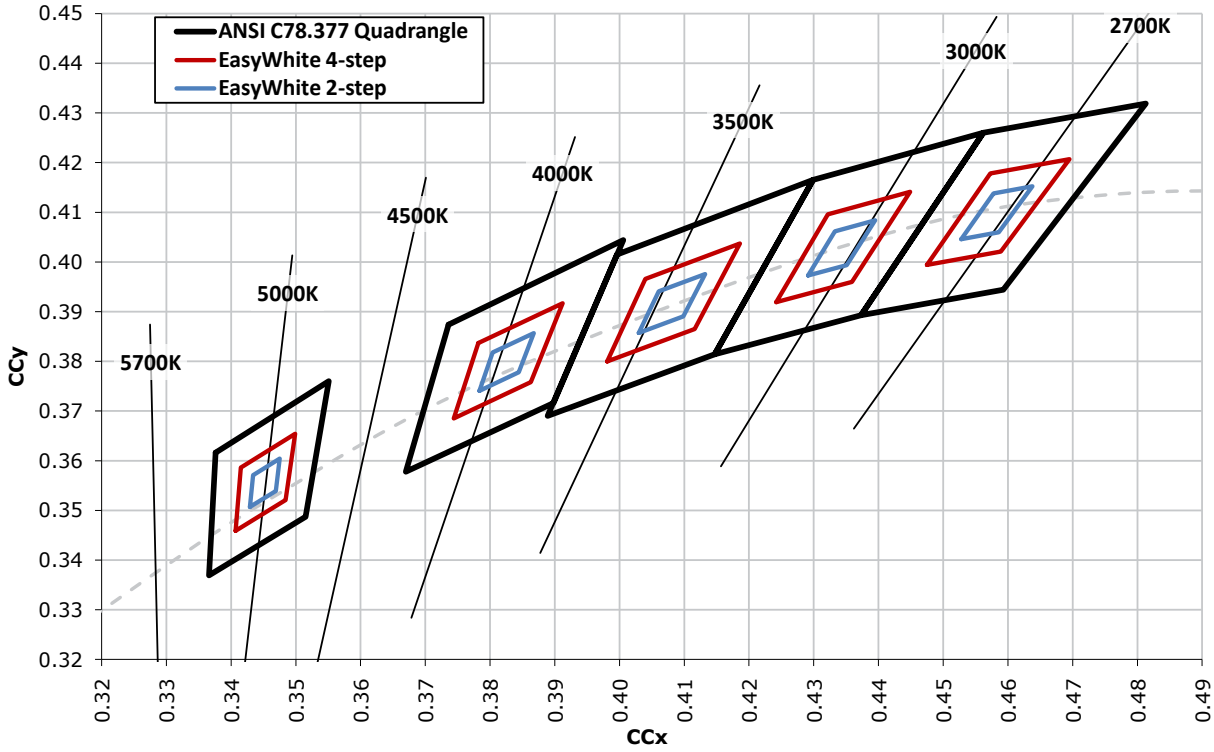
PERFORMANCE GROUPS – CHROMATICITY (T_J = 85 °C)

XLamp MT-G EasyWhite LEDs are tested for chromaticity and placed into one of the regions defined by the following bounding coordinates.

EasyWhite Color Temperatures – 4-Step			
Code	**CCT**	**x**	**y**
50F	5000K	0.3407	0.3459
		0.3415	0.3586
		0.3499	0.3654
		0.3484	0.3521
40F	4000K	0.3744	0.3685
		0.3782	0.3837
		0.3912	0.3917
		0.3863	0.3758
35F	3500K	0.3981	0.3800
		0.4040	0.3966
		0.4186	0.4037
		0.4116	0.3865
30F	3000K	0.4242	0.3919
		0.4322	0.4096
		0.4449	0.4141
		0.4359	0.3960
27F	2700K	0.4475	0.3994
		0.4573	0.4178
		0.4695	0.4207
		0.4589	0.4021

EasyWhite Color Temperatures – 2-Step			
Code	**CCT**	**x**	**y**
50H	5000K	0.3429	0.3507
		0.3434	0.3571
		0.3475	0.3604
		0.3469	0.3539
40H	4000K	0.3784	0.3741
		0.3804	0.3818
		0.3867	0.3857
		0.3844	0.3778
35H	3500K	0.4030	0.3857
		0.4061	0.3941
		0.4132	0.3976
		0.4099	0.3890
30H	3000K	0.4291	0.3973
		0.4333	0.4062
		0.4395	0.4084
		0.4351	0.3994
27H	2700K	0.4528	0.4046
		0.4578	0.4138
		0.4638	0.4152
		0.4586	0.4060

CREE EASYWHITE COLOR TEMPERATURES PLOTTED ON THE 1931 CIE CURVE (T_J = 85 °C)



BIN AND ORDER CODE FORMAT

Bin codes and order codes are configured as follows:

Order Code

SSSCCC-BB-HHHH-NNNRNNNNN

- Series: MTG = MT-G
- Internal code
- Internal code
- CRI Specification: U = 90 min CRI; P = 85 min CRI; 0 = standard CRI
- Kit code
- Vf class: B0 = 6-V class; N0 = 36-V class
- Reel size: 0 = 500 (standard); 1 = 100 (nonstandard)
- Color: EZW = EasyWhite

Bin Code

SSSCCC-BB-WWW-FF-NNRAAAA

- Series: MTG = MT-G
- Internal code
- Flux bin
- CRI Specification: U = 90 min CRI; P = 85 min CRI; H = 80 min CRI; E = 77 min CRI; D = 75 min CRI
- Internal Code
- Vf class: B0 = 6-V class; N0 = 36-V class
- Chromaticity bin
- Color: EZW = EasyWhite

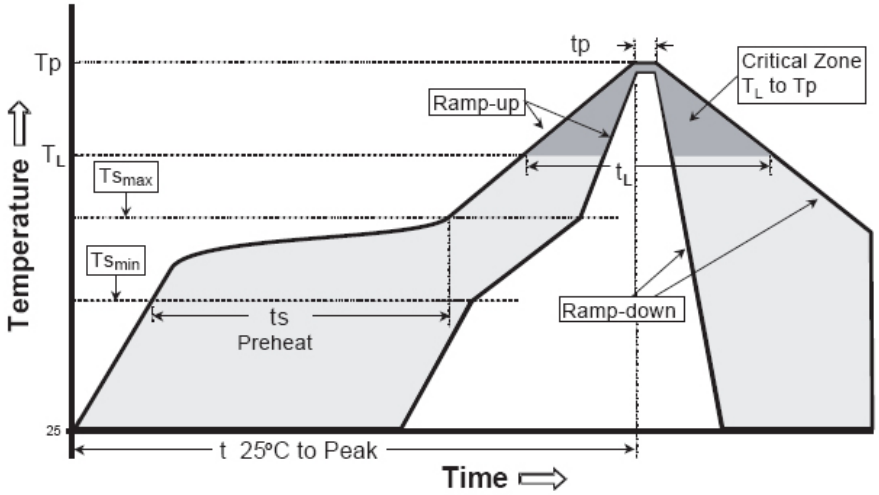
STANDARD ORDER CODES AND BINS (XLAMP MT-G EASYWHITE)

XLamp MT-G EasyWhite LED Standard Order Codes				
Min. Luminous Flux (lm) @ Tj=85 °C, 6 V, 1100 mA @ Tj=85 °C, 36 V, 185 mA		Chromaticity Regions	6V Order Code	36V Order Code
Group	Flux (lm)			
EasyWhite				
D0	400	27F	MTGEZW-00-0000-0B00D027F	MTGEZW-00-0000-0N00D027F
		27H	MTGEZW-00-0000-0B00D027H	MTGEZW-00-0000-0N00D027H
E0	440	27F	MTGEZW-00-0000-0B00E027F	MTGEZW-00-0000-0N00E027F
		27H	MTGEZW-00-0000-0B00E027H	MTGEZW-00-0000-0N00E027H
		30F	MTGEZW-00-0000-0B00E030F	MTGEZW-00-0000-0N00E030F
		30H	MTGEZW-00-0000-0B00E030H	MTGEZW-00-0000-0N00E030H
		35F	MTGEZW-00-0000-0B00E035F	MTGEZW-00-0000-0N00E035F
		35H	MTGEZW-00-0000-0B00E035H	MTGEZW-00-0000-0N00E035H
F0	480	27F	MTGEZW-00-0000-0B00F027F	MTGEZW-00-0000-0N00F027F
		27H	MTGEZW-00-0000-0B00F027H	MTGEZW-00-0000-0N00F027H
		30F	MTGEZW-00-0000-0B00F030F	MTGEZW-00-0000-0N00F030F
		30H	MTGEZW-00-0000-0B00F030H	MTGEZW-00-0000-0N00F030H
		35F	MTGEZW-00-0000-0B00F035F	MTGEZW-00-0000-0N00F035F
		35H	MTGEZW-00-0000-0B00F035H	MTGEZW-00-0000-0N00F035H
		40F	MTGEZW-00-0000-0B00F040F	MTGEZW-00-0000-0N00F040F
		40H	MTGEZW-00-0000-0B00F040H	MTGEZW-00-0000-0N00F040H
G0	520	27F	MTGEZW-00-0000-0B00G027F	MTGEZW-00-0000-0N00G027F
		27H	MTGEZW-00-0000-0B00G027H	MTGEZW-00-0000-0N00G027H
		30F	MTGEZW-00-0000-0B00G030F	MTGEZW-00-0000-0N00G030F
		30H	MTGEZW-00-0000-0B00G030H	MTGEZW-00-0000-0N00G030H
		35F	MTGEZW-00-0000-0B00G035F	MTGEZW-00-0000-0N00G035F
		35H	MTGEZW-00-0000-0B00G035H	MTGEZW-00-0000-0N00G035H
		40F	MTGEZW-00-0000-0B00G040F	MTGEZW-00-0000-0N00G040F
		40H	MTGEZW-00-0000-0B00G040H	MTGEZW-00-0000-0N00G040H
H0	560	30F	MTGEZW-00-0000-0B00H030F	MTGEZW-00-0000-0N00H030F
		30H	MTGEZW-00-0000-0B00H030H	MTGEZW-00-0000-0N00H030H
		35F	MTGEZW-00-0000-0B00H035F	MTGEZW-00-0000-0N00H035F
		35H	MTGEZW-00-0000-0B00H035H	MTGEZW-00-0000-0N00H035H
		40F	MTGEZW-00-0000-0B00H040F	MTGEZW-00-0000-0N00H040F
		40H	MTGEZW-00-0000-0B00H040H	MTGEZW-00-0000-0N00H040H
		50F	MTGEZW-00-0000-0B00H050F	MTGEZW-00-0000-0N00H050F
		50H	MTGEZW-00-0000-0B00H050H	MTGEZW-00-0000-0N00H050H
J0	600	40F	MTGEZW-00-0000-0B00J040F	MTGEZW-00-0000-0N00J040F
		40H	MTGEZW-00-0000-0B00J040H	MTGEZW-00-0000-0N00J040H
		50F	MTGEZW-00-0000-0B00J050F	MTGEZW-00-0000-0N00J050F
		50H	MTGEZW-00-0000-0B00J050H	MTGEZW-00-0000-0N00J050H
K0	650	50F	MTGEZW-00-0000-0B00K050F	MTGEZW-00-0000-0N00K050F
		50H	MTGEZW-00-0000-0B00K050H	MTGEZW-00-0000-0N00K040H

REFLOW SOLDERING CHARACTERISTICS

In testing, Cree has found XLamp MT-G EasyWhite LEDs to be compatible with JEDEC J-STD-020C, using the parameters listed below. As a general guideline, Cree recommends that users follow the recommended soldering profile provided by the manufacturer of solder paste used.

Note that this general guideline may not apply to all PCB designs and configurations of reflow soldering equipment.



Profile Feature	Lead-Based Solder	Lead-Free Solder
Average Ramp-Up Rate (Ts_{max} to Tp)	3 °C/second max.	3 °C/second max.
Preheat: Temperature Min (Ts_{min})	100 °C	150 °C
Preheat: Temperature Max (Ts_{max})	150 °C	200 °C
Preheat: Time (ts_{min} to ts_{max})	60-120 seconds	60-180 seconds
Time Maintained Above: Temperature (T_L)	183 °C	217 °C
Time Maintained Above: Time (t_L)	60-150 seconds	60-150 seconds
Peak/Classification Temperature (Tp)	215 °C	260 °C
Time Within 5 °C of Actual Peak Temperature (tp)	10-30 seconds	20-40 seconds
Ramp-Down Rate	6 °C/second max.	6 °C/second max.
Time 25 °C to Peak Temperature	6 minutes max.	8 minutes max.

Note: All temperatures refer to the topside of the package, measured on the package body surface.

NOTES

Lumen Maintenance Projections

Cree now uses standardized IES LM-80-08 and TM-21-11 methods for collecting long-term data and extrapolating LED lumen maintenance. For information on the specific LM-80 data sets available for this LED, refer to the public LM-80 results document at www.cree.com/xlamp_app_notes/LM80_results.

Moisture Sensitivity

In testing, Cree has found XLamp MT-G EasyWhite LEDs to have unlimited floor life in conditions ≤ 30 ºC/85% relative humidity (RH). Moisture testing included a 168-hour soak at 85 ºC/85% RH followed by 3 reflow cycles, with visual and electrical inspections at each stage.

Cree recommends keeping XLamp LEDs in their sealed moisture-barrier packaging until immediately prior to use. Cree also recommends returning any unused LEDS to the resealable moisture-barrier bag and closing the bag immediately after use.

RoHS Compliance

The levels of RoHS 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 2011/65/EC (RoHS2), as amended through June 8, 2011. RoHS Declarations for this product can be obtain from your Cree representative or obtained from the Product Ecology section of www.cree.com.

REACh Compliance

REACh substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notices of their intent to frequently revise the SVHC listing for the foreseeable future, please contact a Cree representative to insure you get the most up-to-date REACh Declaration. Historical REACh banned substance information (substances restricted or banned in the EU prior to 2010) is also available upon request.

UL Recognized Component

Level 4 enclosure consideration. The LED package or a portion thereof has been investigated as a fire and electrical enclosure per ANSI/UL 8750.

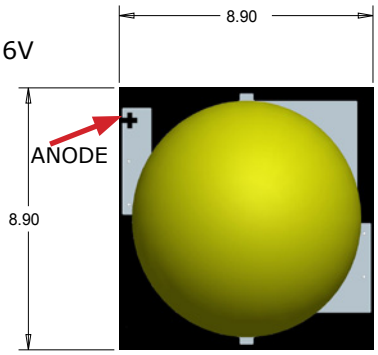
Vision Advisory Claim

WARNING. Do not look at exposed LED lamps in operation. Eye injury can result. For more information about LEDs and eye safety, please refer to the Cree LED Eye Safety Application Note (www.cree.com/xlamp_app_notes/led_eye_safety).

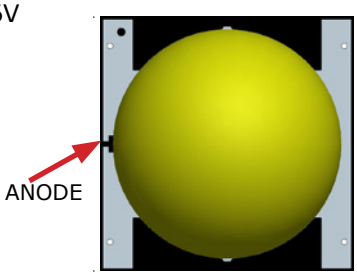
MECHANICAL DIMENSIONS

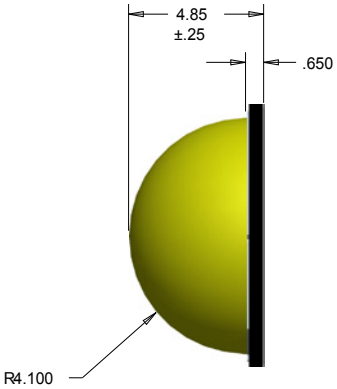
All measurements are ±.13 mm unless otherwise indicated.

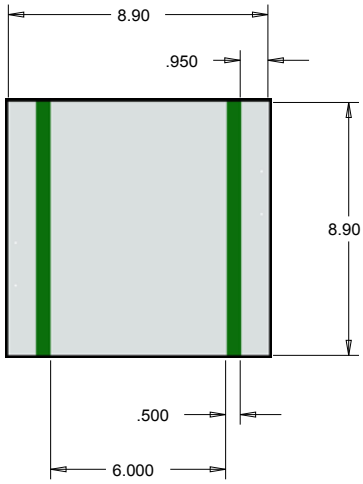
MT-G 6V

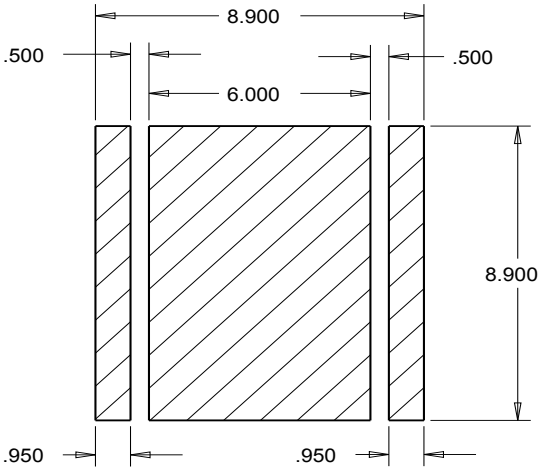


MT-G36V

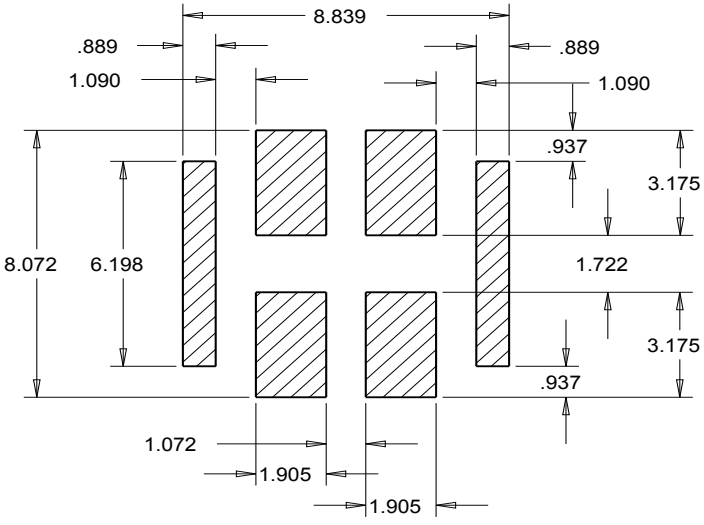








RECOMMENDED PC BOARD SOLDER PAD

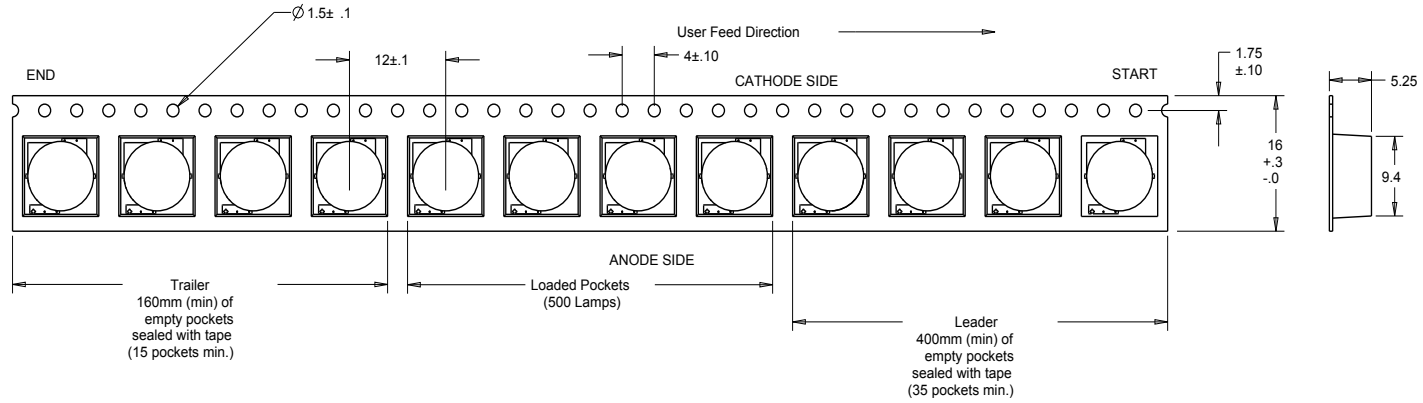


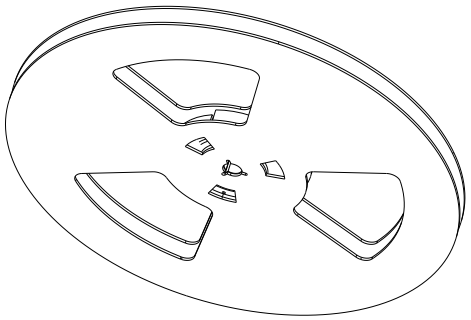
RECOMMENDED STENCIL PATTERN

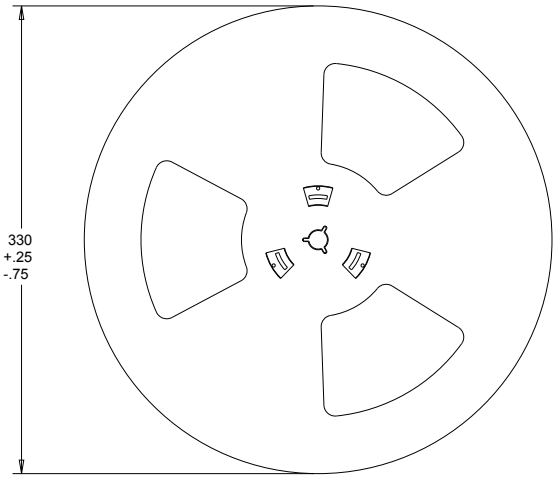
TAPE AND REEL

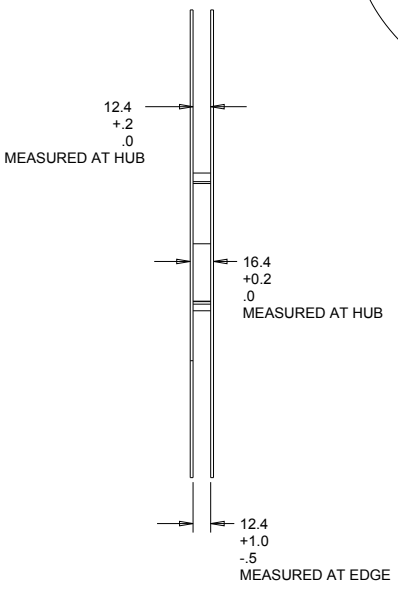
All Cree carrier tapes conform to EIA-481D, Automated Component Handling Systems Standard.

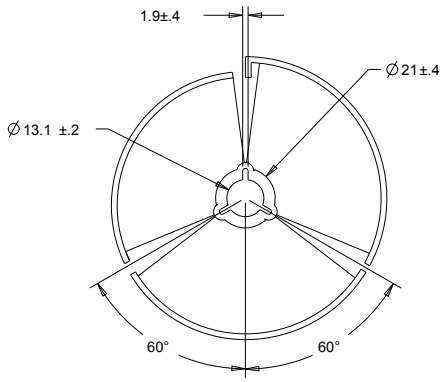
All dimensions in mm.





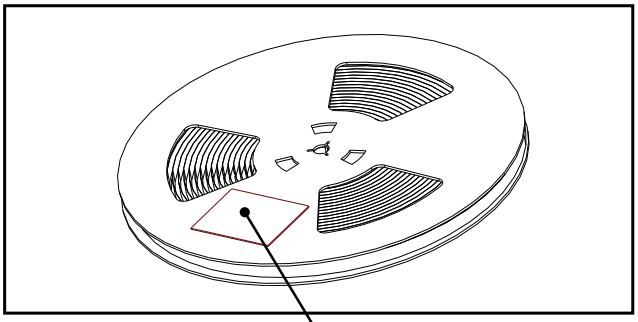




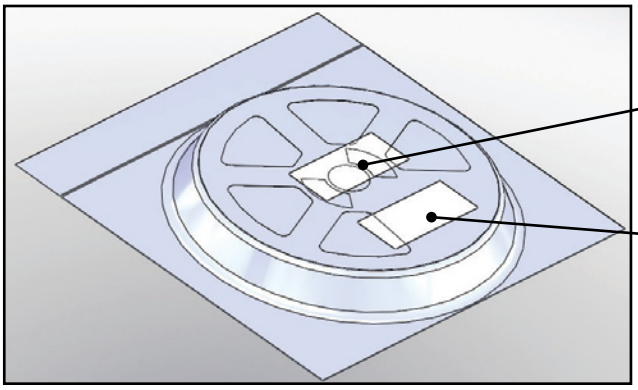


PACKAGING

Unpackaged Reel



Packaged Reel



Boxed Reel