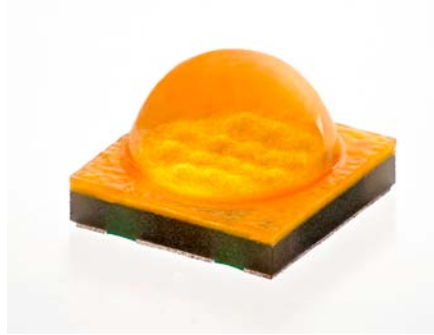
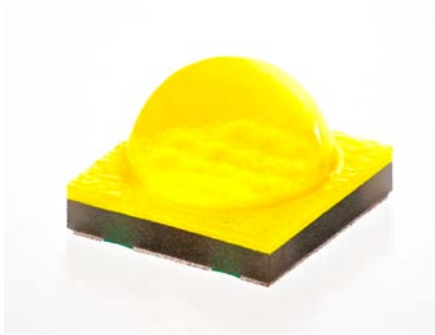


Preliminary

Cree® XLamp® XT-E HVW LEDs



PRODUCT DESCRIPTION

The XLamp XT-E HVW LED is a new and unreleased product. This preliminary data sheet contains initial operational information about this product.

FEATURES

TABLE OF CONTENTS

Flux Characteristics 2
 Characteristics 2
 Relative Spectral Power
 Distribution..... 3
 Relative Flux vs. Junction
 Temperature 3
 Electrical Characteristics 4
 Thermal Design 4
 Relative Flux vs. Current 5
 Typical Spatial Distribution 5
 Reflow Soldering Characteristics .. 6
 Mechanical Dimensions..... 7
 Tape and Reel 8
 Packaging..... 9

Preliminary

FLUX CHARACTERISTICS (T_j = 85 °C)

The following table provides several base order codes for XLamp XT-E HVW LEDs. It is important to note that the base order codes listed here are a subset of the total available order codes for the product family. For more order codes, as well as a complete description of the order-code nomenclature, please consult the XLamp XT Family Binning and Labeling document.

Color	CCT Range		Base Order Codes Min Luminous Flux @ 22 mA (lm)		Order Code
	Min.	Max.	Group	Flux (lm)	
Cool White	5,000 K	8,300 K	Q5	107	XTEHVW-Q0-0000-00000LD51
			R2	114	XTEHVW-Q0-0000-00000LE51
Neutral White	3,700 K	5,000 K	Q2	87.4	XTEHVW-Q0-0000-00000LAE5
			Q3	93.9	XTEHVW-Q0-0000-00000LBE5
Warm White	2,600 K	3,700 K	P4	80.6	XTEHVW-Q0-0000-00000L9E7
			Q2	87.4	XTEHVW-Q0-0000-00000LAE7

Notes:

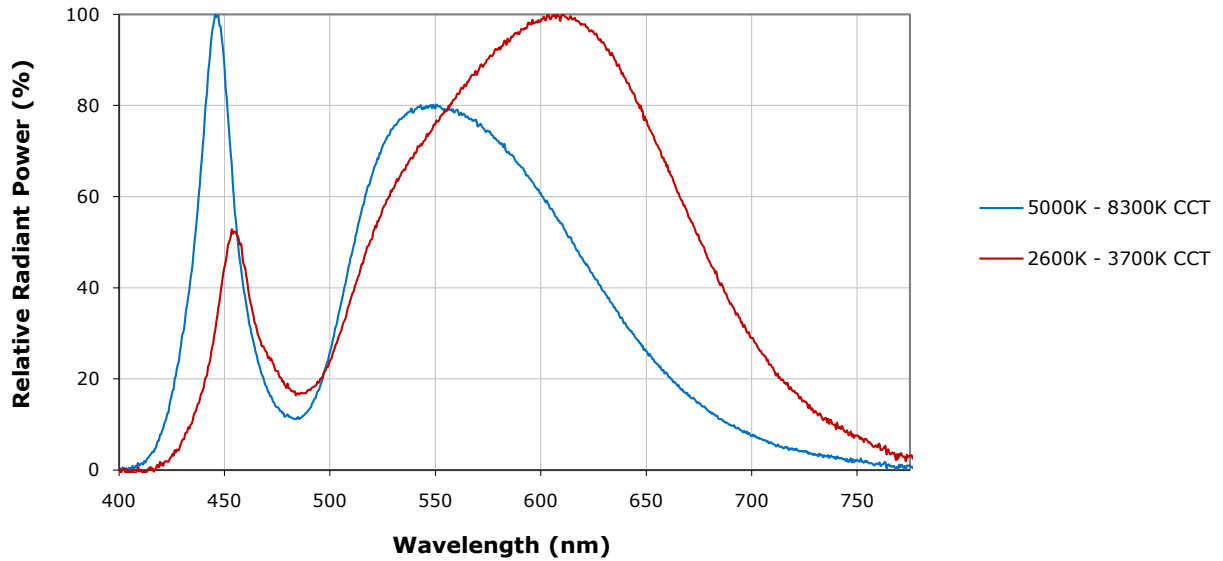
- Cree maintains a tolerance of $\pm 7\%$ on flux and power measurements and ± 2 on CRI measurements.
- Typical CRI for Cool White (5,000 K - 8,300 K CCT) is 68.
- Typical CRI for Neutral White (3,700 K - 5,000 K CCT) is 75.
- Typical CRI for Warm White (2,600 K - 3,700 K CCT) is 82
-

CHARACTERISTICS

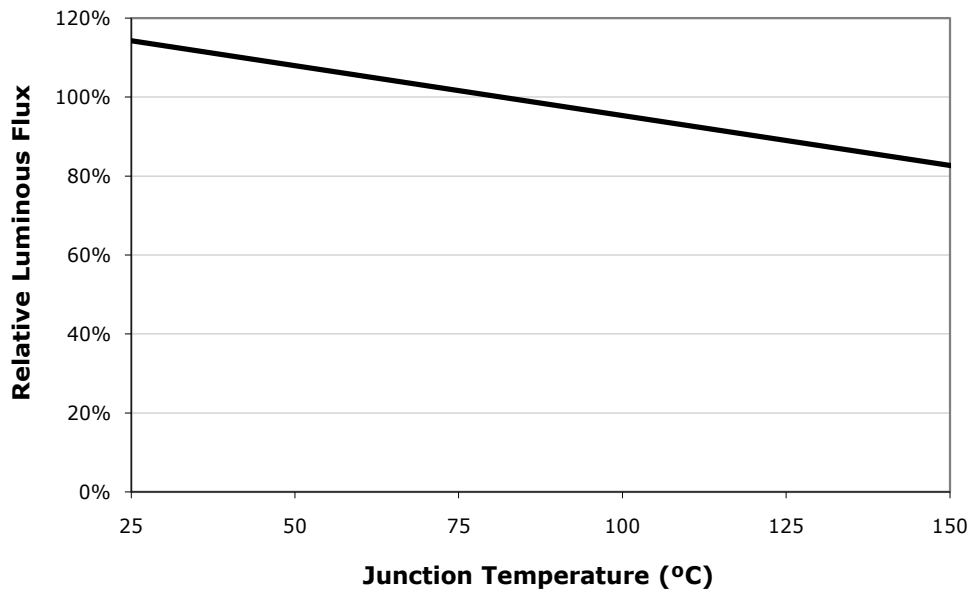
Characteristics	Unit	Minimum	Typical	Maximum
Thermal Resistance, junction to solder point	°C/W		6.5	
Viewing Angle (FWHM)	degrees		115	
Temperature coefficient of voltage	mV/°C		-37	
ESD Classification (HBM per Mil-Std-883D)			Class 2	
DC Forward Current	mA		22	66
Reverse Current	mA			0.1
Forward voltage (@ 22 mA, 85 °C)	V		46	52
LED Junction Temperature	°C			150

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RELATIVE SPECTRAL POWER DISTRIBUTION

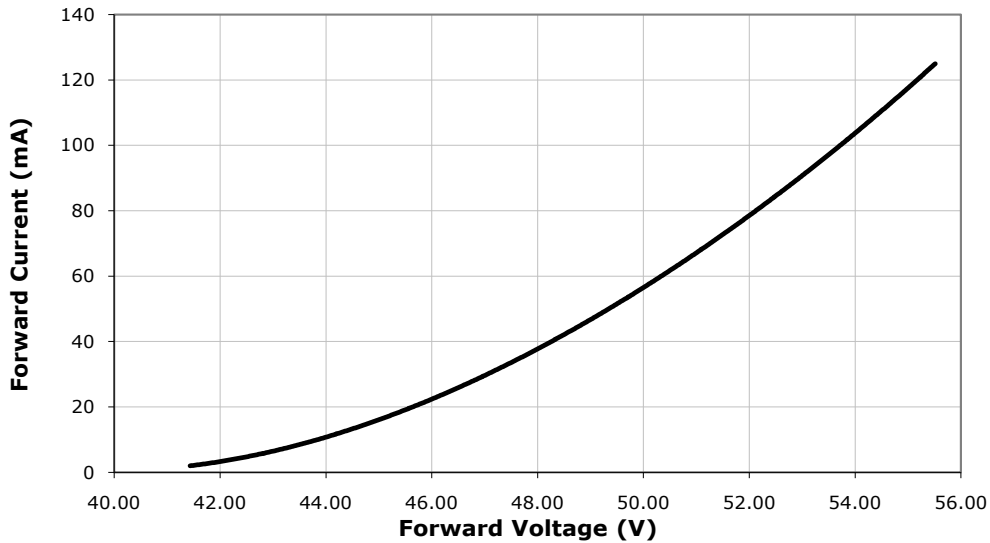


RELATIVE FLUX VS. JUNCTION TEMPERATURE ($I_f = 22\text{ MA}$)

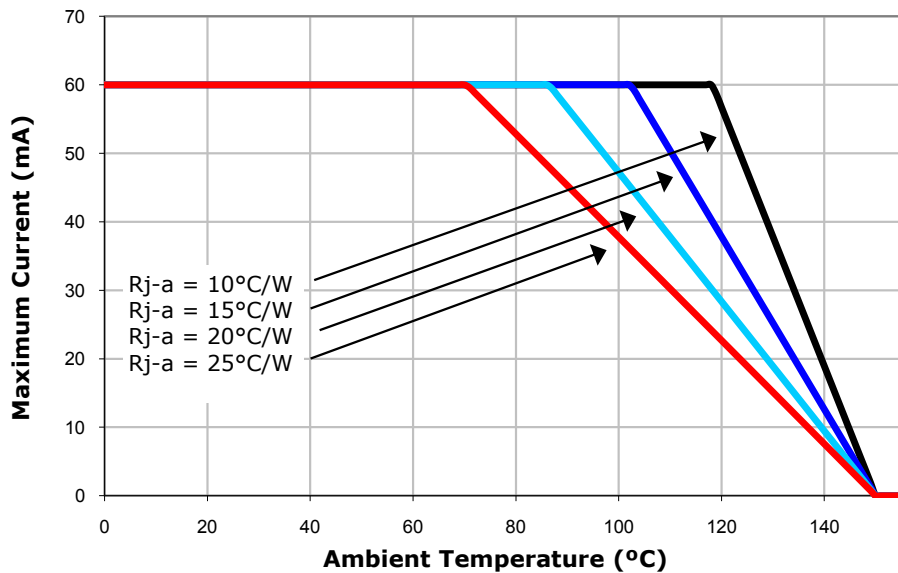


Preliminary

ELECTRICAL CHARACTERISTICS ($T_j = 85^\circ\text{C}$)

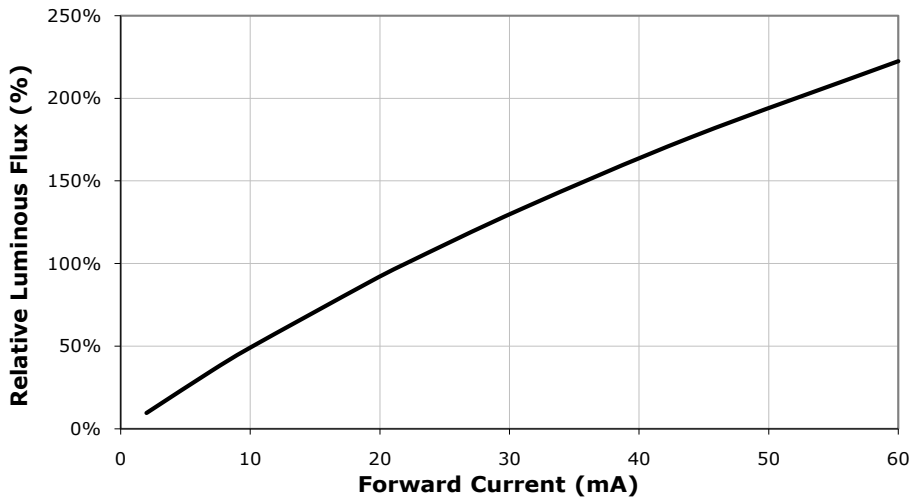


THERMAL DESIGN

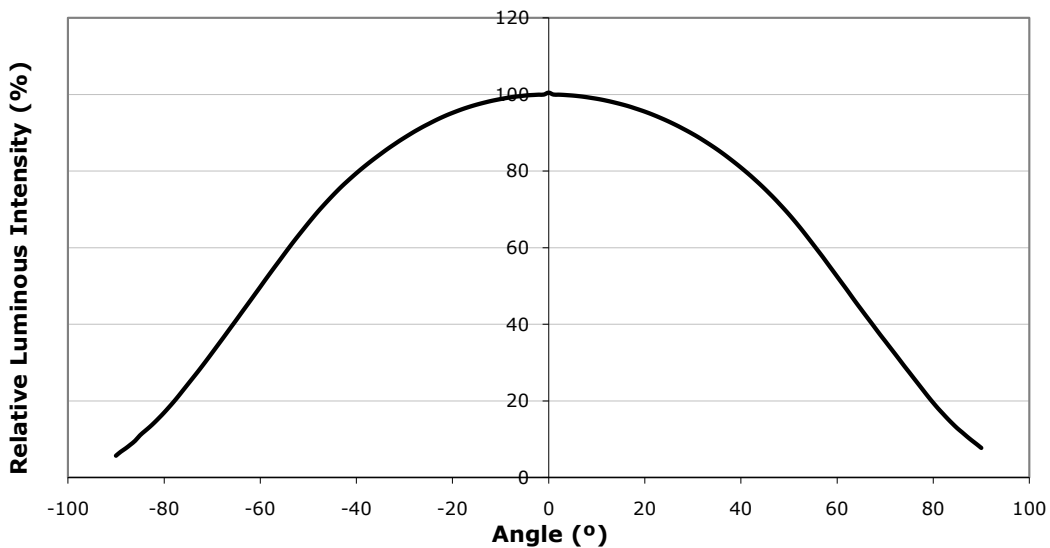


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RELATIVE FLUX VS. CURRENT ($T_j = 85\text{ }^\circ\text{C}$)



TYPICAL SPATIAL DISTRIBUTION

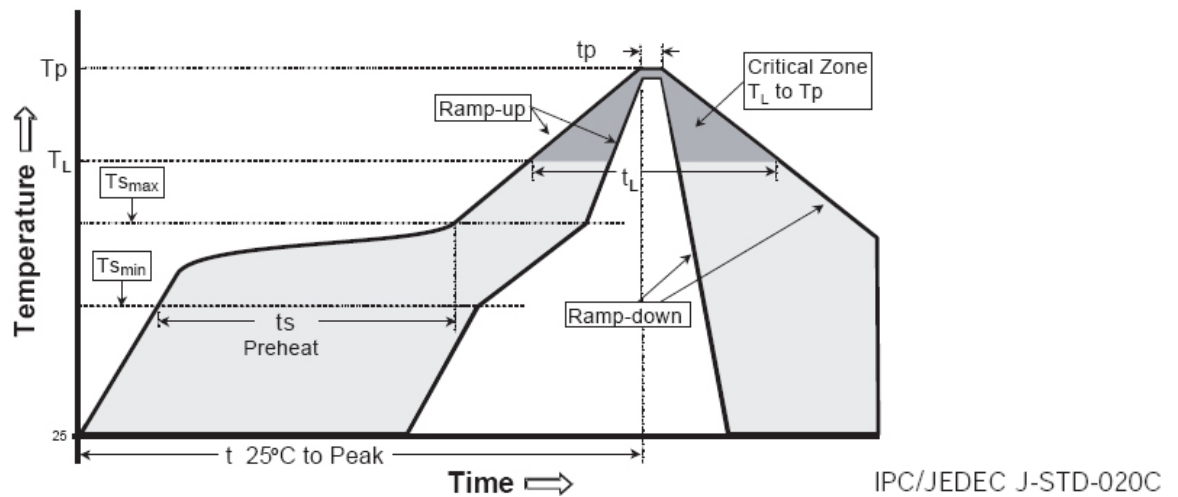


Preliminary

REFLOW SOLDERING CHARACTERISTICS

In testing, Cree has found XLamp XT-E HVW 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 the solder paste used.

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



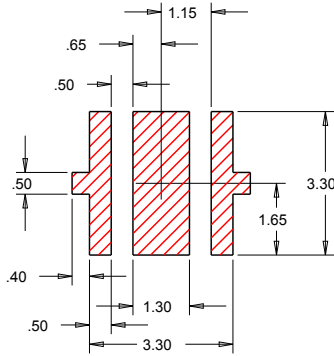
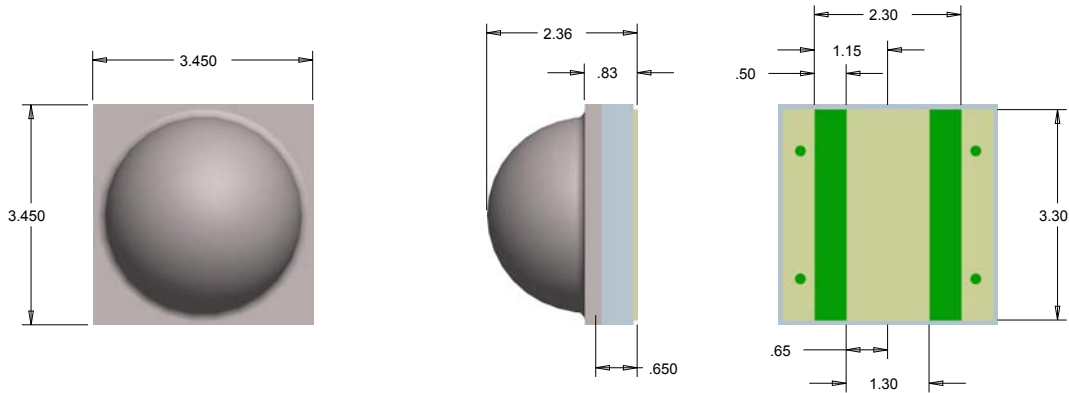
Profile feature	Lead-based solder	Lead-free solder
Average ramp-up rate ($T_{s_{MAX}}$ to T_p)	3 °C/second max	3 °C/second max
Preheat: Temperature min ($T_{s_{MIN}}$)	100 °C	150 °C
Preheat: Temperature max ($T_{s_{MAX}}$)	150 °C	200 °C
Preheat: Time ($t_{s_{MIN}}$ to $t_{s_{MAX}}$)	60-120 seconds	60-180 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 (T_p)	215 °C	260 °C
Time within 5 °C of actual peak temperature (t_p)	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 topside of the package, measured on the package body surface.

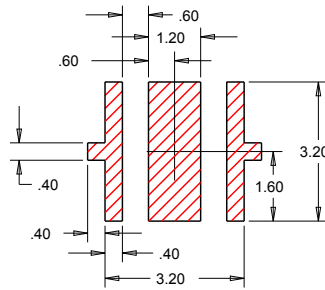
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MECHANICAL DIMENSIONS

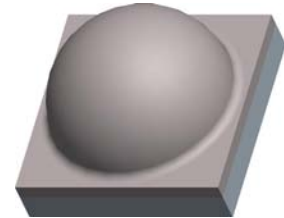
All measurements are $\pm .13$ mm unless otherwise indicated.



RECOMMENDED PCB SOLDER PAD



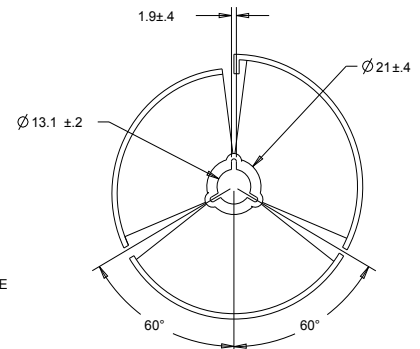
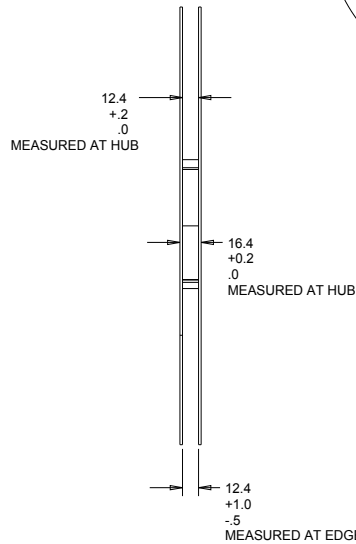
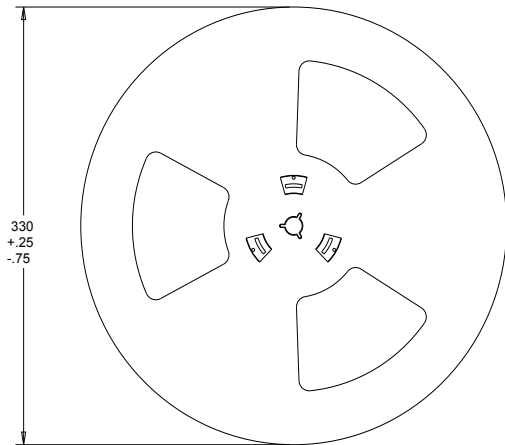
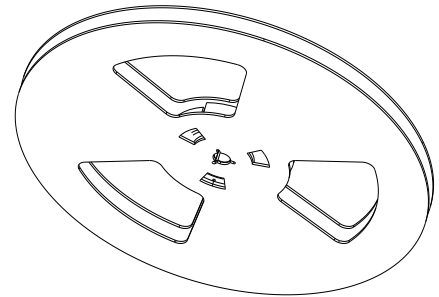
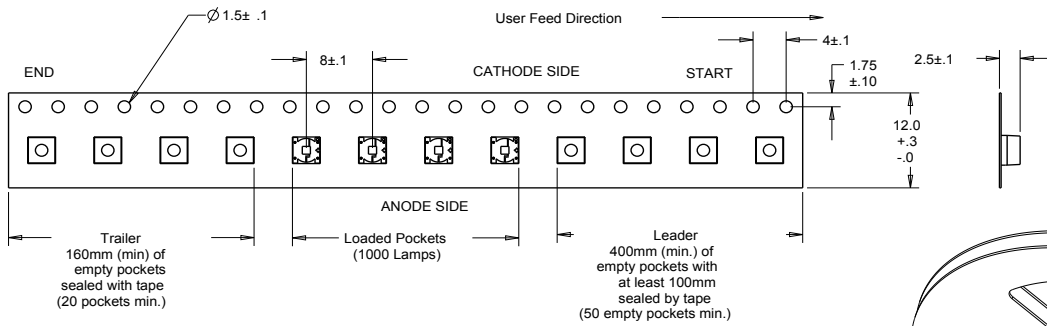
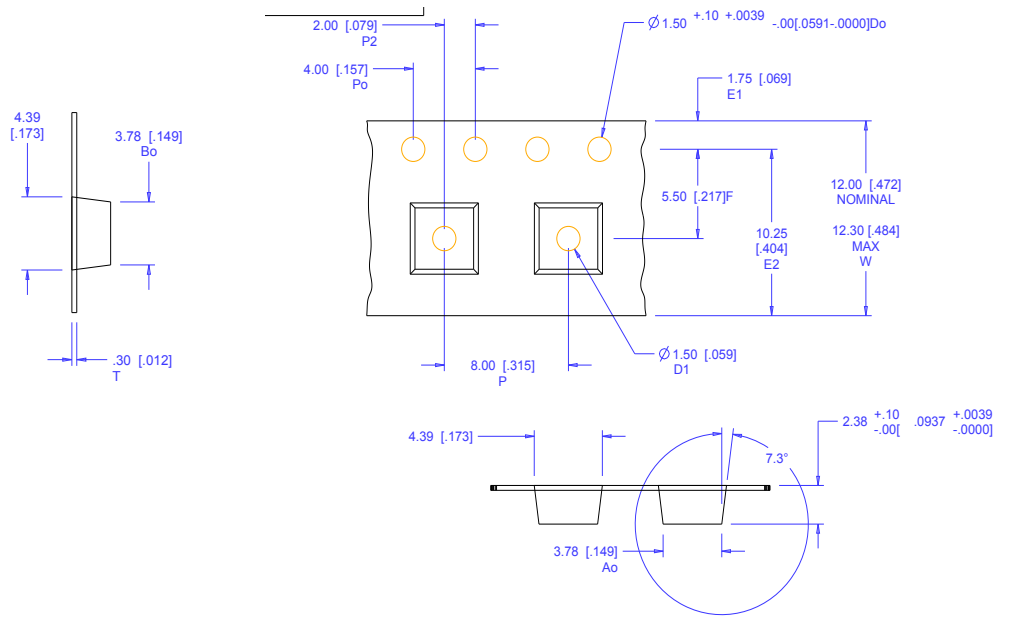
**RECOMMENDED STENCIL PATTERN
(HATCHED AREA IS OPENING)**



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TAPE AND REEL

All dimensions in mm.



PACKAGING

Preliminary

