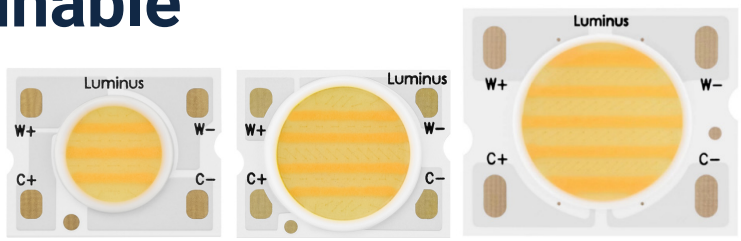
Two Channel CCT Tunable

Generation 2

CCT Tunable LED COB



Features

- Two channel cool and warm 90+ CRI LEDs
- High lumen density for directional lighting
- Enables system beam angles from 10 to 40 degrees
- 6500K to 2700K CCT range for commercial and residential lighting
- Robust design standard COB manufacturing materials and processes
- Consistent white light <3 SDCM
- Specified “hot” performance and 100% factory tested at Tj=85℃
- RoHs and REACH compliant

Table of Contents

Applications

- Human centric lighting
- Museum and high-end retai lighting
- Hospitality / hotel / restaurant lighting
- Circadian lighting in hospitals, offices, or schools
- Residential lighting

TECHNOLOGY DATA

Electrical data @ T_j=85°C

Part number	Nominal forward current per channel	Nominal input power per channel	Nominal voltage per channel	Maximum voltage per channel	Maximum forward current per channel	Maximum forward power per channel
CTM-6-6527-90-36-TWD6-F3-3	150mA	5W	33V	37V	225mA	8W
CTM-9-6527-90-36-TWD6-F3-3	250mA	8W	33V	37V	450mA	17W
CTM-14-6527-90-36-TWD6-F3-3	700mA	24W	34V	37V	900mA	33W

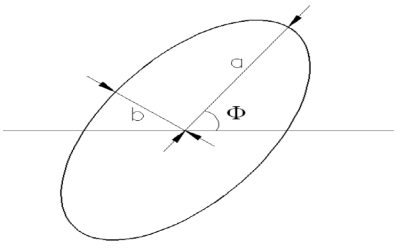
* Note that the maximum current and maximum power per channel also serve as guidelines for maximum current and maximum power for both channels combined. Luminaire thermal system capability and power derating curves on page 6 must be considered, and most 2 channel drivers will limit or should limit the combined maximum forward current of both channels per the values in the table above. In order to drive both channels simultaneously above nominal current, the luminaire's thermal system must be appropriately engineered to dissipate the thermal load and avoid absolute maximum case temperatures and junction temperatures.

Photometric Data @ T_j=85°C and Nominal Forward Current

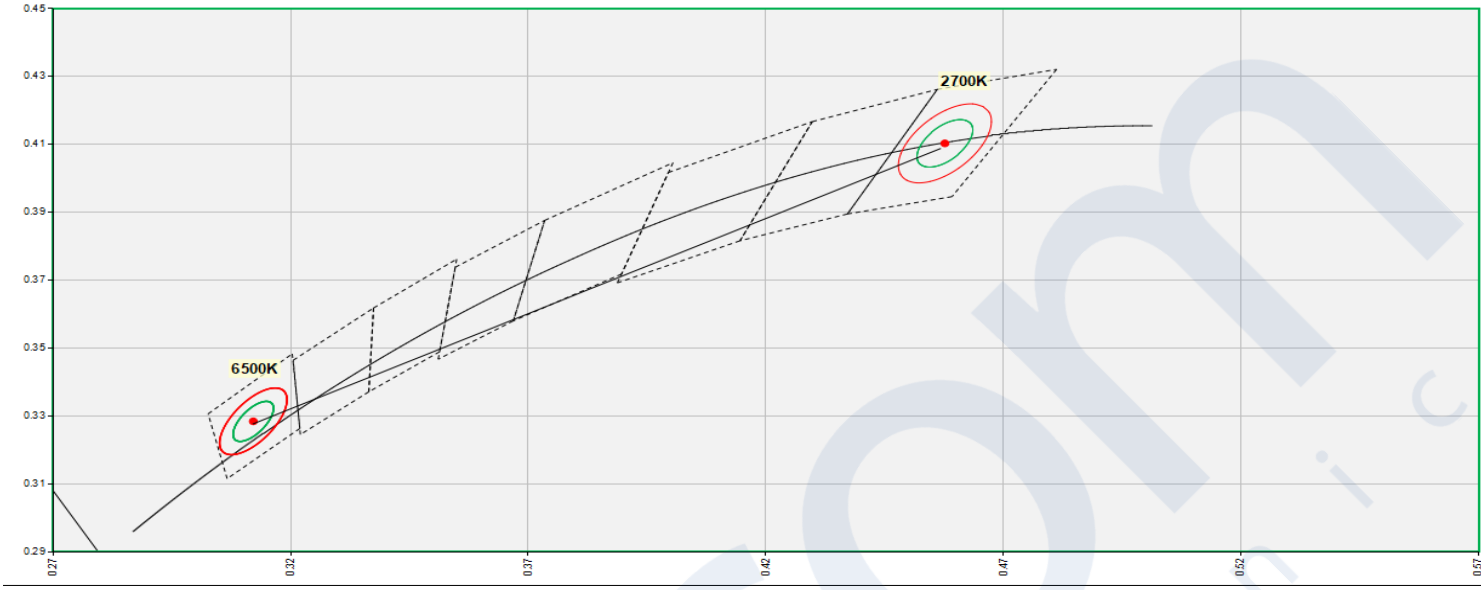
Part number	CRI (min)	CCT of cool white	Minimum flux (lumens)	Nominal flux (lumens)	CCT of warm white	Minimum flux (lumens)	Nominal flux (lumens)
CTM-6-6527-90-36-TWD6-F3-3	90	6500K	560	630	2700K	480	550
CTM-9-6527-90-36-TWD6-F3-3	90	6500K	1000	1065	2700K	860	930
CTM-14-6527-90-36-TWD6-F3-3	90	6500K	2800	3080	2700K	2440	2700

Chromaticity Bins and Ellipse Definitions @ T_j=85°C:

	Center Point		Angle	3-step bin	
Nominal CCT	CIEx	CIEy	Θ(°)	a	b
2700K	0.4578	0.4101	53.7	0.0081	0.0042
6500K	0.3123	0.3282	58.57	0.00669	0.00285



CTM GEN2 CURRENT RATIOS AND NOMINAL CCTS



Absolute Maximum Ratings & Optical/Electrical Characteristics:

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating case temperature	T_c			105	°C
Junction temperature	T_j			125	°C
Viewing angle	2(Θ1/2)		120		Degrees
Reverse voltage	V_r			5	Volts
Storage temperature	T_{sto}	-40		+85	°C

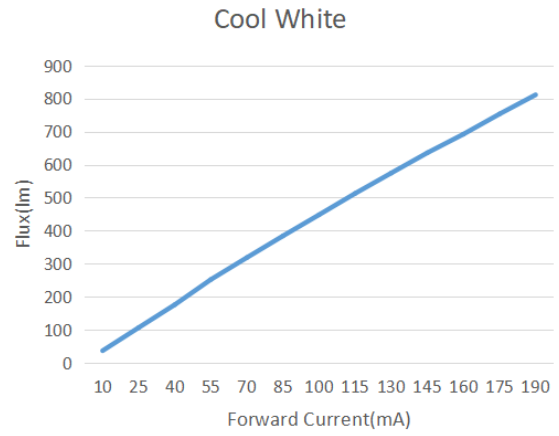
MECHANICAL DIMENSIONS & THERMAL RESISTANCE

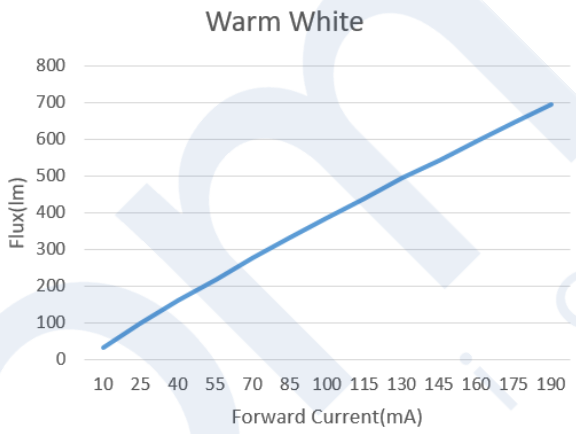
Part Number	Light Emitting Surface (LES) Diameter	Board Size	Typical Thermal Resistance (Rthj-c)	PCB Thick-ness
CTM-6-6527-90-36-TWD6-F3-3	6.8mm	12x15mm	1.83 ℃/W	1mm
CTM-9-6527-90-36-TWD6-F3-3	9.5mm	12x15mm	1.10 ℃/W	1mm
CTM-14-6527-90-36-TWD6-F3-3	13.9mm	20x24mm	0.77 ℃/W	1mm

TYPICAL OPTICAL/ELECTRICAL CHARACTERISTICS GRAPHS

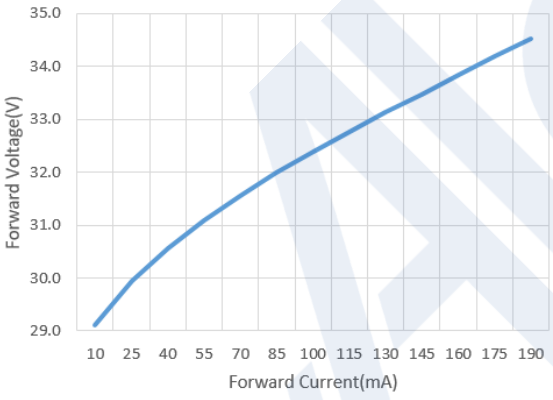
6mm:

Forward Current vs. Flux(Tj = 85°C)

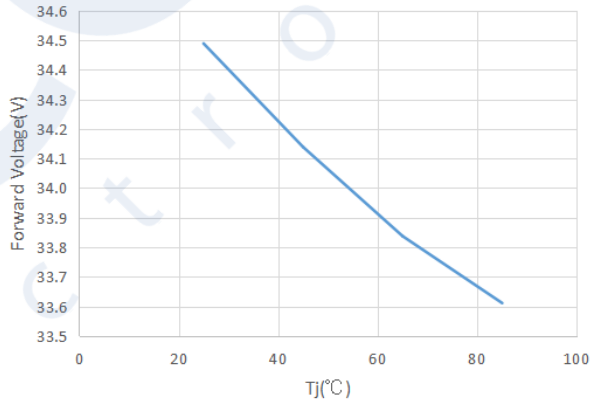




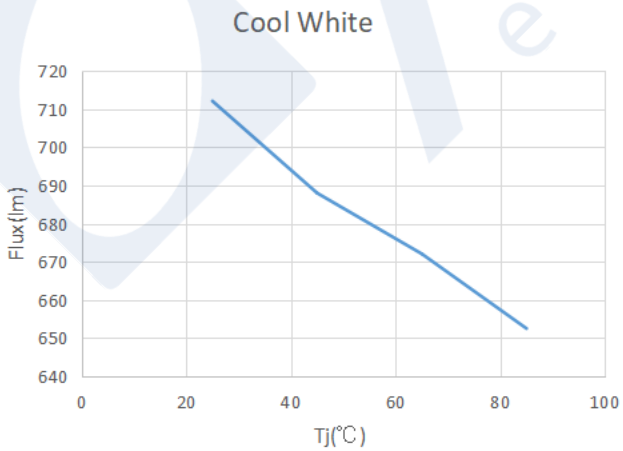
Forward Current vs. Forward Voltage @Tj=85℃

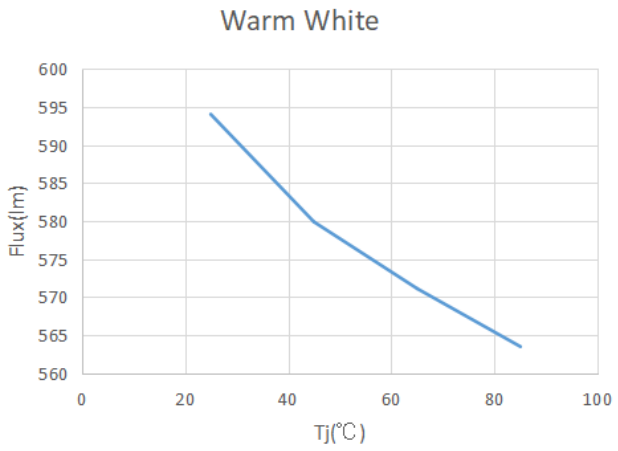


Typical Vf @Nominal If vs. Junction Temperature



Relative Flux@Nominal If vs. Junction Temperature

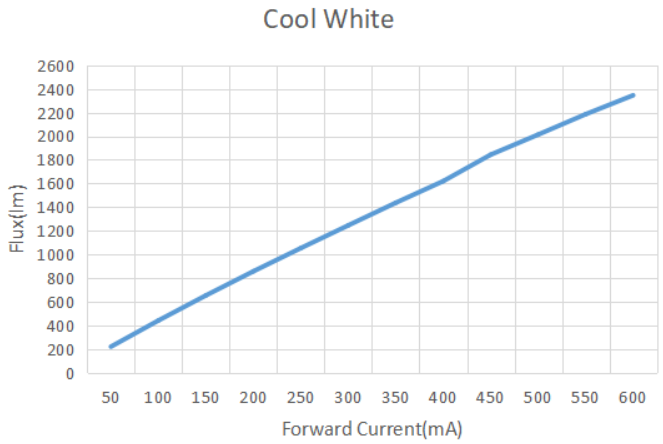


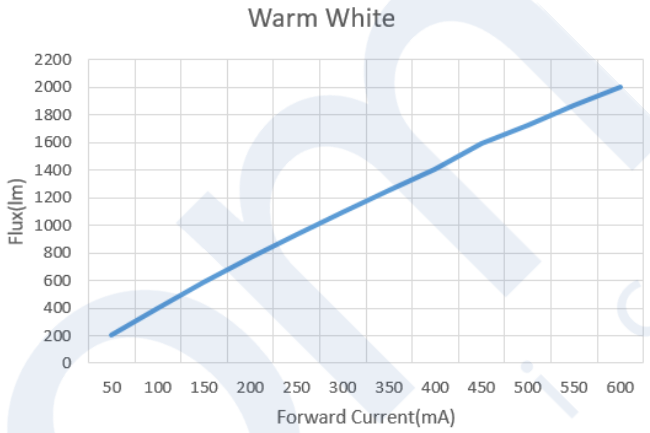


TYPICAL OPTICAL/ELECTRICAL CHARACTERISTICS GRAPHS

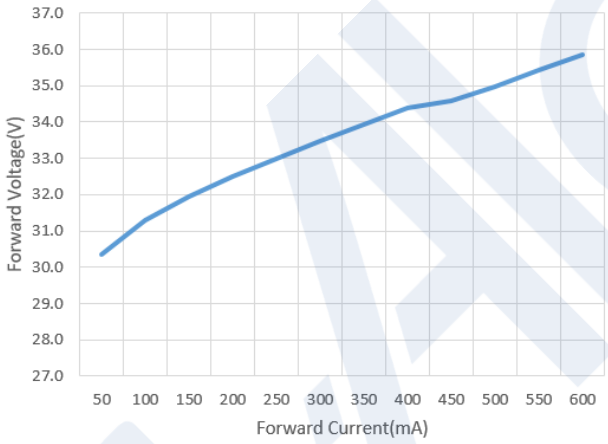
9mm:

Forward Current vs. Flux(Tj = 85°C)

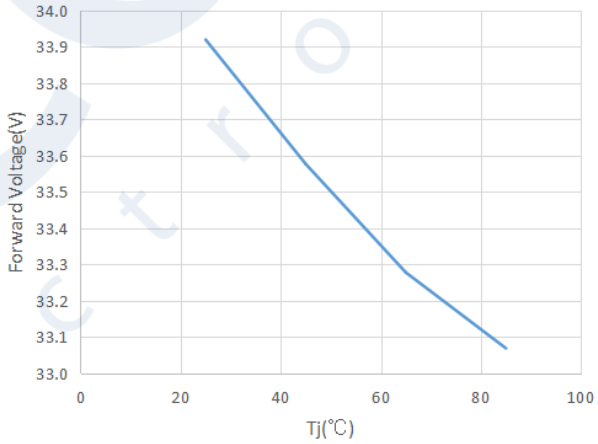




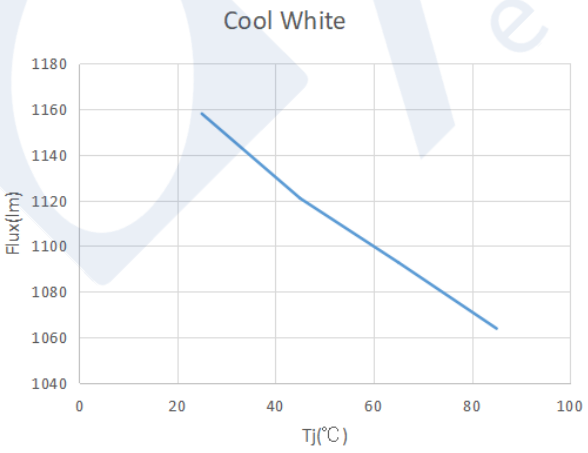
Forward Current vs. Forward Voltage @Tj=85℃

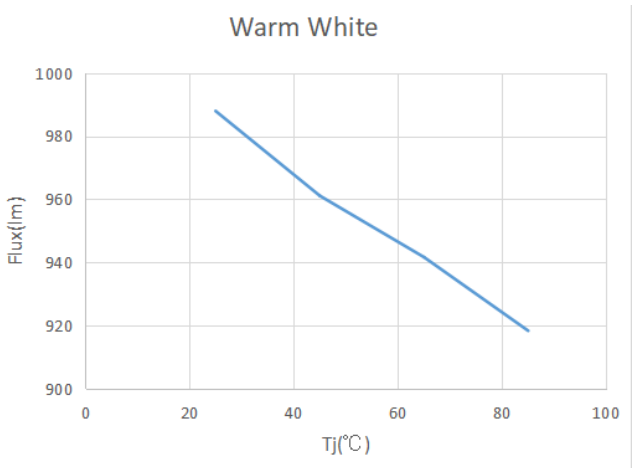


Typical Vf @Nominal If vs. Junction Temperature



Relative Flux @Nominal If vs. Junction Temperature

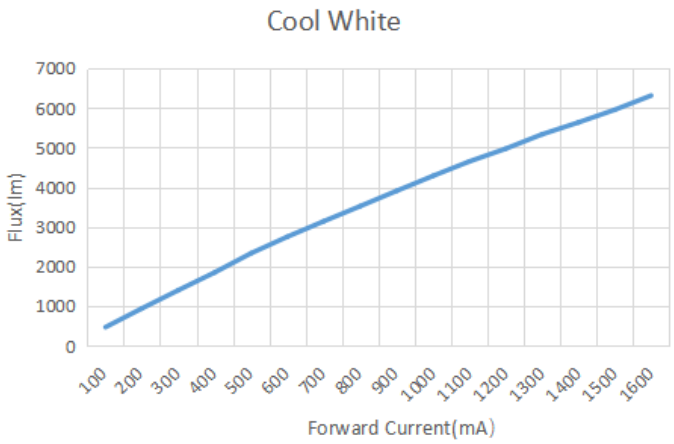


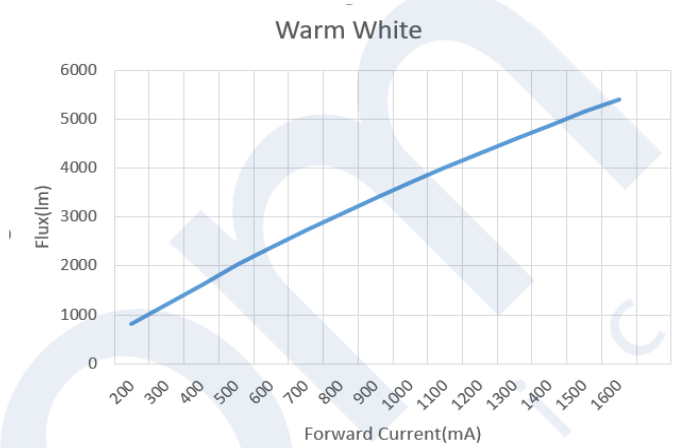


TYPICAL OPTICAL/ELECTRICAL CHARACTERISTICS GRAPHS

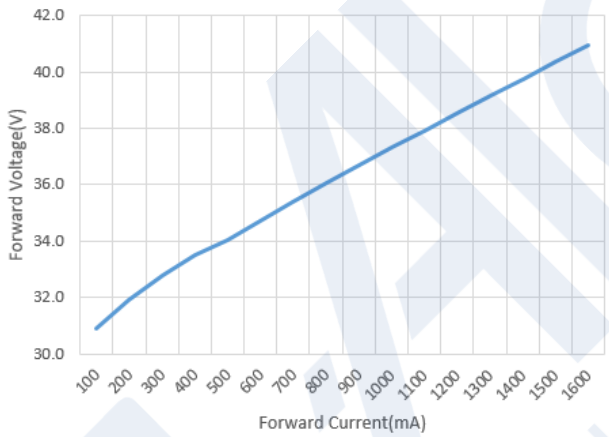
14mm:

Forward Current vs. Flux(Tj = 85°C)

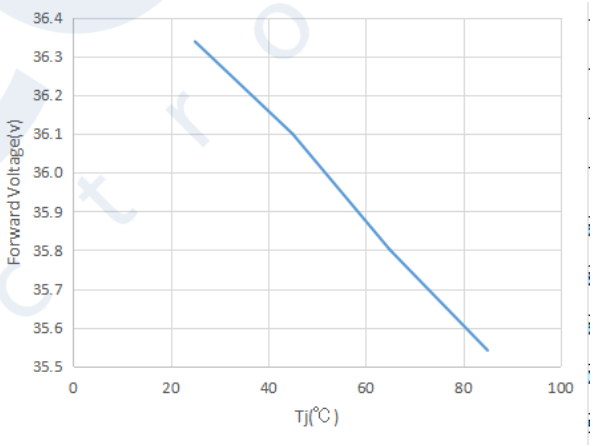




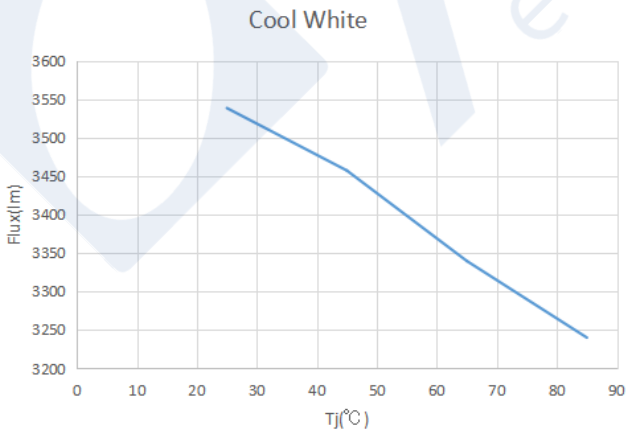
Forward Current vs. Forward Voltage @Tj=85℃

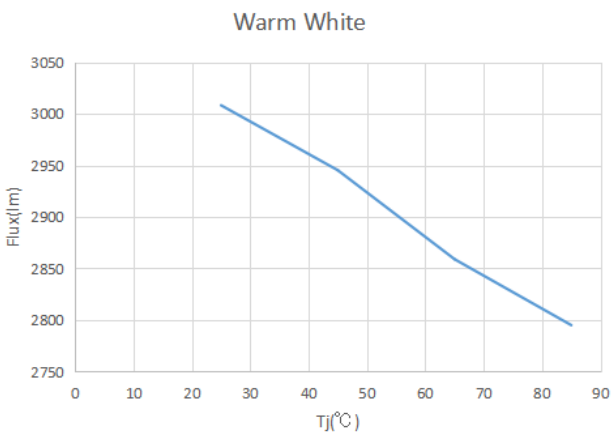


Typical Vf @Nominal If vs. Junction Temperature



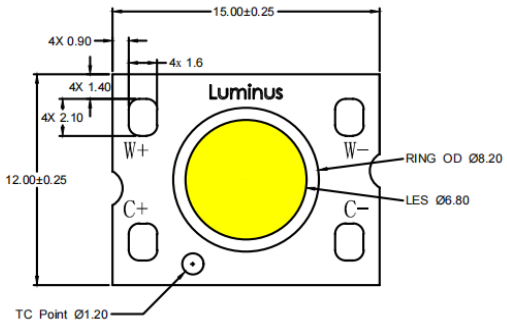
Relative Flux @Nominal If vs. Junction Temperature

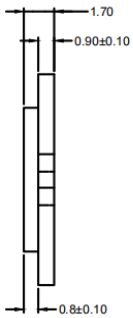


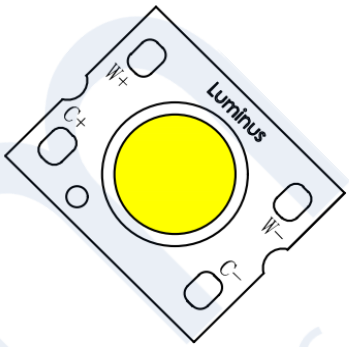


PACKAGE DIMENSION (MM)

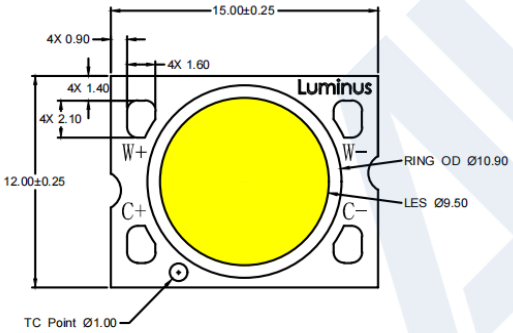
CTM-6-6527-90-36-TWD6-F3-3

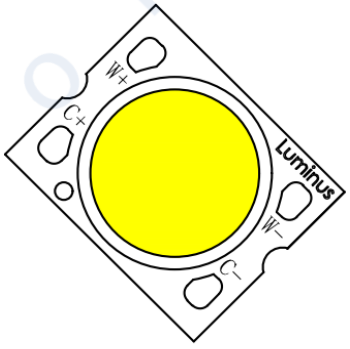




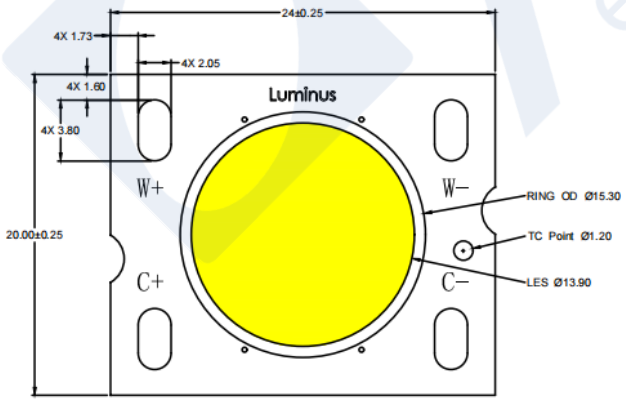


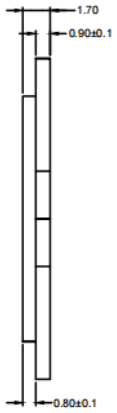
CTM-9-6527-90-36-TWD6-F3-3

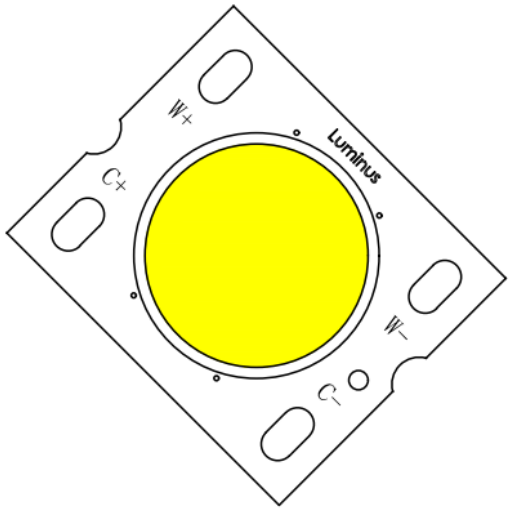




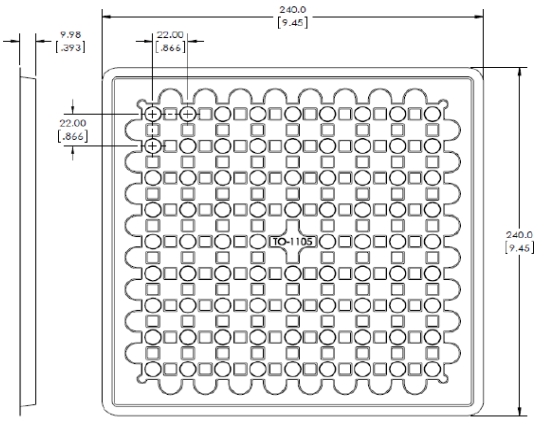
CTM-14-6527-90-36-TWD6-F3-3

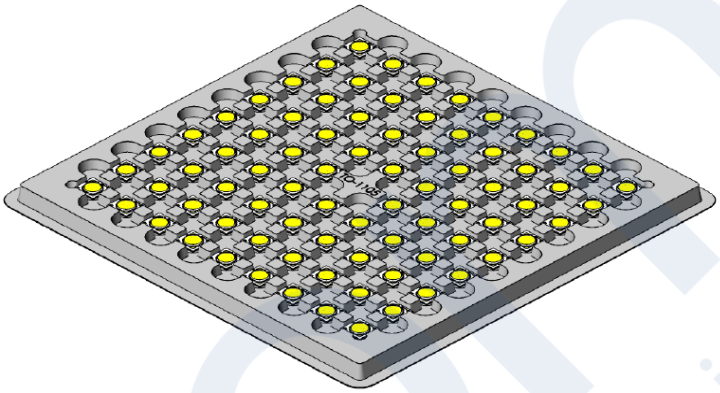






SHIPPING CONTAINER

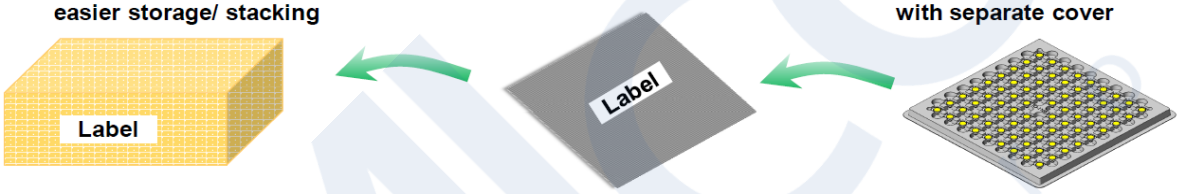




400 pcs per box
Each bag is boxed for easier storage/ stacking

Trays are sealed in an anti-static bag

80 pcs per tray
5 trays are stacked together with separate cover



Luminus Label Model:

LUMINUS **Luminus Devices Inc**

XXXXXX-XX-XX (Manufacturer Part Number & Bin Kits) **Rev XX**

Bar code | Bar code

XXX-XX-XX-XX-XX-XXXX-XX-X (Customer Part Number)

XXXXXXXXXXXXXX (Box ID) **Qty: XX**

Bar code | Bar code

RoHS Compliant

HANDLING NOTES

Handling Notes for Luminus COBs

Luminus products are designed for robust performance in general lighting applications; however, care must be taken when handling and assembling the LEDs into their fixtures. To avoid damaging Luminus COBs, please follow these guidelines. The following is an overview of the application notes detailing some of the practices to follow hen working with these devices. More detailed information is available on the Luminus website at www.luminus.com

General Handling

Devices are made to be lifted or carried with tweezers on two "mouse bite" locations. At no time should the devices be handled by or should anything come in contact with the light emitting surface (LES) area. There are electrical connections under the LES which, if damaged, will cause the device to fail.

Static Electricity

LEDs are electronic devices which can be damaged by electrostatic discharge (ESD). Please use appropriate measures to assure the devices do not experience ESD during their handling and/or storage. ESD protection guidelines should be used at all times when working with LEDs.

Storage: Luminus products are delivered in ESD shielded bags and should be stored in these bags until used.

Assembly: Individuals handling LEDs during assembly should be trained in ESD protection practices. Assemblers should maintain constant conductive contact with a path to ground by means of a wrist strap, ankle straps, mat, or other ESD protection system.

Transporting: When transporting the devices from one assembly area to another, ESD shielded carts and carriers should be used.

Electrical Contact

Luminus COBs are designed with electrical contact pads on their top surface. These pads are clearly marked with "+" and "-" polarity. Wires can be soldered to the contact pads for electrical connections or other solderless connector products are available. If wires are being soldered to the COB product, we recommend attaching these wires prior to mounting the devices to a heat sink. Please contact Luminus for specific recommendations on how to solder wires if not familiar with the standard practice. Luminus can also offer design recommendations for jigs to enable easy soldering of multiple products in rapid succession.

Chemical Compatibility

The resin material used to form the emitters inside the LES can getter hydrocarbons from the surrounding environment. As a result, certain chemical compounds are not recommended for use with Luminus products. Use of these compounds can cause damage to the light output of the device and may permanently damage the device.