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# Green lighting technologies



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**LYNK LABS**

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**Lynk Labs Tesla AC LED**

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## Tesla™ AC LED Product Sheet



The Tesla™ AC LED product line combines Lynk Labs' newly-patented "hybrid AC LED" technology at the circuit and die level with a patented ceramic array packaging and phosphor technology from Intematix, providing a totally integrated AC LED solution in a single SMT LED. OEMs,

integrators and end users now have access to Lynk Labs AC LED technology in the most simplified LED device design solution available for the general lighting market. This is essentially a 12VAC light bulb in an SMT LED package.

With a basic incrementally scalable 1.2 watt 12v AC Led chip at 6.5mm x 6.5 mm, The Tesla 6565 is available to OEMs in linear and 2 dimensional modules as well as in taped reels for 3rd party module manufacture. The Tesla 6565 is the first in a line of infrastructure friendly packages. To be released in Q1 2009, the Tesla 1203 is a linear 0.6 watt, 12v AC package just 3mm wide by 12mm long. Other implementations are planned to follow.

Tesla LEDs are designed to enable lighting OEMs to develop end products faster and in more infrastructure-friendly solutions for the lighting market. Tesla AC LEDs can be easily scaled in 12VAC increments and designed into 12VAC – 240VAC lighting applications and are available in CCT's of 2700, 3000, 3500, 4000, 5000, 6300K with a standard CRI of 75 and High CRI in all CCT's for special orders.

Tesla LEDs, like XyLite modules deliver flexible X and Y dimensional building blocks of light that enable luminaire and OEM designers to significantly accelerate and simplify their product design strategy for almost any LED lighting application. Adding to this the benefits of Lynk Labs AC LED technology, OEM product designers and engineers can deliver LED lighting products that are Lighting Infrastructure Friendly and better understood by architects, contractors, reps, distributors and End Customers from existing experience with lighting.

## Tesla™ AC LED Light Engine module Technical Specification

### Operating Characteristics (Single Module)

<b>Tesla Series</b>	
<b>Drive Voltage</b>	Min – 11v ac – Max – 12v ac
<b>Thermal Management</b>	T-Solder point Max = 90°C
<b>Viewing Angle</b>	160 Degree
<b>CCT Options (W-C)</b>	STD. – 3K, 4K, 5K / CUST. – 2.7K, 3.5K, 6.3K
<b>CRI Options (W-C)</b>	STD. – 70 / HIGH. 92

### Electro-optical Characteristics

Module#	VAC	LM/W (SYSTEM)
3K	12VAC	50
4K	12VAC	55
5K	12VAC	57

(Note – LPW Data based on system efficiency w /12v magnetic. Values based on TA= 25°C / TJ – 60°C)

### Powering Specifications

Power Supply/Driver	Output (RMS)	Frequency	Min Load	Dimming
<b>BriteDriver</b>	12VAC	25-50kHz	1 WATT	Output
<b>12Vac Magnetic</b>	12VAC	50/60Hz	5 WATT	Input / Output

(Note – Use Lynk Labs approved AC LED power supply/drivers only – Any exceptions void all AC LED warranties. Contact Lynk Labs for details.)

### Design Considerations / Specifications

#### 1. Thermal Management Requirements

- A. Mount on properly designed thermally conductive circuit board
- B. Heat Sink Required (26 square CM/WATT surface area) with good Thermal Connection to board.
- I. Thermal epoxy – No mechanical mounting required
- II. Thermal grease – Mechanical mounting required

#### 2. Mechanical Mounting

- A. Do not put force on LEDs.
- B. Do not bend PCB.

#### 1. Thermal Management Requirements



### Tesla Series LED chip variants

<b>Tesla Series T6565</b>			
<b>Dimensions ( L x W x H)</b>	6.5mm x 6.5mm x 0.9mm		
<b>Power</b>	1.2W		
<b>CCT</b>	3000 °K	4000 °K	5000 °K
<b>Lumen</b>	60	65	68
<b>CRI</b>	Std 70 / High 92		

<b>Tesla Series T1203</b>			
<b>Dimensions ( L x W x H)</b>	12mm x 3mm x 0.9mm		
<b>Power</b>	0.6W		
<b>CCT</b>	3000 °K	4000 °K	5000 °K
<b>Lumen</b>	30	32	34
<b>CRI</b>	Std 70 / High 92		