

LED Fundamentals – Online Training Resource

- An online training resource available on our LED Light Site.
- Includes videos and PDF files on LED education.
- A primer on LEDs for lighting applications and LED system design considerations.
- Training topics include:
 - LED Basics
 - Thermal
 - Optical
 - Electrical

Basics	Thermal	Optical	Electrical
LEDs Basics An introduction to LED lighting, semiconductor materials, LED chip technologies and more.	Thermal Characteristics of LEDs Learn about thermal management for high intensity LEDs.	Mesopic Vision Review the different vision ranges and the advantages of LED lighting as it relates to human vision.	Electrical Characteristics of LEDs Learn the technical parameters needed to properly design an LED lighting system.
LEDs System Introduction Learn about the individual components that make up super bright LED systems and determine which LED is the right for your project.	Basics of Heat Transfer Learn about high power LEDs, heat transfer and thermal conductivity.	Optical Principles Learn the basics of reflection, transmission and other optical properties and how they are applied to LED lighting.	Driving LEDs – Resistors and Linear Drivers Learn about resistor based current regulation in LED systems.
How to Read a Datasheet Part 1 of 2 – Typical/Maximum Characteristics and Binning Learn how to read our LED datasheets.	Internal Thermal Resistance of LEDs Get detailed information about the internal thermal resistance of LED packages.	Radiometry and Photometry Learn the basics of radiometry and photometry and other important photometric concepts.	Driving LEDs – Switch Mode Drivers Learn how switch mode drivers work and their benefits in LED lighting systems.
How to Read a Datasheet Part 2 of 2 – Characteristic Curves, Dimensions and Packaging Continue to examine the various elements of our datasheets.	External Thermal Resistance (Substrates) Examine the thermal resistance of PCB substrates and compare substrate technologies.	Colorimetry Learn how the eye perceives color and the metrics used to describe color.	Driving LEDs – AC-DC Power Supplies Examine the importance of TRIAC dimmable LEDs and driver standards.
	External Thermal Resistance (Interface Materials and Heat Sinks) Learn how to identify the proper heat sink for an LED system design.	Primary/Secondary Optics and Measurements Review the primary optic designs and resources for choosing secondary optics for LEDs.	
		Optical and Lighting Software Learn about the differences between optical software and lighting software.	

URL: <http://ledlight.osram-os.com/knowledge/led-fundamentals/>