

OPTOELECTRONIC Solutions

from the infrared to visible to the ultraviolet
OPTEK provides you application specific solutions.

OPTEK Technology

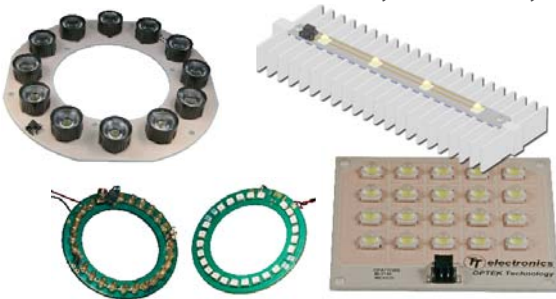
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OPTEK manufacturers standard and application specific lighting components and assemblies. The solution for your lighting application is designed by engineers who are experienced in all areas of solid state technology. Our engineers take meticulous care in determining the exact requirements for your designs whether it is transitioning current designs to LED lighting or incorporating solid state lighting into new designs. With our in-house optical measurement lab and our 40+ years experience in designing solutions, we know what it takes to get the job done.

LED Assemblies - When you are ready to switch from traditional to LED lighting.

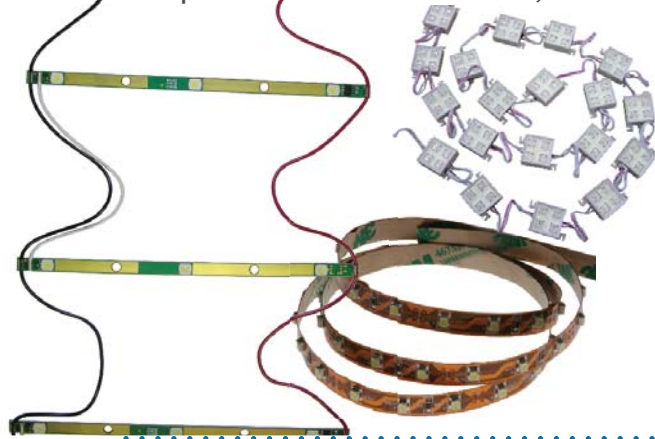


OPTEK offers standard and custom solid-state lighting assemblies with optimal thermal management and employs a multi-chromatic tuning process to produce consistent color.

Applications:

- Commercial lighting fixtures
- Security cameras
- Display lighting
- Airport lighting
- Street lighting
- Down lights

LED Strips and Modules - When you need a flexible and scaleable lighting solution.

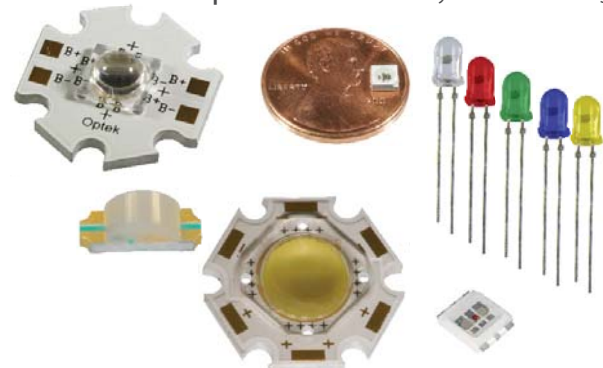


OPTEK's strip and module LEDs provide the engineer an easy design-in solution that allows application specific configuration of LED placement for uniform illumination. The strip and module LEDs are available in red, amber, green, blue, white, and daylight white. (Water proof versions are available.)

Applications:

- Architectural accent lighting
- Under-counter lighting
- Media illumination
- Channel letters
- Backlighting
- Point-of-sale displays
- Mood-setting decoration
- Landscape lighting
- Neon replacement lighting

LED Components - When you need a high quality LED for your solid-state lighting application.



OPTEK's LED components range from .10 watt to 14 watts and are offered in RGB and RGBA, warm white, daylight white, and cool white in surface mount or through-hole packaging.

Applications:

- Architectural: indoor / outdoor
- General lighting
- Indicator lighting
- Variable message boards
- Traffic & highway signs
- Full-color video signs
- Automotive: interior / exterior
- Backlighting
- Signage: indoor / outdoor
- Flashlights

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The key to a successful integrated lighting solution is partnering with an expert who will act as an extension of your engineering team.

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INFRARED DEVICES
Photodarlington
Photologic®
Pill Pack
Reflective
Slotted
Surface Mount

OPTICAL COUPLED ISOLATORS
Flexible Linkage
LED/Photologic®
LED Phototransistor
OPTOCOUPPLERS
Analog and Digital
Packages (DIP, SOP, SSOP)

SOLID-STATE RELAYS
LED-Triac
Bridge Rectifier -Double Triac
MAGNETIC SENSORS
Hall Effect
VCSELs
FIBER OPTIC DEVICES

Emitters
Sensors
VISIBLE LEDES
Components
Custom application solutions
Complete SSL lab
HIGH RELIABILITY / COTS PLUS

Commercial Exterior Lighting - When you are ready to switch from high pressure sodium lighting.



OPTEK offers standard and custom LED based commercial exterior lighting that saves energy and lowers maintenance costs without sacrificing light output.

Applications:

- Street lighting
- Wall paks
- Security lighting
- Area lighting
- Warehouse lighting
- Parking garage lighting

Capabilities - While OPTEK supplies LED components and assemblies we excel at engineering complete lighting solutions. OPTEK's custom capabilities include thermal management designs using Optotherm™ and other heat sink technologies; LED driver and control circuit design; metal core PCB layout and assembly; secondary optics design and analysis; optical test lab; and other value-added services. Our state-of-the-art visible LED Lab enables us to provide more functional products as well as design and manufacturing guidance outside the conventional lighting box.

OPTEK's Lab includes a **1-meter and 6" Integrating Sphere** - determines color temperature (CCT) and luminosity (TLF), **Infrared Thermal Imaging Camera** - provides data for optimizing thermal management designs, **Luminous Flux and Wavelength Tester** - verifies light output and spectral bandwidth, **Radiation Spectrometer System** - measures radiometric and photometric characteristics, and **Scanning Electron Microscope Princeton Gamma Tech X-Ray Analyzer** - provides data in failure analysis.

Checklist - Use the following list to assist in making sure all aspects of the lighting design are taken into consideration:

- Application
 - Illumination
 - Signal
 - Backlighting (Direct or Indirect)
- Color
 - Wavelength or Color Temperature
- Lumen Intensity
 - Initial
 - End of life
 - Operating life
 - Operating temperature range
- Power consumption of the array?
- Driver required with the assembly?
- Specific beam angle required?
 - or
- Area of illumination (distance from light source)
- Package dimensions
- Specific environmental requirements such as high humidity, extreme heat, extreme cold, etc.