

NEW AEC-Q102 RGB+IC ADDRESSABLE LED



American Bright presents the new Automotive-Qualified RGB LED with built-in IC. This RGB with IC package is designed with an integrated circuit that features a self-detection signal and pulse width modulation (PWM) output that can maintain a static screen.

BENEFITS

- **Integrated Control:** RGB addressable LED with a built-in circuit for easy color control.
- **Car-Ready:** Designed to meet strict automotive standards for reliability.
- **Auto Status Detection:** Integrated circuit detects LED status automatically.
- **Precise Lighting:** Control brightness and color effects with PWM output.
- **Steady Illumination:** PWM maintains stable lighting for consistent visuals.
- **Dependable Performance:** Integrated design boosts overall reliability.
- **Efficient Power Use:** PWM saves energy by adjusting brightness.
- **Space-Saving:** Built-in IC reduces the need for extra components.

FEATURES

- BB-HBRG32N-TRB-0-AQ
- PLCC-6 Package
- Serial Peripheral Interface (SPI) communication protocol
- 8-bit (256 level) color set
- 5-bit (32 level) brightness adjustment
- Low voltage 0.2W~1W power consumption
- Built in support for continuous oscillation.
- Refresh rate of 400 cycles
- Operating temperature -40° C to 85° C

APPLICATIONS

- Interior lighting
- Ambient lighting
- Automotive Interior illumination

RGB+IC ADDRESSABLE LEDS

American Bright offers variable choices of RGB LED packages with a built-in IC. These RGB with IC packages are designed with an integrated circuit with a self-detection signal and pulse width modulation (PWM) output to maintain a static screen.

BENEFITS

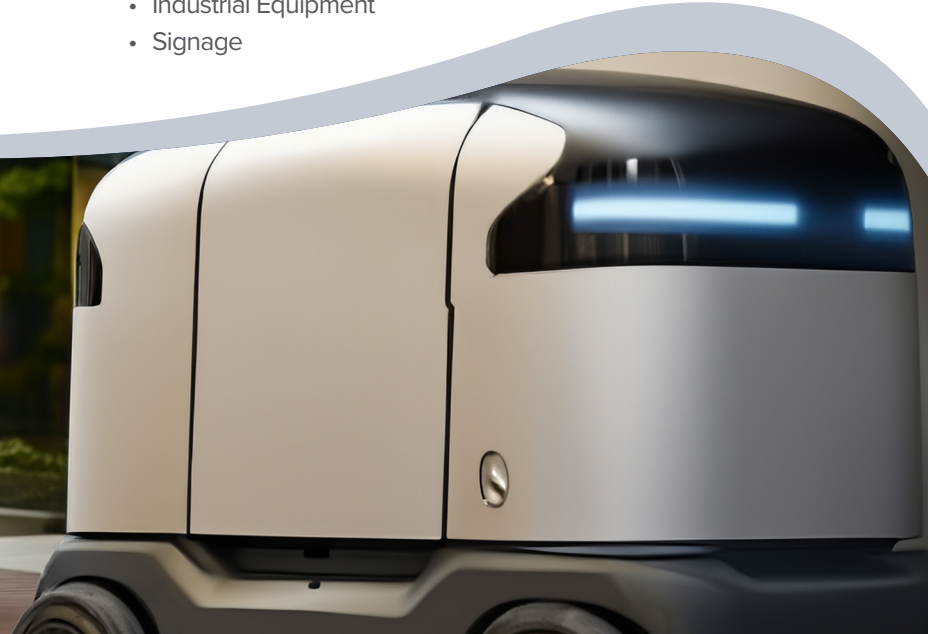
- **Smart Communication:** Uses SPI for efficient data sharing.
- **Rich Colors:** Offers 256 color levels for vibrant lighting.
- **Adjustable Brightness:** Change brightness with 32 levels for right mood.
- **Efficient:** Low 0.2W~1W power use saves energy.
- **Steady Operation:** Continuous oscillation support ensures reliability.
- **Smooth Animation:** 400 cycles/second refresh rate for fluid effects.
- **Reliable Anywhere:** Works between -40°C to 85°C temperatures.
- **Easy Control:** Built-in IC simplifies customization.
- **Versatile Use:** Great for both static and dynamic lighting projects.

FEATURES

- Available in PLCC-6 5050 and PLCC-4 5050, 3528, 4020 (side-emitting), EMC 2020 and SMT 1204 packages
- Serial Peripheral Interface (SPI) communication protocol
- 8-bit (256 level) color set
- 5-bit (32 level) brightness adjustment
- Low voltage 0.2W~1W power consumption
- Built in support for continuous oscillation.
- Refresh rate of 400 cycles
- Operating temperature -40° C to 85° C

APPLICATIONS

- Indoor and Outdoor Commercial and Residential Lighting
- Architectural Lighting
- Decoration and Entertainment Lighting
- Gaming Machines
- Beverage Dispensing Machines
- EV Charging Stations
- Robotics
- Marine
- Industrial Equipment
- Signage





RGBW ADDRESSABLE LEDs

American Bright RGBW Addressable LEDs feature a compact 5050 package emitting Red, Green, Blue and White colors. They offer compatibility with various assembly methods, automatic placement equipment and reflow soldering processes, while supporting dynamic color changes via PWM and enabling long-range data transmission beyond 10 meters at a frequency of 800KHz.

BENEFITS

- **Multiple Colors:** Emitting Red, Green, Blue and White, enabling diverse lighting effects.
- **Clear Lens:** Water-clear lens ensures efficient light dispersion.
- **Reflow Compatibility:** Withstands infrared and vapor-phase reflow soldering.
- **Automation Ready:** Compatible with automatic placement equipment.
- **ROHS Compliant:** Environmentally friendly with no restricted substances.
- **High Contrast:** Delivers impactful, high-contrast illumination.
- **Built-in PWM:** Supports dynamic color changes via Pulse Width Modulation.
- **Auto Function Reset:** Restores function on power cycles for consistency.

FEATURES

- Device #BB-HGRBW32K-A-TRB-4
- 5-bit (32 level) brightness adjustment
- Suitable for all SMT assembly methods.
- Data transmission covers distances beyond 10 meters
- 3.5~5.5 supply voltage
- Built in support for continuous oscillation
- Operating temperature -40° C to 85° C
- 800KHz data signal
- 5050 with integrated high-quality IC and RGBW LED chips
- Single line data transmission

APPLICATIONS

- Indoor and Outdoor Commercial and Residential Lighting
- Architectural Lighting
- Decoration and Entertainment Lighting
- Large LED displays
- Full Color Displays
- LED Soft Lights
- Office Automation
- Home Appliances
- Status Indicator
- Gaming Controllers