

IML structural type



Production process:

Printing-3D forming-Punching-Injection molding-Post processing (CNC, burnishing)

Compared with traditional products:

Comparision	Traditional	IML
Application	decorative	decorative & functional
Function	N/A	acceptable
Texture	single or fewer	variety,OEM&ODM
Effectiveness	indiscernible at night	interactive or Feedback at night

Ambient Light

Application Scenario
Ambient Light
Intelligent Cockpit
Grille lighting/Vehicle Logo Lighting
Skylight with a Symphony of Lights

Product features

120° Luminous angle; Wavelength R:623nm G:526nm B:455nm
Supply voltage range of 3.5V to 5.5V, with configurable under-voltage and over-voltage protection
3-channel RGB LED driver with a maximum current of 60mA per channel
7-bit Analog Dimming,15-bit PWM Dimming
Day/Night Mode Quick Switching with Color Difference < 0.01
High-speed single-ended/differential communication physical layer with integrated Manchester encoding/decoding hardware
128-bit OTP Storage Area with Optional Factory-Pre-Calibrated RGB
Integrated hardware red light temperature compensation with built-in NTC and 8-bit ADC

sampling
Daisy Chain Topology, Auto-Addressing
LED LOD/LSD circuit fault diagnosis
RoHS compliant
Compliant with AEC-Q102-003
Operation:Min-3.5V,Typ.5V,Max 5.5V Voltag
Operation Temperatur:Min -40°C,Max 125°C

Ambient Light LED is a fully integrated composite optoelectronic device features an RGB array of three-color LEDs and a driver IC integrated in a single design, offering a highly integrated solution for automotive interior and exterior lighting. It is equipped with high-speed communication interfaces, high-precision LED drivers, OTP memory, and temperature sensors, capable of meeting the stringent requirements of intelligent scenarios for color accuracy, color consistency, and dynamic response.

Ambient Light LED is equipped with HBM 4KV/CDM 750V electrostatic protection. It integrates an auto-addressing daisy chain topology and internal LED fault diagnosis functionality, offering comprehensive protection and intelligent diagnostic solutions.

Characteristic	Description	Min.	Typ.	Max.
Operating Voltage	Voltage at the Common Collector	-3.5V	5V	5.5V
Operating Temperature		-40°C		125°C
LED Driving Current	The driving current of the LED channel			60mA/CH