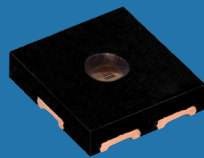# RGB AND LIGHT SENSING

With VEML6046X00 RGB Sensor

With 3 color channels and 1 IR channel, the VEML6046X00 RGB sensors can be used in a variety of color-based automation processes, as well as for HMI applications such as infotainment displays and HUDs, where the sensor improves the backlight dimming by detecting illumination and CCT.
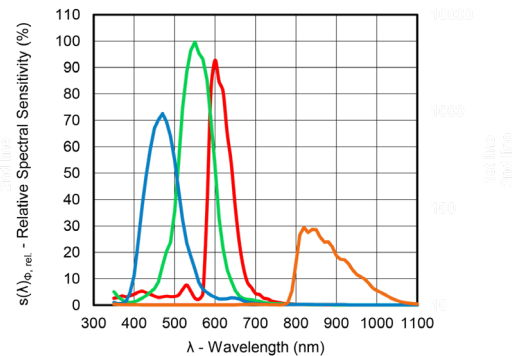
VEML6046X00
RGB Sensor
(2.67 x 2.45 x 0.6 mm)

AUTOMOTIVE GRADE

Industrial and Medical

HMI and Display

Relative Spectral Sensitivity plot: $s(\lambda)_{\phi, rel.}$ - Relative Spectral Sensitivity (%) vs λ - Wavelength (nm)

KEY BENEFITS

RGB 3 COLOR CHANNELS + IR CHANNEL
R, G, B channels detect visible light, IR channel enables accurate light type detection.

Display Brightness Control
High Intensity

- Auto-dimming displays (e.g. infotainment, instrument cluster)
- Automatic headlight control
- Dashboard and interior ambient lighting adjustments

Interior Lighting Control and Integration
Adjust Intensity

- Adjust ambient lighting based on time of day or detected external light
- Match lighting to infotainment themes or user profiles
- Coordinate CID brightness with interior RGB ambient lighting

Driver Monitoring Systems (DMS)
R, G, B, and IR Channel

- RGB sensors in NIR (near-infrared) enhanced cameras help in identifying skin tone and face features accurately in low light
- Enhances eye-tracking accuracy

Exterior Lighting and Safety
Fast Response Time

- Adjust brake or signal light intensity based on ambient conditions
- Fine-tune headlamp color and intensity for weather conditions

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