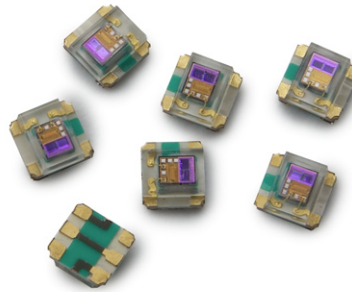


APDS-9005

Miniature Surface-Mount Ambient Light Photo Sensor



Data Sheet



Description

The APDS-9005 is a low cost analog-output ambient light photo sensor in miniature chipLED lead-free surface mount package. It consists of a photo sensor, whose spectral response is close to the CIE standard photopic observer, as show in figure 2. The APDS-9005 is ideal for applications in which the measurement of ambient light is used to control display backlighting. Mobile appliances such as the mobile phones and PDAs that draw heavy current from display backlighting will benefit from incorporating these photo sensor products in their designs by reducing power consumption significantly.

Application Support Information

The Application Engineering Group is available to assist you with the application design associated with APDS-9005 ambient light photo sensor module. You can contact them through your local sales representatives for additional details.

Features

- Spectral responsivity close to that of human eye
- Miniature ChipLED Leadfree surface-mount package
 - Height – 0.55 mm
 - Width – 1.60 mm
 - Depth – 1.50 mm
- Low sensitivity variation across various light sources
- Recommended operating temperature : -40°C to 85°C
- Vcc supply 1.8 to 5.5V
- Lead-free package, RoHS compliance
- Output linearity across wide illumination range

Applications

- Detection of ambient light to control display backlighting
 - Mobile devices – Mobile phones, PDAs
 - Computing devices – Notebooks, Webpads
 - Consumer devices – TVs, Video Cameras, Digital Still Camera
- Automatic Residential and Commercial Lighting Management
- Electronic Signs and Signals

Ordering Information

Part Number	Packaging Type	Package	Quantity
APDS-9005-020	Tape and Reel	6-pins Chipped package	2500

Typical Application Circuit

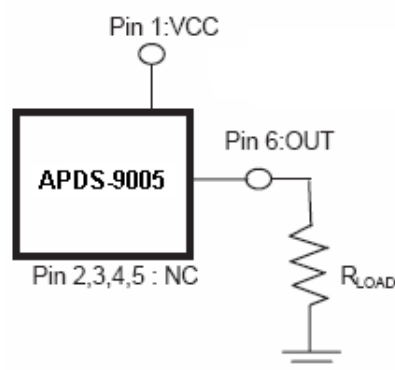


Figure 1. Typical application circuit for APDS-9005

Component	Recommended Application Circuit Component
RLOAD	1k ohm

Note :

Refer to Figure 11 for General Luminance Vs Typical Output Voltage for different RLOAD values

I/O Pins Configuration Table

Pin	Symbol	Description
1	VCC	VCC
2	NC	No Connect
3	NC	No Connect
4	Nc	No Connect
5	NC	No Connect
6	Iout	Out

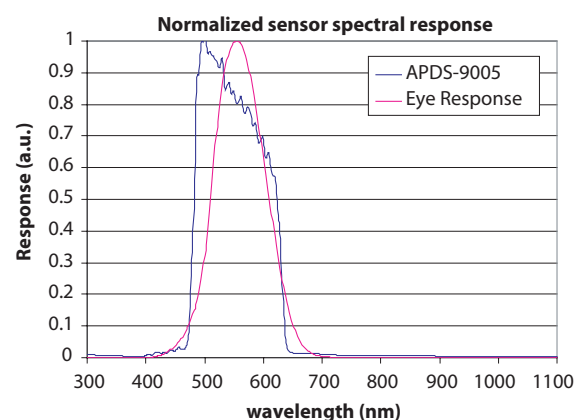


Figure 2. Relative Spectral Response Vs Wavelength

CAUTIONS : It is advised that normal static precautions be taken in handling and assembly of this component to prevent damage and/or degradation which may be induced by ESD

Absolute Maximum Ratings

For implementations where case to ambient thermal resistance is $\leq 50^{\circ}\text{C/W}$

Parameter	Symbol	Min.	Max.	Units
Storage Temperature	T _S	-40	85	°C
Operating temperature	T _A	-40	85	°C
Supply Voltage	V _{CC}	0	6	V

Recommended Operating Conditions

Parameter	Symbol	Min.	Max.	Units	Conditions
Supply Voltage	V _{CC}	1.8	5.5	V	