

# APDS-9003

## Miniature Surface-Mount Ambient Light Photo Sensor



### Data Sheet

#### Description

The APDS-9003 is a low cost analog-output ambient light photo sensor in miniature chipLED lead-free surface mount package. It consists of a spectrally suited photo sensor, which provides excellent responsivity that is close to the response of the human eyes, as shown in figure 2. The APDS-9003 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-9003 ambient light photo sensor module. You can contact them through your local sales representatives for additional details.



#### Features

- Excellent responsivity  
Close responsivity to the human eye
- Miniature ChipLed Leadfree surface-mount package:  
Height – 0.55mm  
Width – 1.60mm  
Depth – 1.50mm
- Low sensitivity variation across various light sources
- Operating temperature: -40°C to 85°C
- Vcc supply 2.4 to 5.5V
- ROHS compliant and Lead Free Package

#### 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 Cameras
- Automatic Residential and Commercial Lighting Management
- Electronic Signs and Signals

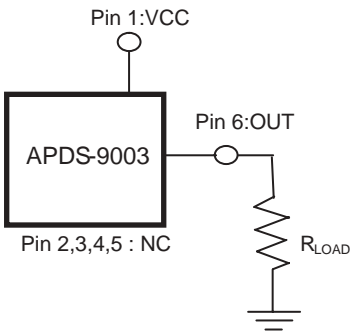
## Ordering Information

Part Number	Packaging Type	Package	Quantity	Remarks
APDS-9003-020	Tape and Reel	6-pins Chiplid package	2500	No Binning

## Binning Available

Other binning options are available. Please contact your Avago Technologies representative for information on current available bins

## Typical Application Circuit



Component	Recommended Application Circuit Component
Rload	1kΩ

Figure 1: Typical application circuit for APDS-9003

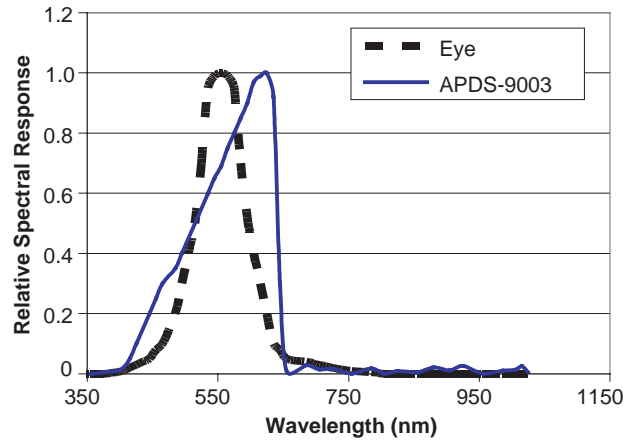


Figure 2: Relative Spectral Response Vs Wavelength

## 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	Out	Out

## Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units
Storage Temperature	$T_s$	-40	85	°C
Supply Voltage	$V_{CC}$	0	6	V

CAUTION: 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.