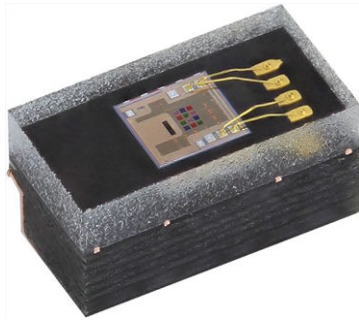


## RGBCIR Color Sensor With I<sup>2</sup>C Interface



### ADDITIONAL RESOURCES



### DESCRIPTION

VEML3328SL sensor senses red, green, blue, clear, and IR light by incorporating photodiodes, amplifiers, and analog / digital circuits into a single CMOS chip. With this sensor, the brightness and color temperature of a display backlight can be adjusted based on the ambient light source, and it can differentiate indoor from outdoor lighting environments.

### FEATURES

- Package type: surface-mount
- Dimensions (L x W x H in mm): 2.95 x 1.50 x 1.50
- Integrated modules: color sensor and signal conditioning IC
- Supports low transmittance (dark) lens design
- Provides 16-bit resolution for each channel (R, G, B, C, and IR)
- Package: OPLGA4 SV (side view)
- Temperature compensation: -40 °C to +85 °C
- Low power consumption I<sup>2</sup>C (SMBus compatible) interface
- Floor life: 168 h, MSL 3, according to J-STD-020
- Output type: I<sup>2</sup>C bus
- Operation voltage: 2.6 V to 3.6 V
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### APPLICATIONS

- Automatic white balancing and color cast correction in digital cameras
- Automatic LCD backlight adjustment
- Maintaining consistent true color and ideal brightness levels on handheld displays as users move between indoor and outdoor environments
- On / off light switching in industrial and consumer applications
- Active monitoring of LED color output for IoT and smart lighting

PRODUCT SUMMARY				
PART NUMBER	OPERATING VOLTAGE RANGE (V)	I <sup>2</sup> C BUS VOLTAGE RANGE (V)	PEAK SENSITIVITY (nm)	OUTPUT CODE
VEML3328SL	2.6 to 3.6	1.7 to 3.6	590, 610, 560, 470, 825 (C, R, G, B, IR)	16 bit, I <sup>2</sup> C



ORDERING INFORMATION			
ORDERING CODE	PACKAGING	VOLUME (1)	REMARKS
VEML3328SL	Tape and reel	MOQ: 2500 pcs	2.95 mm x 1.50 mm x 1.50 mm

Note

(1) MOQ: minimum order quantity

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	MIN.	MAX.	UNIT
Supply voltage		V <sub>DD</sub>	0	4	V
Operation temperature range		T <sub>amb</sub>	-40	+85	°C
Storage temperature range		T <sub>stg</sub>	-40	+85	°C

RECOMMENDED OPERATING CONDITIONS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	MIN.	MAX.	UNIT
Supply voltage		V <sub>DD</sub>	2.6	3.6	V
Operation temperature range		T <sub>amb</sub>	-40	+85	°C
I <sup>2</sup> C bus operating frequency		f <sub>(I2CCLK)</sub>	10	400	kHz

PIN DESCRIPTIONS			
PIN ASSIGNMENT	SYMBOL	TYPE	FUNCTION
1	V <sub>DD</sub>	-	Supply voltage
2	GND	-	Power supply ground; all voltages are referenced to GND
3	SDA	I / O (open drain)	I <sup>2</sup> C digital bus data input / output
	SCL	I	I <sup>2</sup> C digital bus clock input

BLOCK DIAGRAM

