



GUVB-C31SM

- Digital UVB Photodiode
- Gallium Nitride Based Material
- UVB, 240 – 320 nm
- I2C Slave Interface, up to 400 kHz
- COB, 2.0 x 2.3 x 1.4 mm



Description

GUVB-C31SM is a UVB Photodiode working in the spectral range of 240 – 320 nm. It contains the GaN based chip die, amplifiers, ADC, digital control logic and I2C interface circuit to measure the volumes of UVB, housed as a small 4-pin COB solution.

GUVB-C31M can acquire the intensity of UVB, respectively and outputs digital count according to each intensity. By using available power management mode properly according to the work to be done, the power consumption can be reduced.

Features

- UV index measurement supported (1 ... >14)
- Programmable gain and integration time
- I2C slave interface, up to 400 kHz
- Power management modes
- Shutdown current: 0.8 μ A typical
- Supply voltage: 2.6 – 3.6 V

Absolute Maximum Ratings

Parameter	Symbol	Values	Unit
Operating Temperature	T_{CASE}	-30 – +85	$^{\circ}$ C
Storage Temperature	T_{STG}	-40 – +90	$^{\circ}$ C
Soldering Temperature *	T_{SLD}	260	$^{\circ}$ C

* must be completed within 10 seconds

Electro-Optical Characteristics

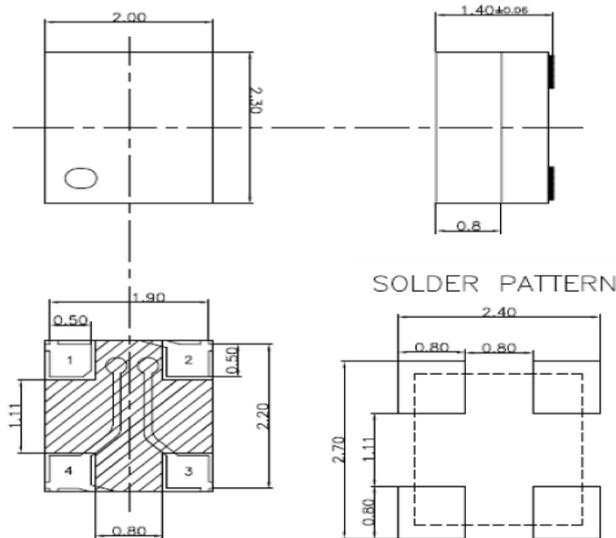
$T_{CASE} = 25^{\circ}$ C

Parameter	Values	Unit
Number of Output	1 (UVB)	Channel
Output Resolution	16	bits
UV Index Range	0 – 14	
Sensor Conversion Time	0.39 – 800	ms
Configurable Gain	x1 – x128	
Sleep Mode Control	2 - 256	times
Power Management, 4 modes	Normal, Sleep, Auto-shutdown, Shutdown	
I2C Clock Frequency	up to 400 kHz	
Operating Current	100, typical	μ A
Deep Sleep Current	<1	μ A
Supply Voltage	2.2 – 3.6	V
Chip Size	0.23 x 0.23	mm ²



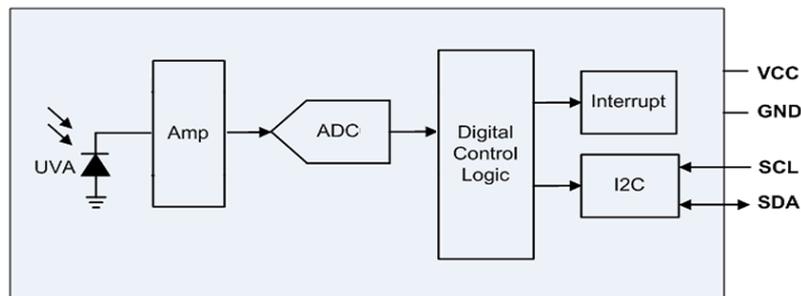
Package and Port Description

Outline Dimensions

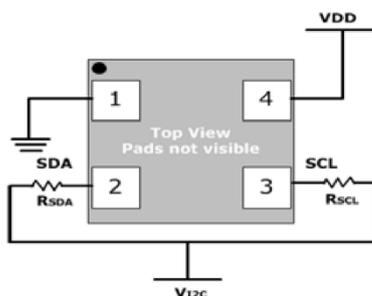


2.0 x 2.3 x 1.4 mm

Function Block Diagram



Application Circuit



Pin Description

Pin Number	Pin Name	Description
1	GND	Ground
2	SDA	I2C data line
3	SCL	I2C clock line
4	VCC	Supply Voltage

Caution

ESD can damage the device hence please avoid ESD.