

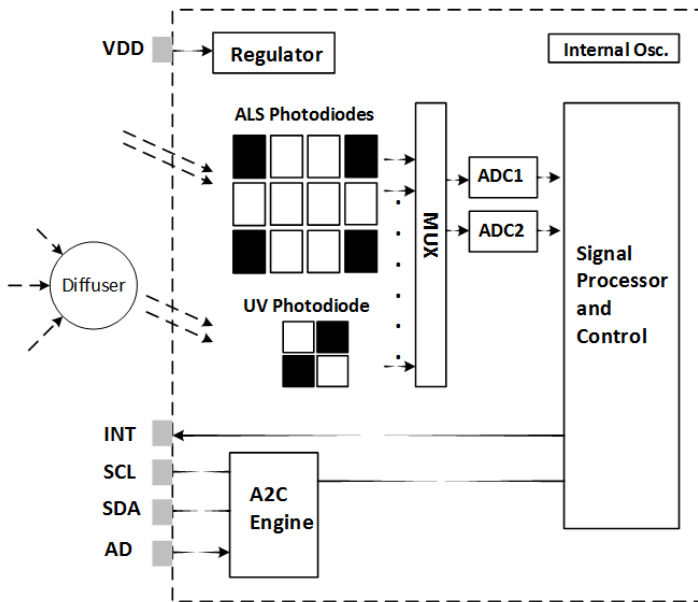
Si1133 Data Short

UV Index/Ambient Light Sensor IC with I²C Interface

The Si1133 is a UV Index Sensor and Ambient Light Sensor with I²C digital interface and programmable-event interrupt output. This sensor IC includes dual 23-bit analog-to-digital converters, integrated high-sensitivity array of UV, visible and infrared photodiodes, and digital signal processor. The Si1133 is provided in a 10-lead 2x2 mm DFN package and capable of operation from 1.62 to 3.6 V over the -40 to +85 °C temperature range.

Applications:

- Wearables
- Handsets
- Display backlighting control
- Consumer electronics



KEY FEATURES

- Optional high accuracy UV index sensor
 - Matches erythermal curve
- Ambient light sensor
 - <100 mlx resolution possible, allowing operation under dark glass
 - Up to 128 klx dynamic range possible across two ADC range settings
- Industry's lowest power consumption
 - 1.62 to 3.6 V supply voltage
 - <500 nA standby current
 - Internal and external wake support
 - Built-in voltage supply monitor and power-on reset controller

1. Si1133 Information

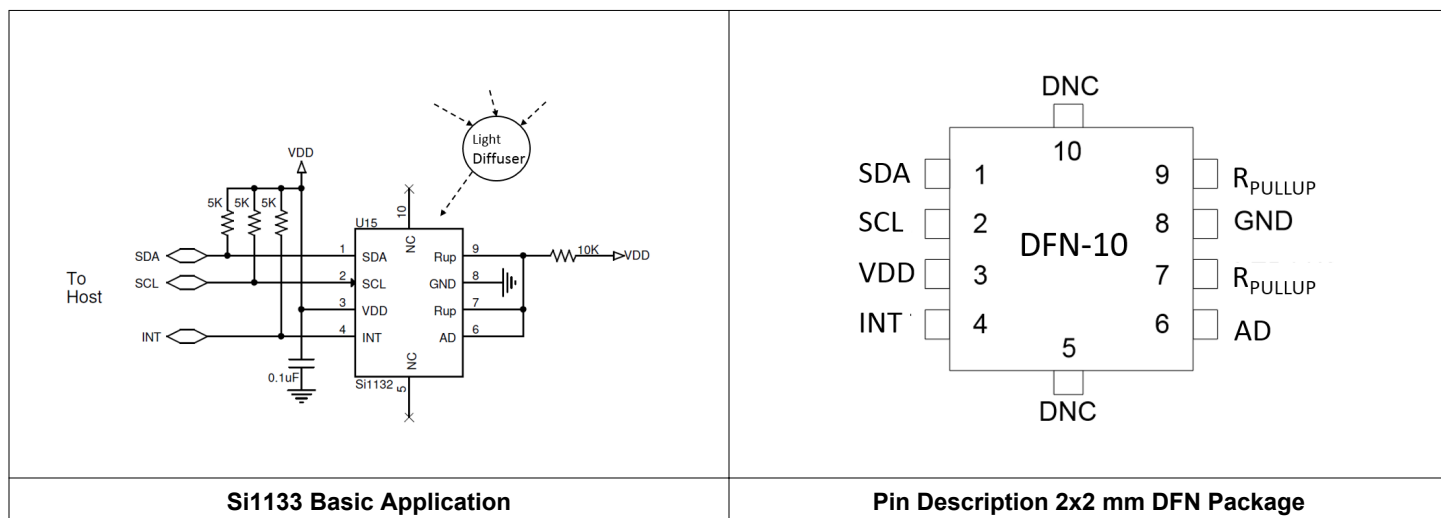


Table 1.1. Recommended Operating Conditions

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
V _{DD} Supply Voltage	V _{DD}		1.62	—	3.6	V
V _{DD} OFF Supply Voltage	V _{DD_OFF}	OFF mode	-0.3	—	1.0	V
V _{DD} Supply Ripple Voltage		V _{DD} = 3.3 V 1 kHz–10 MHz	—	—	50	mVpp
Operating Temperature	T		-40	25	85	°C
SCL, SDA, Input High Logic Voltage	I ² C _{VIH}		V _{DD} × 0.7	—	V _{DD}	V
SCL, SDA Input Low Logic Voltage	I ² C _{VIL}		0	—	V _{DD} × 0.3	V
Start-Up Time		V _{DD} above 1.62 V	25	—	—	ms

Table 1.2. 2 x 2 mm DFN Ordering Guide

Family	DFN OPNs	ALS (No Filter)	UV Index	940 nm Filter	Proximity (# of LED Drivers)	HRM
Si113x	Si1133-AA00-GMR	Y	Y	—	—	—



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