

Table 2 Absolute Maximum Ratings over Operating Free-Air Temperature Range (unless Otherwise Noted)

Parameter	Symbol	Min.	Max.	Units	Conditions
Power supply voltage	V_{DD}		4.0	V	All voltages are with respect to GND.
Max voltage on SCL, SDA, INT pads	V_{I2C}	0.5	4.0	V	
Storage temperature	T_{stg}	-40	95	°C	

Table 3 Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Units
Operating ambient temperature	T_A	-40		85	°C
Supply voltage	V_{DD}	1.7		3.6	V
Supply Voltage accuracy, VDD total error including transients		-3		3	%

Table 4 Electrical Parameters, $T_A=25^\circ\text{C}$ (unless Otherwise Noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
ALS Active mode current	I_{ALS}	$V_{DD} = 2.8\text{V}$, Gain Mode 3		110		μA
UV Active mode current	I_{UV}	$V_{DD} = 2.8\text{V}$		100		μA
Standby current	I_{STBY}	In Standby Mode. No active I ² C communication		1	2	μA
SCL, SDA input high voltage	V_{IH}		1.5		V_{DD}	V
SCL, SDA input low voltage	V_{IL}		0		0.4	V
VOL INT, SDA output low voltage			0		0.4	V
ILEAK leakage current, SDA, SCL, INT pins	ILEAK		-5		5	μA

Table 5 ALS/UV Characteristics

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Dark count		Lux=0, 18 bit range		0		counts
Min integration time	$T_{intmin1}$			3.125		ms
	$T_{intmin2}$	With 50/60Hz rejection		50		ms
Max integration time	T_{intmax}	With 50/60Hz rejection		400		ms
ALS output resolution	RES_{ALS}	Programmable	13	18	20	bits
UV output resolution	RES_{UV}	Programmable	13	18	20	bits
ADC count value		Intensity = 121 $\mu\text{W}/\text{cm}^2$ with 310 nm light source, GAIN = 18x, resolution = 20 bits, $V_{DD} = 2.8\text{V}$		1700		counts
ALS/UV repeat rate		Programmable	25		2000	ms

Figure 2 ALS Spectral Response

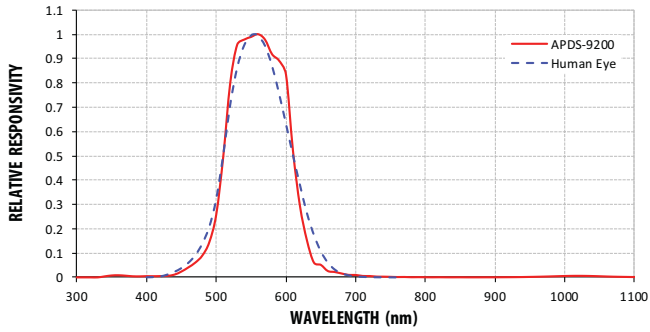


Figure 3 UV Spectral Response

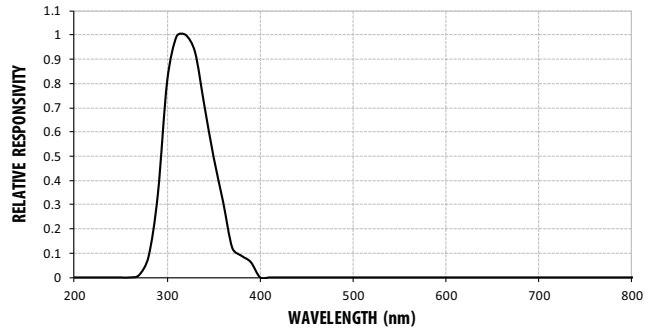


Figure 4 ALS Sensor LUX vs. Meter LUX using White Light

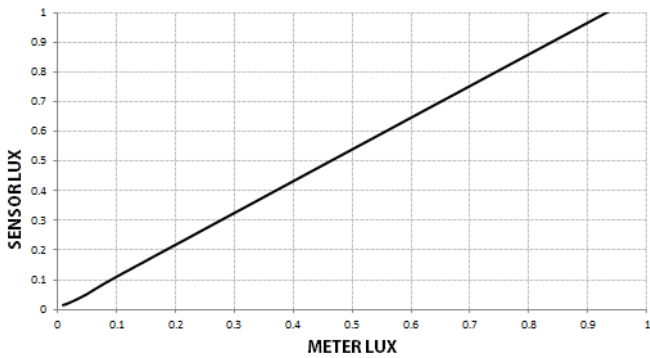


Figure 5 ALS Sensor LUX vs. Meter LUX using White Light

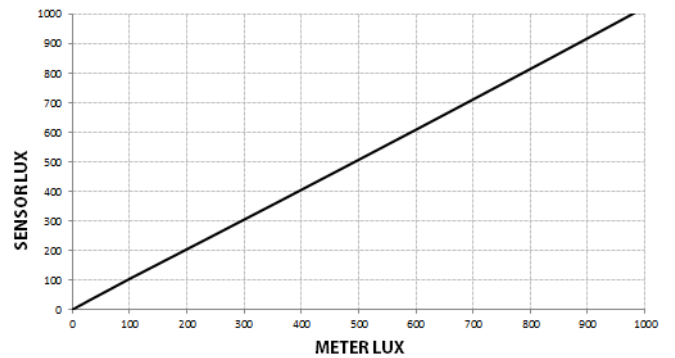


Figure 6 ALS Sensor LUX vs. Meter LUX using Incandescent Light

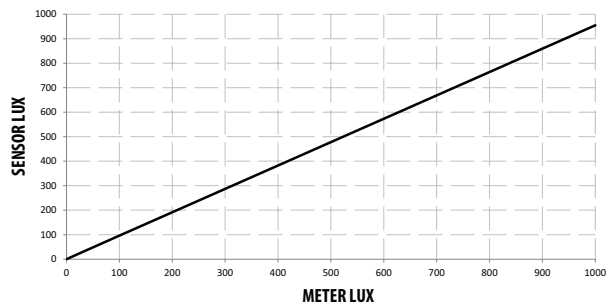


Figure 7 UV Sensor Count vs. UV Meter Index (310 nm UV Source)

