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Si1141/42/43

1. Electrical Specifications

1.1. Performance Tables

Table 1. Recommended Operating Conditions

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
V _{DD} Supply Voltage	V _{DD}		1.71	—	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
PS Operation under Direct Sunlight	E _{dc}		—	—	128	klx
IrLED Emission Wavelength	λ		750	850	950	nm
IrLED Supply Voltage	V _{LED}	IrLED V _F = 1.0 V nominal	V _{DD}	—	4.3	V
IrLED Supply Ripple Voltage		Applies if IrLEDs use separate supply rail 0–30 kHz 30 kHz–100 MHz	— —	— —	250 100	mVpp mVpp
Start-Up Time		V _{DD} above 1.71 V	25	—	—	ms
LED3 Voltage		Start-up	V _{DD} ×0.77	—	—	V

Table 2. Performance Characteristics¹

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
I _{DD} OFF Mode	I _{off}	V _{DD} < V _{DD_OFF} (leakage from SCL, SDA, and INT not included)	—	240	1000	nA
I _{DD} Standby Mode	I _{sb}	No ALS / PS Conversions No I ² C Activity V _{DD} = 1.8 V	—	150	500	nA

Notes:

1. Unless specifically stated in "Conditions", electrical data assumes ambient light levels < 1 klx.
2. Proximity-detection performance may be degraded, especially when there is high optical crosstalk, if the LED supply and voltage drop allow the driver to saturate and current regulation is lost.
3. Guaranteed by design and characterization.
4. Represents the time during which the device is drawing a current equal to I_{active} for power estimation purposes. Assumes default settings.