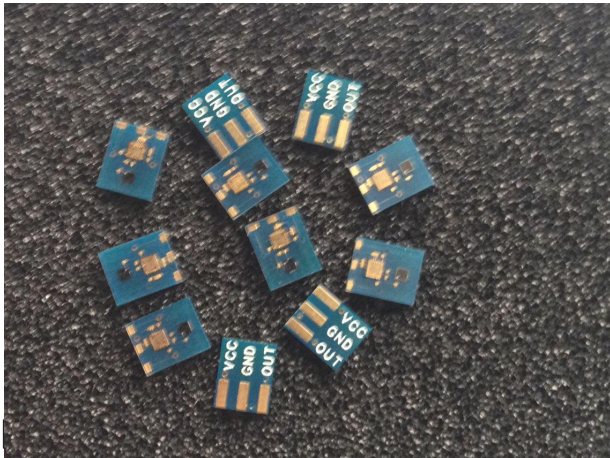


LIGHT-FREQUENCY CONVERTER

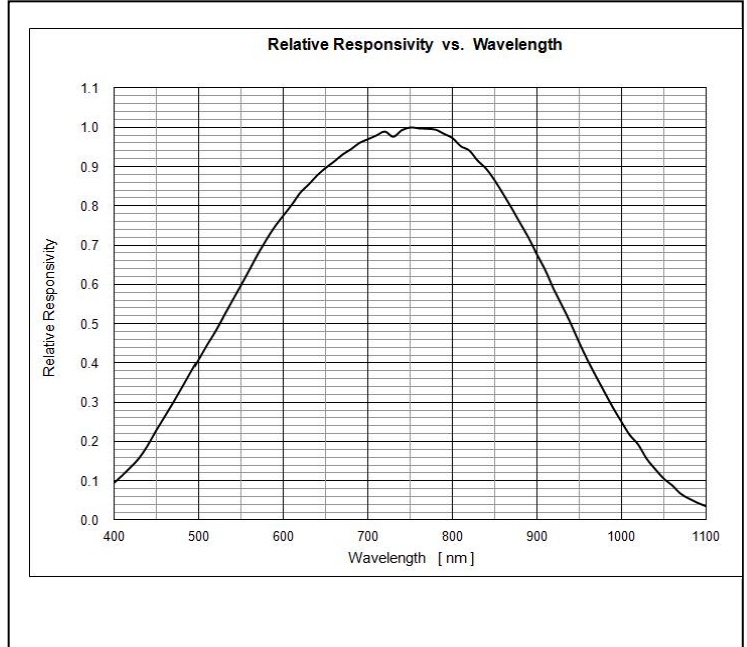
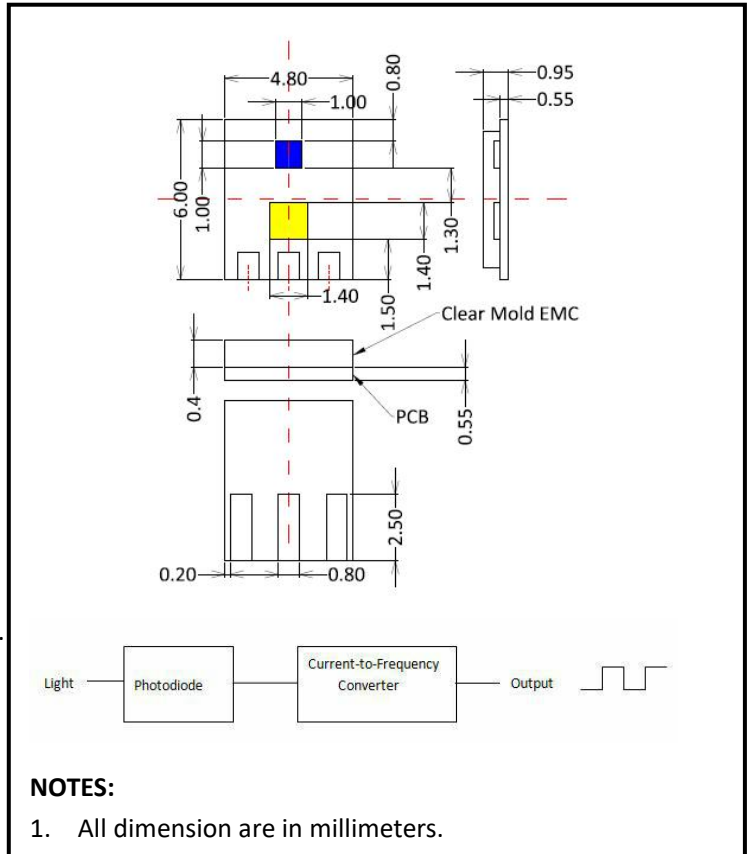
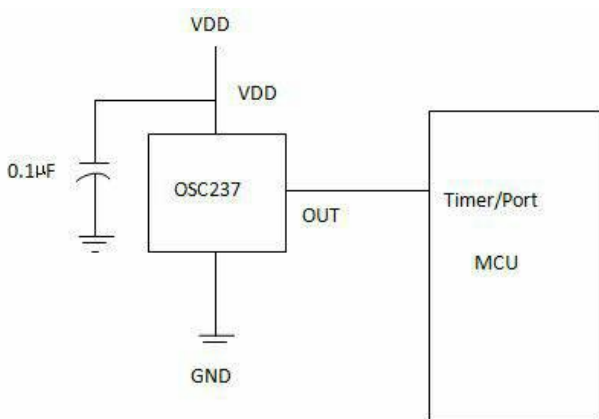


The OSC237 light to frequency converter combines silicon Photodiode and a current to frequency ASIC on a FR4 PCB. Output is a square wave (50% duty cycle) with frequency to light intensity on the photodiode.

Features

- * Photodiode size: $1.095 \times 1.095\text{mm}$
- * Irradiance responsivity: $250\text{KHz} (430\text{uW}/\text{c m}^2) @635\text{nm}$
- * Single supply range: $2.5 \sim 5.5\text{V}$
- * Low Power: 1.25mA at 3.3V power supply

Application Diagram



Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice.



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak sensitivity wavelength	λ_p	750				nm
Photodiode chip size	A	1.095*1.095				mm ²
Irradiance responsivity	-	635nm	-	250	-	KHz(430uW/ cm ²)
Supply voltage	Vdd		2.5		5.5	V
Current consumption	Idd	Dark state, no load @Vdd=3.3V	-	1.25	-	mA
Output frequency	fo	2856K,	200	250	300	KHz
Maximum output frequency	fmax	1000lux, DC light sourcing	300	1.17×10 ¹³	1200	KHz
Response time	tf	5lux to 500lux, 10%~90%		0.1		S
Dark frequency	fd		0		10	Hz
Linearity	-	Fo=10kHz	-3		+3	%
Temperature coefficient	-		-	+/-0.2	-	%/°C
Delay time	td		-	-	0.2	us
High level output voltage	Voh	Ioh=0.5mA	-	4.5	-	V
Low level output voltage	Vol	Iol=0.5mA	-	0.5	-	V
Output pulse duty ratio	D	fo=10Hz	40	50	60	%

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