

CPS295HW
Ambient Light Sensor
(Analog Current Output)



Data Sheet

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1. Description

CPS295HW is an analog current output ambient light sensor with photo diode and current amplifier. This IC can be used to Brightness control and on-off control of light sources such as a display . And Improvement in display visibility, the improvement in a life of a light source, and reduction of power consumption are attained.

2. Features

- Wide Operating temperature range (-40°C~105°C)
- Spectral sensitivity close to human eye sensitivity
- Output current in proportion to illuminance
- Light source dependency is small
- Solder re-flow permitted
- Halogen free permitted

3. Maximum Ratings

Condition : Ta=25°C

Item	Symbol	Ratings	Unit
Supply voltage	VCC	6	V
IOOUT Current	IoutMax	6.5	mA
Terminal input voltage range	Vimax	GND-0.3 to VCC+0.3	V
Power dissipation	Pd	TBD	mW
Storage temperature	Tstg	-40 ~ 125	°C

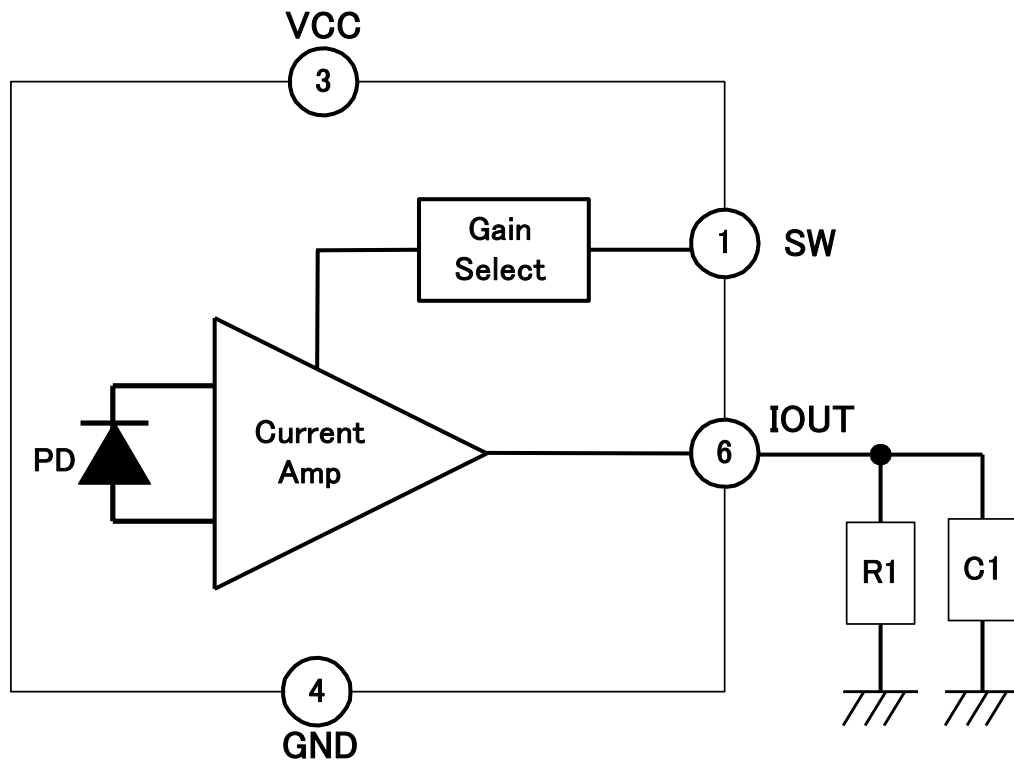
4. Recommended Operating Conditions

Item	Symbol	Ratings	Unit
Supply voltage	VCC	2.7 ~ 5.5	V
Operating temperature	Topr	-40 ~ 105	°C

5. Terminal Function and Equivalent Circuit on Terminal

No.	Name	Terminal Function	Equivalent Circuit
1	SW	Gain Mode Setting Terminal	
2	NC	No Connection	
3	VCC	Power Supply Terminal	
4	GND	Ground Terminal	
5	NC	No Connection	
6	IOUT	Current Output Terminal Output current in proportion to illuminance	

6. Block Diagram



7. Gain Mode Setting

SW	Gain Mode
High	H_Gain (x1)
Open	M_Gain (x0.1)
Low	L_Gain (x0.01)

8. Electrical and Optical Characteristics

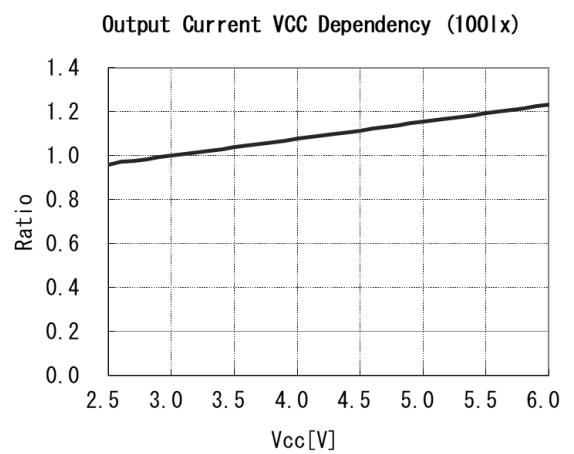
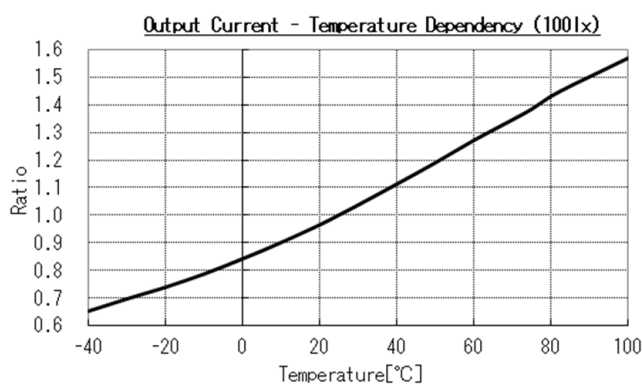
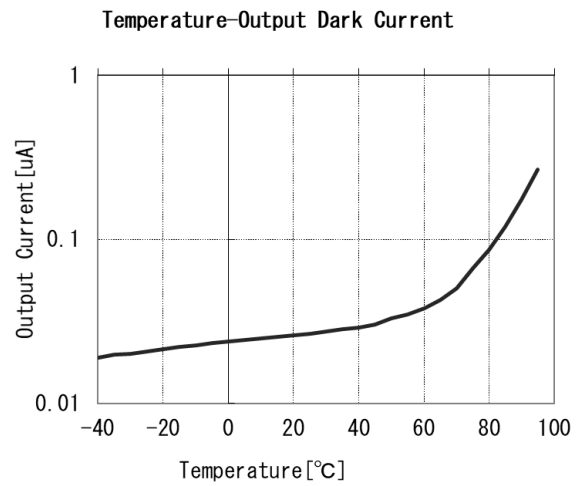
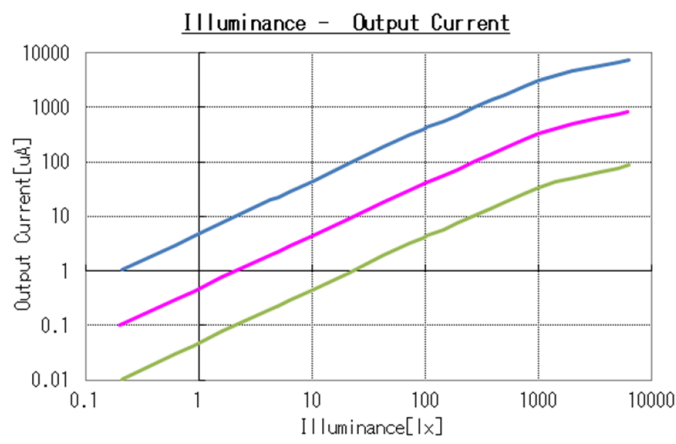
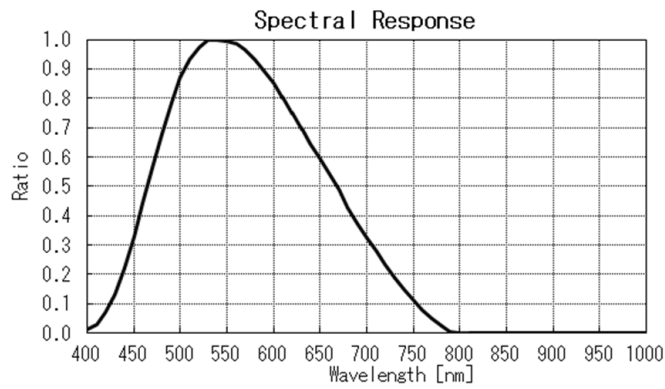
Measurement condition : VCC=3V Ta=25°C

Item	Symbol	Condition	MIN	TYP	MAX	Unit
Supply Current *1 *2	Icc	Ev = 100lx	(-35%)	(475)	(+35%)	uA
Output Dark Current	Iout0	Ev = 0lx	-	-	(0.8)	uA
Output Current *1 *2	Iout1	Ev = 100lx Gain Mode : H_Gain	(-30%)	(400)	(+30%)	uA
Peak Sensitivity Wavelength *2	λ_p		-	540	-	nm
Saturated Output Voltage *1	Vomax	Ev = 100lx R1 = 150k Ω Gain Mode : H_Gain	2.6	-	-	V
SW Low Level Input Voltage	VIL		0	-	0.4	V
SW High Level Input Voltage	VIH		2.5	-	VCC	V
Gain Ratio 1 M_Gain / H_Gain *1	RG1		-10%	0.1	+10%	-
Gain Ratio 2 L_Gain/M_Gain *1	RG2		-10%	0.1	+10%	-

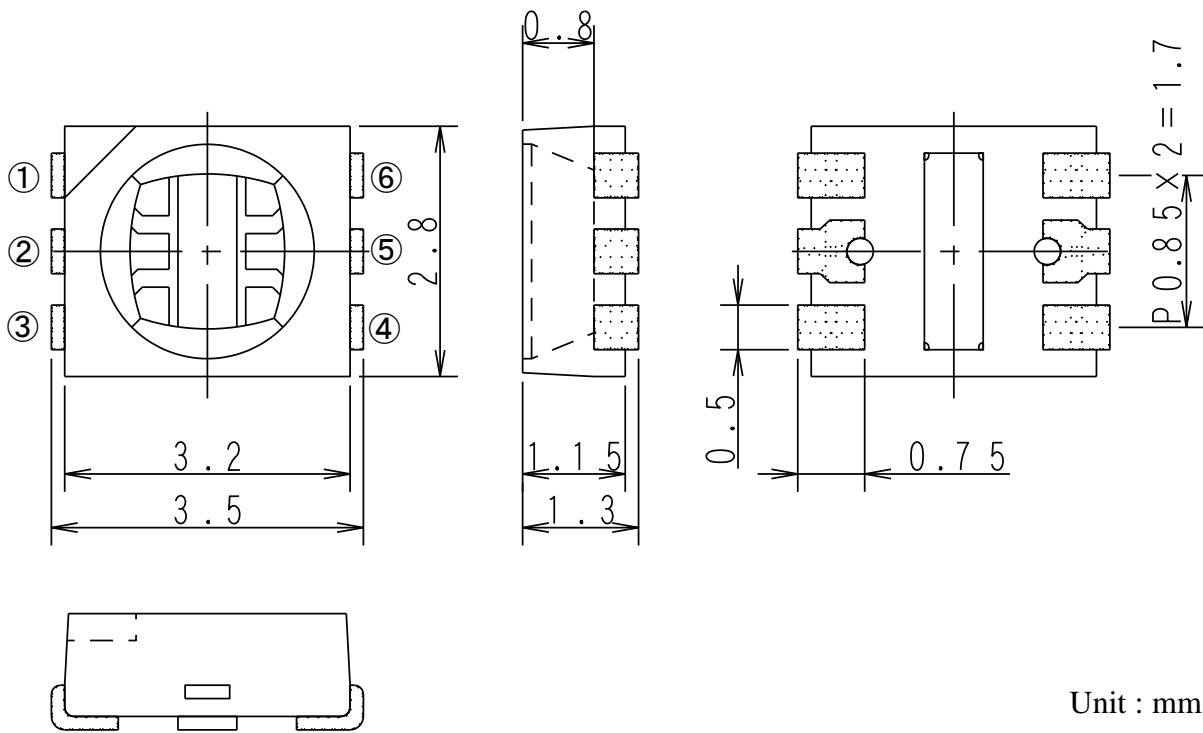
*1 Light source is standard source A (2856K).

*2 It is design guarantee item

9. Reference Data



1 0. External Dimensions



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