

TDK Visible Radiant Optical Sensor is the photo-IC which uses an amorphous silicone semiconductor technology. It is the most suitable for Brightness Adjustment, Control of the Lighting systems. BCS2015A1 has current-amplifier in it. BCS2015A1 is for surface mounting.

Features

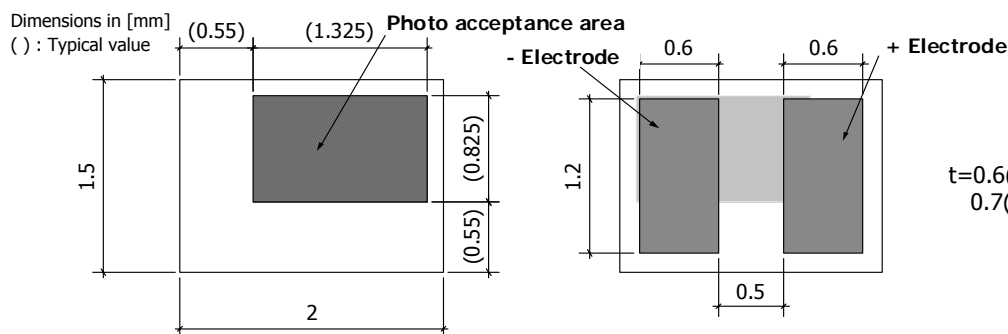
- Highly receptive to visible light but not receptive to infrared light (close to Human eye visibility).
- Accurate illumination measurement can be taken without the use of an infrared filter.
(Phototransistors and photodiodes that use crystal- silicon semiconductors typically require this filtering.)
- High output (Built-in current amplifier)
- Surface mounting can be used in lead- free reflow soldering.
- Lead- free, Cadmium-free

Application

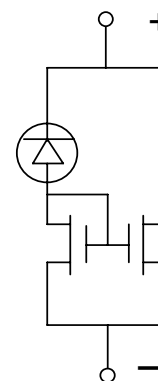
- Brightness control for LCD, EL and CRT
- Brightness control for Keypads (e. g. Mobile Phones)
- Positioning scanline for Rear Projection TV
- Exposure adjust for Compact Camera
- Sub exposure adjust for Digital Camera

Shapes and dimension

Glass Substrate
BCS2015A1



Equivalent circuit



Electrical Characteristic

Temperature= 25deg.C

Item	Value			
	Units	Min.	Typ.	Max.
Output current 100Lux*1 Vop=5V	μA	6.0	8.0	10.0
Operation voltage (Vop) 100Lux*1	V	1.2	---	5.0
Dark current Vop=5V	nA	---	---	10

*Initial value

Absolute Maximum Ratings

Temperature= 25deg.C

Item	Value	
	Units	
Operation voltage	V	8
Reverse voltage	V	-1
Output current	mA	1

Optical Characteristic

Temperature= 25deg.C

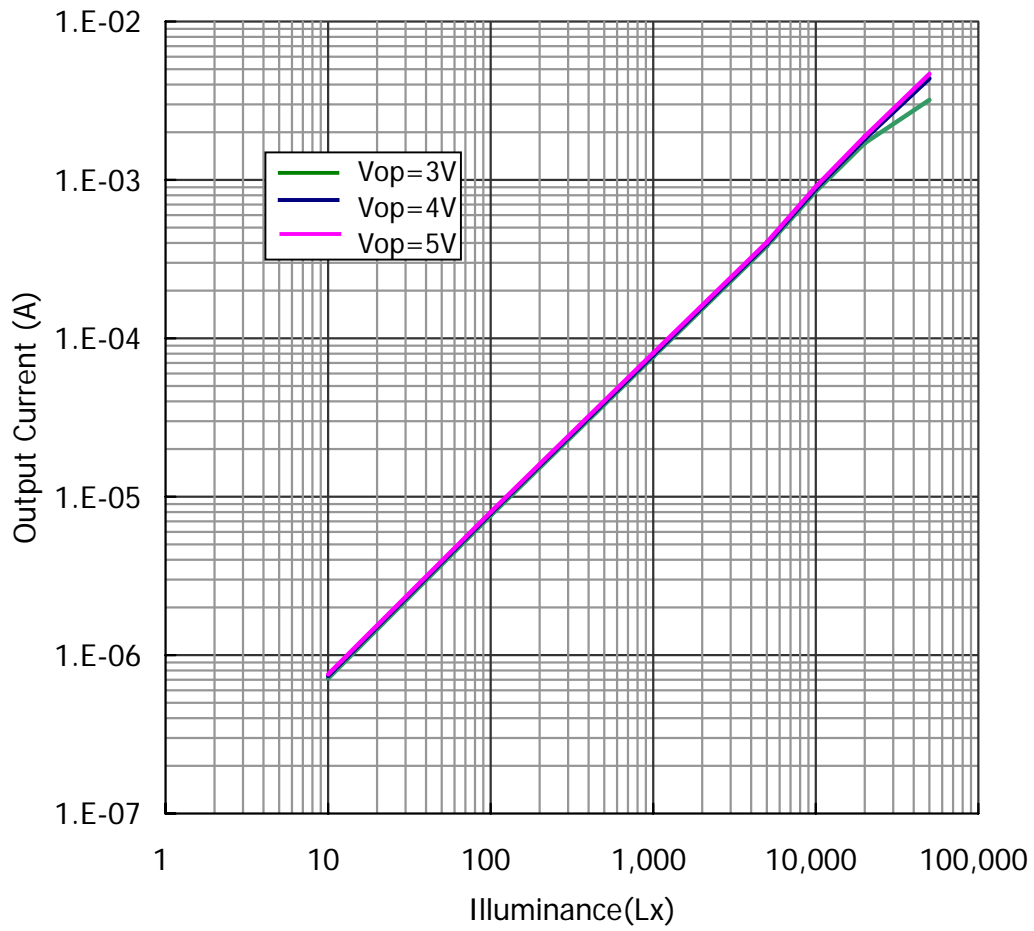
Item	Value	
	Units	
Spectral sensivity area	nm	350 to 750
Peak of sensivity	nm	580±20

Others

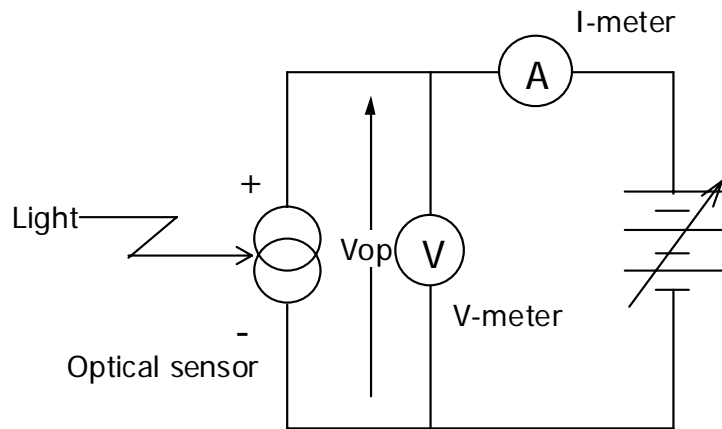
Item	Value	
	Units	
Operating temperature	deg. C	-20 to 85
Keep and transfer temperature	deg. C	-40 to 85
Dimensions	mm	2.0×1.5×0.6t
Weight	g	0.004

*1 White Fluor Light (color temperature=4200K)

Output characteristic(typical):BCS2015A1



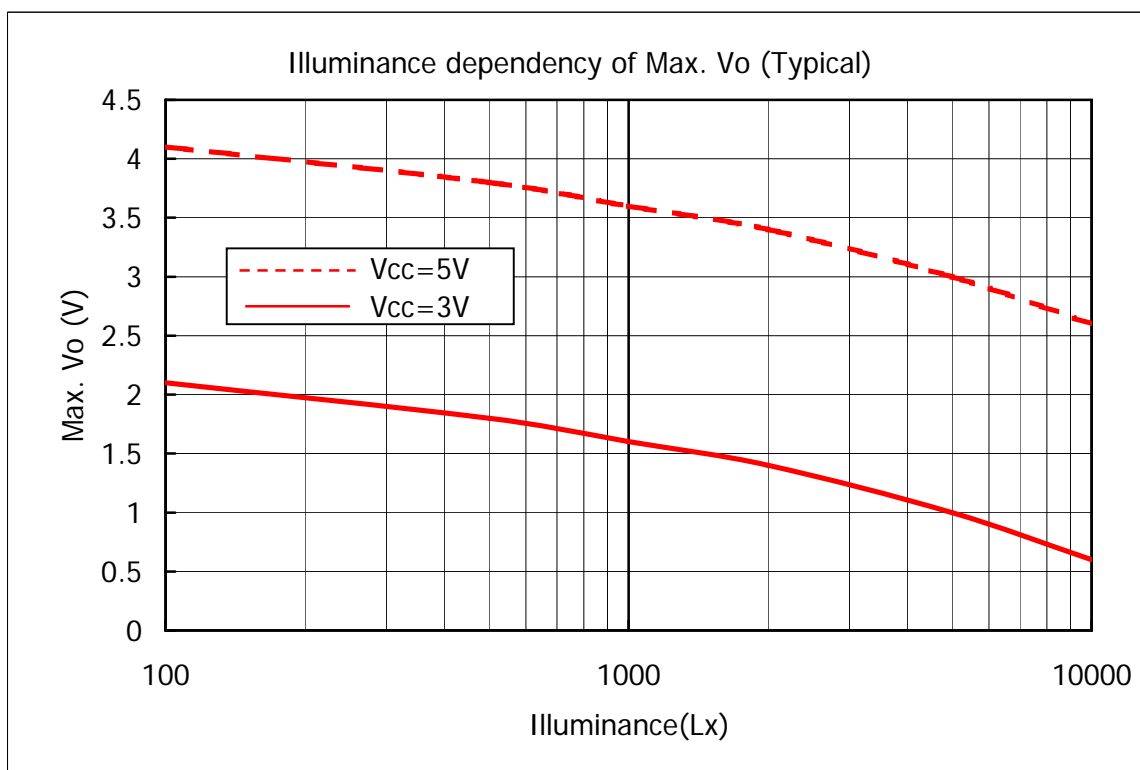
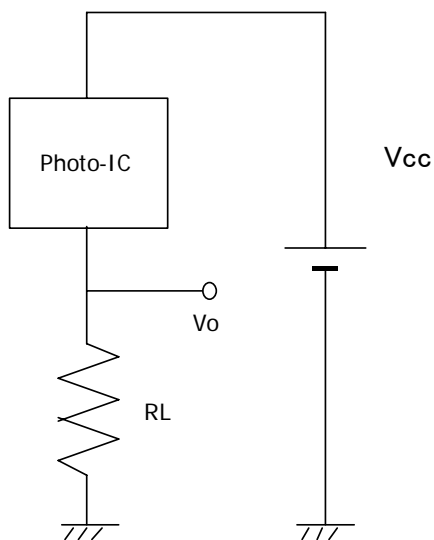
Measuring circuit diagram

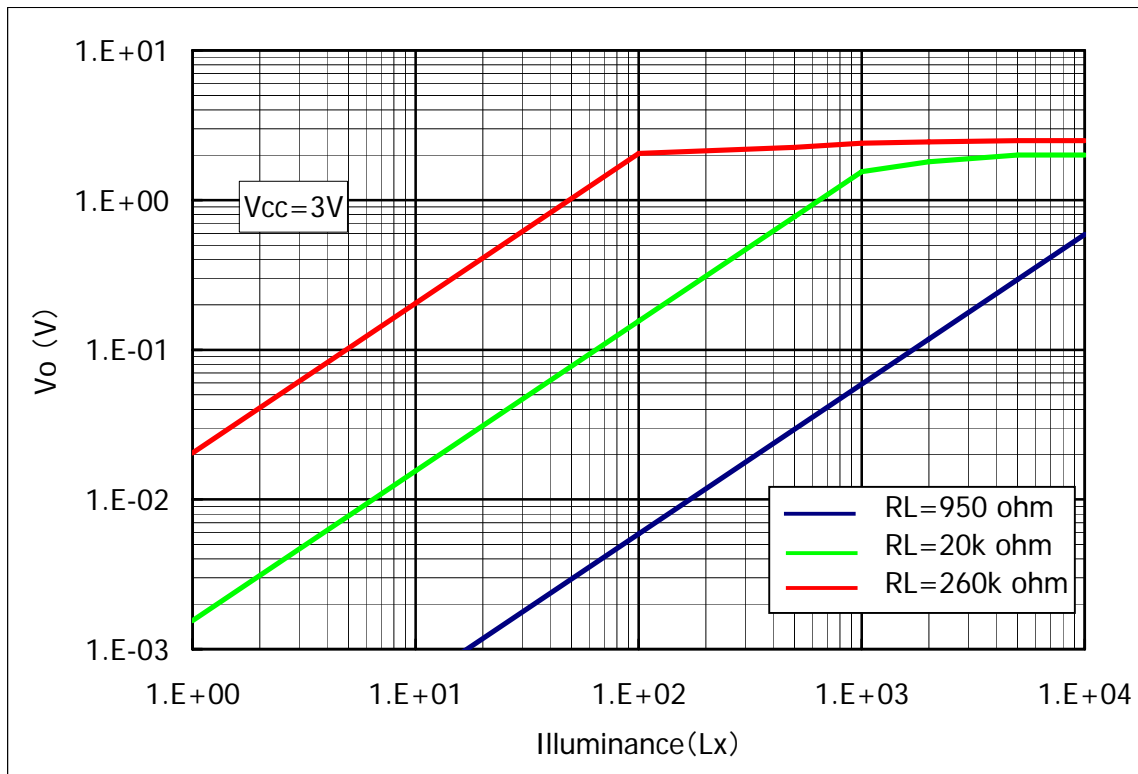
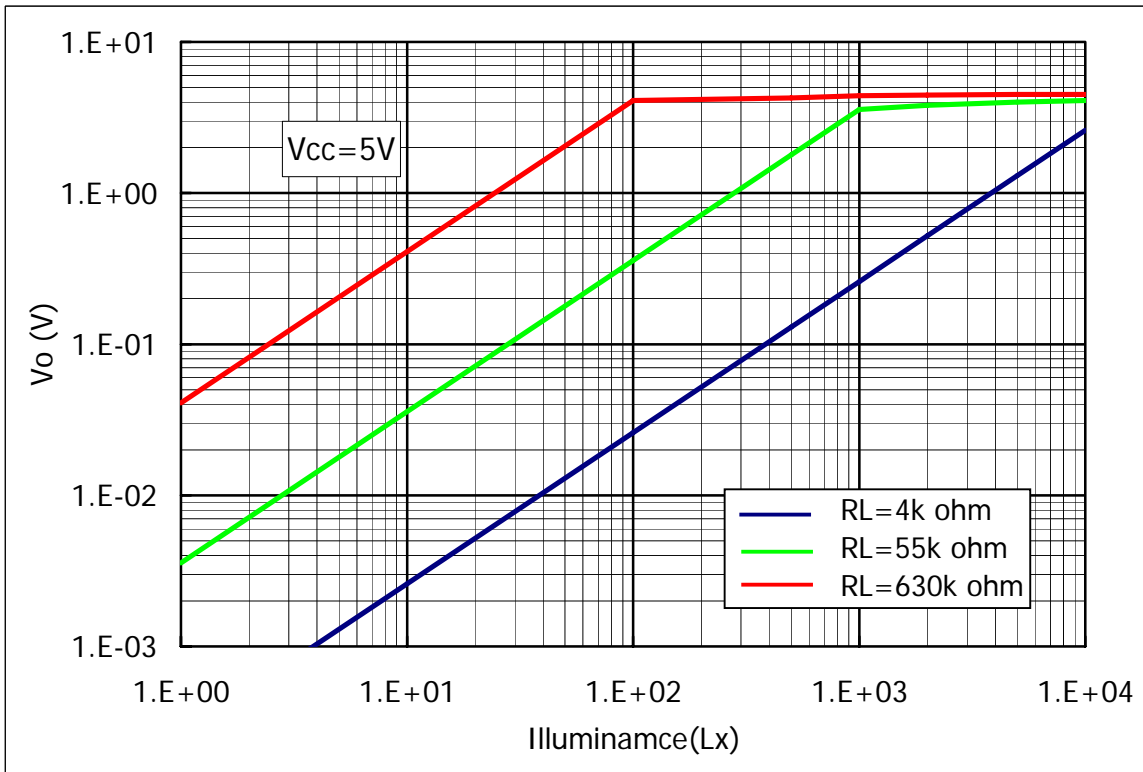


BCS2015A1

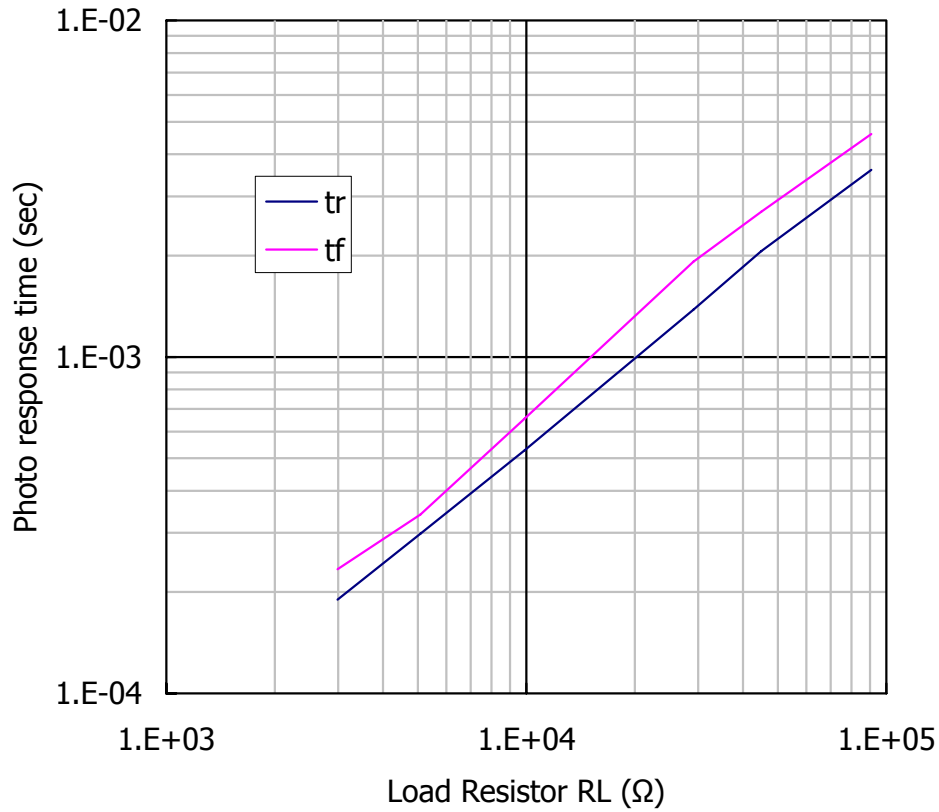
Characteristic of Output Voltage (Typical)

Measuring circuit

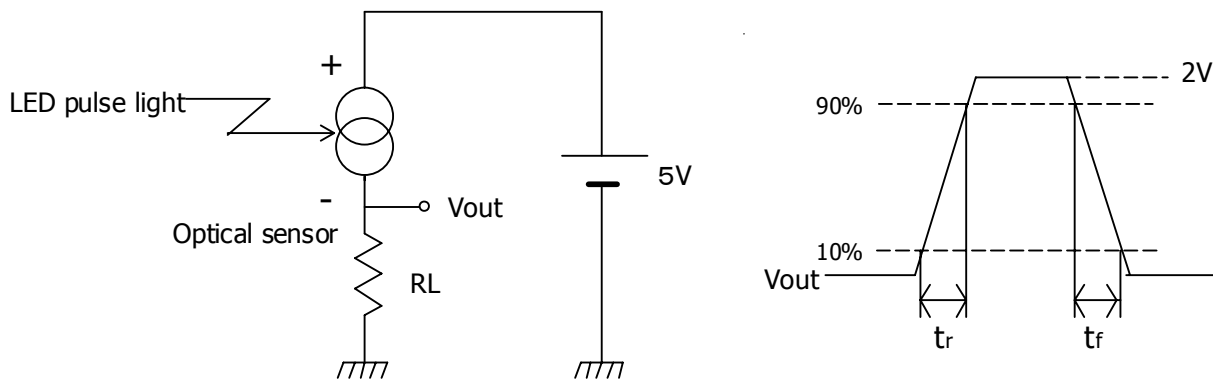




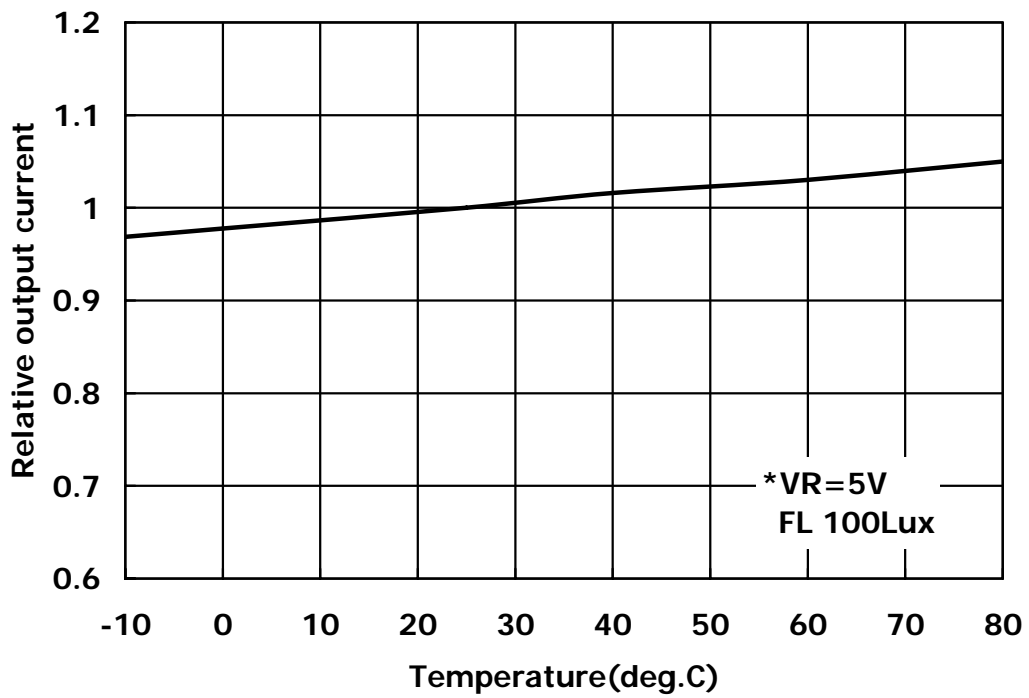
Typical photo response time:BCS2015A1 (typ.)



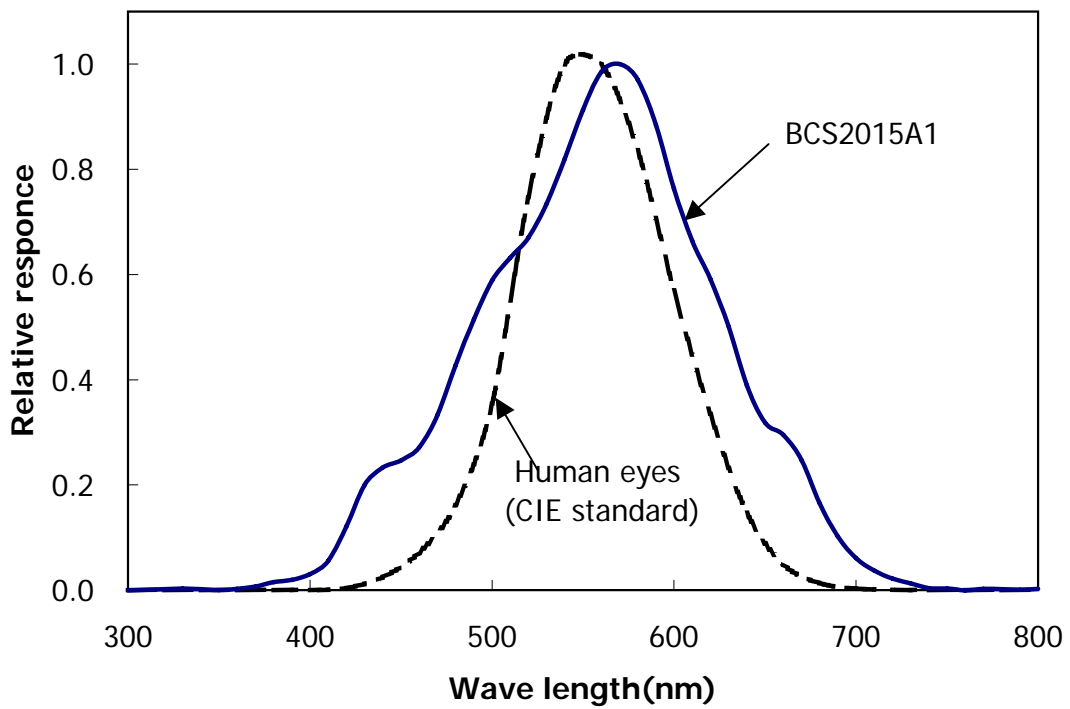
Measuring circuit



Temperature stability of output current:BCS2015A1 (typical)

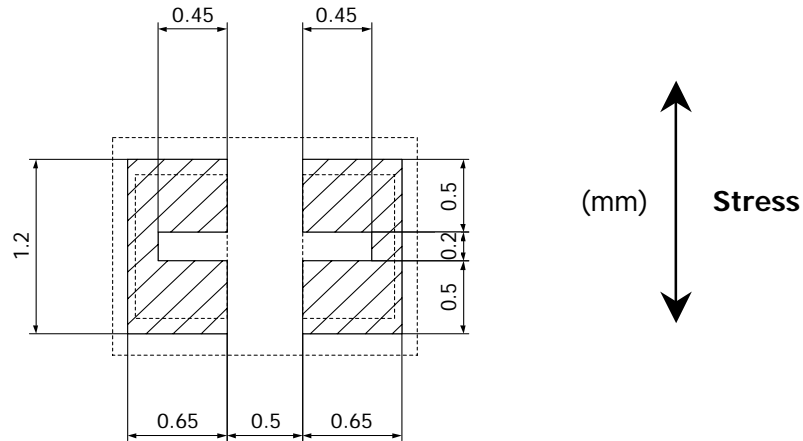


Spectral response:BCS2015A1 (typical)

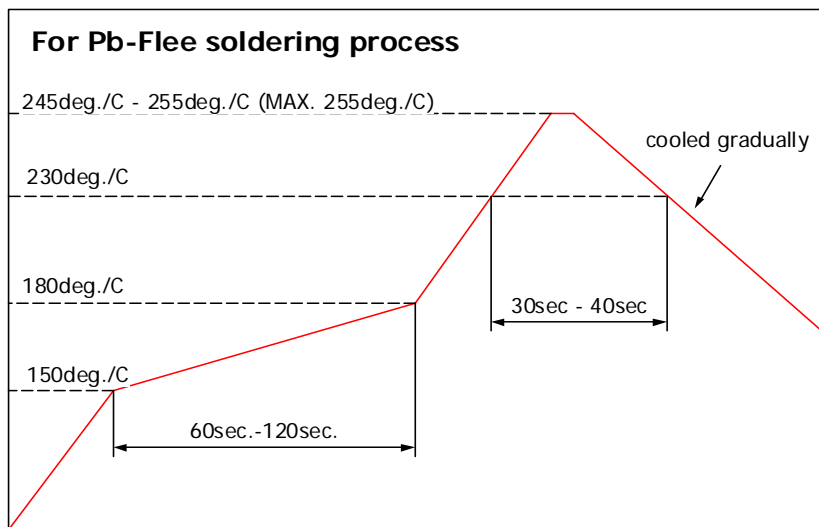


Recommended land pattern

Recommended land pattern is shown in Fig. Please arrange a land in the direction as shown in Fig. to the direction of curvature as the result of heat stress by reflow and/or physical stress.



Recommended reflow heat condition



*Pb Free Solder is SnAgCu.

