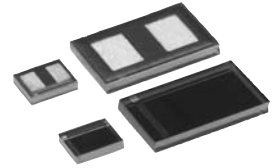


# Visible Radiant Optical Sensors Photo-diode Type BCS Series

Conformity to RoHS Directive

The surface-mount type optical sensor that is highly sensitive only to ambient light with an amorphous silicone semiconductor photo-diode on the glass substrate.



### FEATURES

- With a plastic substrate, BCS2015H1 provides super-thin product height of 0.3mm max.
- Highly sensitive to visible light and very little sensitivity to infrared. A few photometry error by different light sources is available.
- The stabler temperature coefficient than photo-transistor. It is a RoHS directive conformity product and doesn't contain Cd and other hazardous products.
- A surface mount with lead-free solder is possible.

### APPLICATIONS

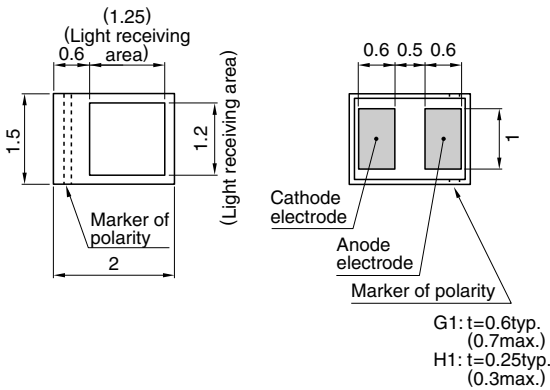
- Brightness adjustment of LCD, CRT
- Camera AE sensor (Replace for CdS cell.)
- Lighting control

### ORDERING PROCESS

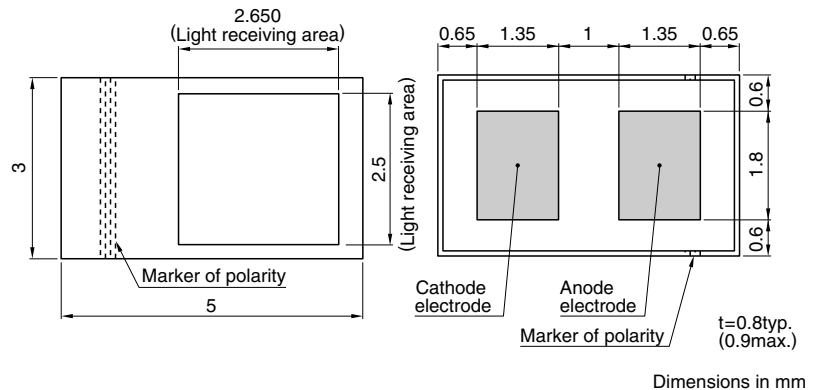
Standard part samples are available. Please contact your sales representatives for customized specification.  
Regular production leadtime is about 6 weeks. Please contact your sales representatives for further details.

### SHAPES AND DIMENSIONS

#### BCS2015G1/2015H1

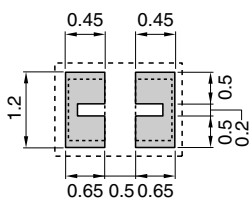


#### BCS5030G1

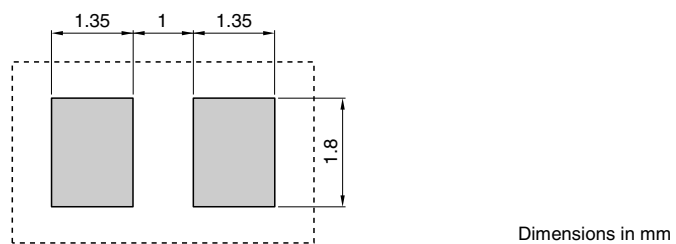


### RECOMMENDED PC BOARD PATTERN

#### BCS2015G1/2015H1



#### BCS5030G1



• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

• All specifications are subject to change without notice.

## ELECTRICAL CHARACTERISTICS

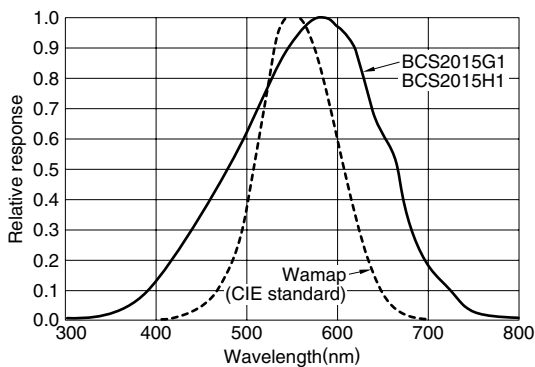
| Item   |      | BCS2015H1                                  | BCS2015G1                      | BCS5030G1                                 |
|--|------|--|--------------------------------|---|
| Short circuit current<br>[100Lux* Vr=0V]<br>( $\mu$ A) | min. | 0.07                                       | 0.07                           | 0.36                                      |
|  | typ. | 0.1  | 0.1                            | 0.42                                      |
|  | max. | 0.13                                       | 0.13                           | 0.48                                      |
| Output current<br>[100Lux* Vr=5V]<br>( $\mu$ A)        | min. | 0.08                                       | 0.08                           | 0.37                                      |
|  | typ. | 0.12                                       | 0.12                           | 0.46                                      |
|  | max. | 0.16                                       | 0.16                           | 0.55                                      |
| Dark current<br>(pA)max.                               |      | 100<br>[Vr=0.05V]                          | 10<br>[Vr=0.05V]               | 100<br>[Vr=0.5V]                          |
| Inverse voltage [Vr]<br>(V)                            |      | 6  | 10                             | 6   |
| Forward current<br>(mA)                                |      | 1  | 2                              | 1   |
| Spectral sensitivity area<br>(nm)                      |      | 350 to 750                                 | 350 to 750                     | 350 to 750                                |
| Peak of sensitivity<br>(nm)                            |      | 580 $\pm$ 20                               | 580 $\pm$ 20                   | 580 $\pm$ 20                              |
| Operating temperature range<br>( $^{\circ}$ C)         |      | -20 to +85                                 | -20 to +85                     | -20 to +85                                |
| Storage temperature range<br>( $^{\circ}$ C)           |      | -40 to +85                                 | -40 to +85                     | -40 to +85                                |
| Dimensions(mm)   |      | 2.0 $\times$ 1.5 $\times$ 0.25t(0.3t max.) | 2.0 $\times$ 1.5 $\times$ 0.6t | 5.0 $\times$ 3.0 $\times$ 0.8t(0.9t max.) |
| Weight(g)  |      | 0.004                                      | 0.01                           | 0.03                                      |

• Element temperature: 25 $^{\circ}$ C

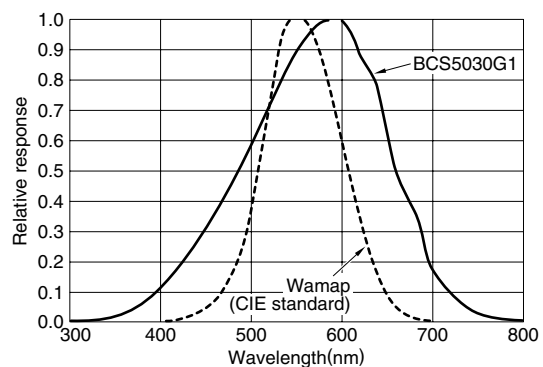
\* Light source for measurement is white light fluorescent lamp.(Color temperature 4200K)

## TYPICAL ELECTRICAL CHARACTERISTICS SPECTRAL RESPONSE CHARACTERISTICS

### BCS2015G1/2015H1

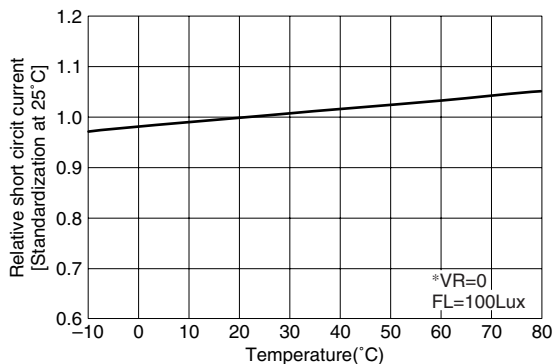


### BCS5030G1

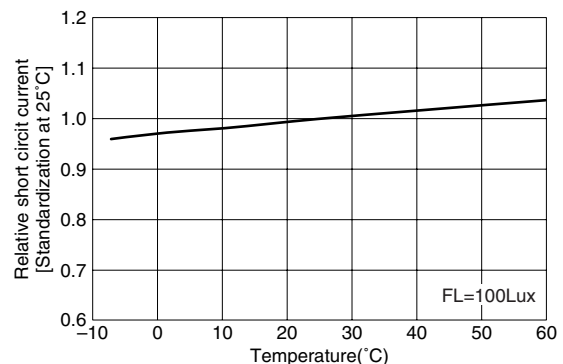


## TEMPERATURE STABILITY OF SHORT CIRCUIT CURRENT

### BCS2015G1/2015H1



### BCS5030G1

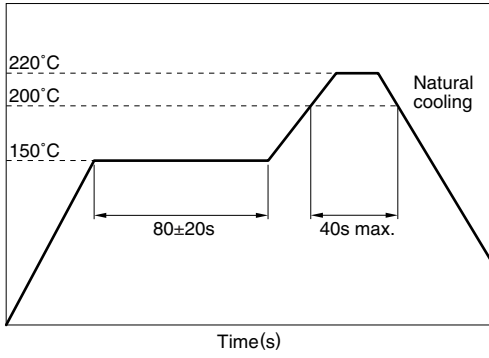


• All specifications are subject to change without notice.

**RECOMMENDED SOLDERING CONDITIONS(REFLOW)**

- A lead-free solder of the following diagrammatic chart; in the case of SnAg system. Lead-free solder has a TDK recommendation brand. In the details, please ask us.

**EUTECTIC SOLDERING**



**LEAD-FREE**

