| Discontinue Issue Date | Last Purchase Order Date | Last Shipment Date |
|---|---|---|
| February.03, 2025 | July.31, 2025 | January.31, 2026 |



SOLAR CELL

TDK

**Film solar cell**
**Amorphous silicon type**
**Low illumination solar cell**

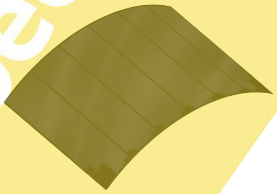
# BCS series

RoHS REACH

Product Portal

## FEATURES

- Thin, lightweight, and flexible solar cells adopting a film substrate. [Approx. 0.1g (depending on size)/0.2 mm or less]
- It has high power generation efficiency under fluorescent lamps and LED light sources, and is suitable as a power source for products used indoors.
- There is output stability in low light and dim light.
- Can be custom-designed according to various shapes and applications.



## APPLICATION

- Clock
- Wearable device
- Beacon
- Wireless sensor node / various sensors / IoT terminal power supply
- Smart card
- Smart lock
- Energy harvesting (environmental) power generation element
- Charging and powering other electronic devices

## ADVANTAGES OF SOLAR CELLS

- It reduces the cost of battery replacement and eliminates the hassle.
- Reduce the cost of electrical wiring.
- Extends the life of the primary battery. (When combining primary batteries)
- Extend the usage time of rechargeable devices.
- There is no equipment damage or environmental pollution due to liquid leakage.
- It contributes to improving the image of products by using clean energy.

## PART NUMBER CONSTRUCTION

| BCS | 4430 | B | 6 |
|---|---|---|---|

**Series name**

**For 4-digit numbers (L×W dimensions)**

| | |
|---|---|
| 4430 | 44 x 30mm |
| 4630 | 46 x 30mm |
| 2717 | 27 x 17mm |
| 1714 | 17 x 14mm |
| 6040 | 60 x 40mm |

| When the alphabet is included (Product unique number) |
|---|
| C241 |
| C451 |
| C452 |
| C491 |
| C421 |
| C441 |
| C404 |

**Shape type**

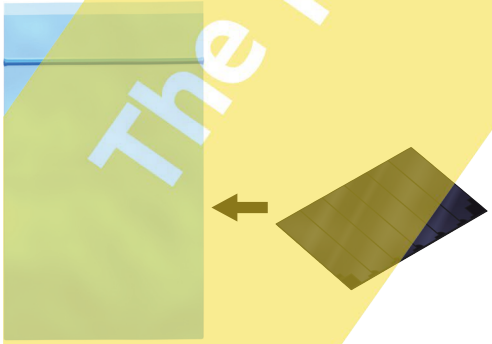
| | |
|---|---|
| B | Quadrangle |
| D | Circular |

**Number of cells connected in series**

| | |
|---|---|
| 1 | 1-cell series connection |
| 2 | 2-cell series connection |
| 3 | 3-cell series connection |
| 4 | 4-cell series connection |
| 5 | 5-cell series connection |
| 6 | 6-cell series connection |
| 7 | 7-cell series connection |
| 8 | 8-cell series connection |
| 9 | 9-cell series connection |

## PACKAGING STYLE

Packed in antistatic bag



# BCS series

## PRODUCT LINEUP

| Series name | | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Operating current | Operating voltage | Open circuit voltage |
| BCS4430B6 |  | 44 x 30mm | 0.18mm | 0.15mm | 0.20g | 6 cells | 30μA | 2.6V | 4.2V |
| BCS2717B6 |  | 27 x 17mm | ↑ | ↑ | 0.07g | 6 cells | 10μA | 2.6V | 4.2V |
| BCSC241D4 |  | ø17mm | ↑ | ↑ | 0.03g | 4 cells | 7.0μA | 1.5V | 2.8V |
| BCSC491B6 |  | 44 x 30mm | ↑ | ↑ | 0.20g | 6 cells | 30μA | 2.6V | 4.2V |
| BCSC421B1 |  | 44 x 30mm | ↑ | ↑ | 0.20g | 1 cells | 180μA | 0.433V | 0.7V |
| BCS4430B5 |  | 44 x 30mm | ↑ | ↑ | 0.20g | 5 cells | 34.8μA | 2.2V | 3.4V |
| BCSC452B3 |  | 25 x 19mm | ↑ | ↑ | 0.07g | 3 cells | 19μA | 1.5V | 2.1V |
| BCS1714B6 |  | 17 x 14mm | ↑ | ↑ | 0.04g | 6 cells | 5.0μA | 2.6V | 4.2V |
| BCSC441B4 (Former BCS2717B4) |  | 27 x 17mm | ↑ | ↑ | 0.07g | 4 cells | 16μA | 2.0V | 2.8V |
| BCSC404B8 |  | 46 x 15mm | ↑ | ↑ | 0.10g | 8 cells | 8μA | 3.8V | 5.6V |
| BCS4630B9 |  | 46 x 30mm | ↑ | ↑ | 0.20g | 9 cells | 19μA | 3.8V | 6.3V |
| BCSC451B2 |  | 25 x 19mm | ↑ | ↑ | 0.07g | 2 cells | 30μA | 1.0V | 1.4V |
| BCS1714B4 |  | 17 x 14mm | ↑ | ↑ | 0.04g | 4 cells | 7.8μA | 2.0V | 2.8V |
| BCS6040B7 |  | 60 x 40mm | ↑ | ↑ | 0.35g | 7 cells | 44μA | 3.0V | 4.9V |

- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

### Measurement equipment

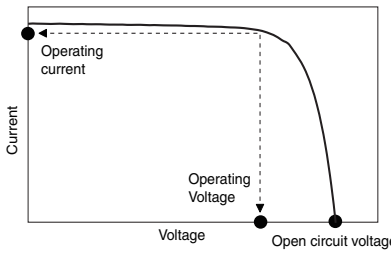
| Measurement item | Product No. | Manufacturer |
|---|---|---|
| Light source | White fluorescent light FL-10 W | TOSHIBA |
| Voltage - current | Source Meter 2400 | KEITHLEY |

* Equivalent measurement equipment may be used.

## TEMPERATURE RANGE

| Operating temperature range | Storage temperature range |
|---|---|
| -20 to +60 °C | -20 to +70 °C |

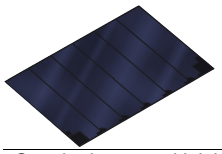
## OPEN CIRCUIT VOLTAGE




- Open circuit voltage (Voc) : Voltage when terminals are open
- Operating voltage (Vop) : Voltage when the device is connected
- Operating current (Iop) : Current when device is connected

# BCS4430B6

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 44 x 30mm | 0.18mm | 0.15mm | 0.20g | 6 cells | 30μA | 2.6V | 4.2V |

- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

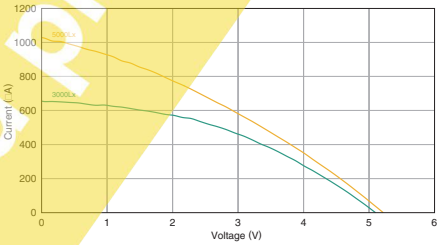
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 200 | 4.2 | 30 |
| 500 | 4.4 | 80 |

Initial value at 25°C


### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 3000 | 5.0 | 500 |
| 5000 | 5.1 | 640 |

Initial value at 25°C




### 50000Lx

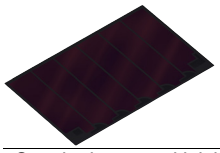
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 50000 | 5.3 | 1,050 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCS2717B6

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 27 x 17mm | 0.18mm | 0.15mm | 0.07g | 6 cells | 10μA | 2.6V | 4.2V |

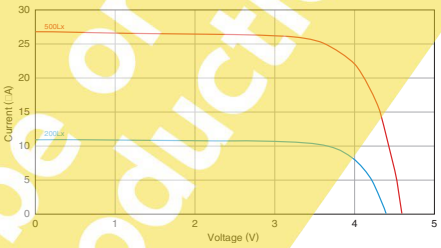
- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 200 | 4.2 | 10 |
| 500 | 4.4 | 25 |

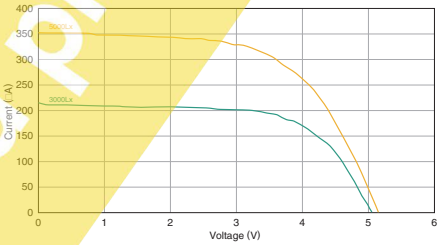
Initial value at 25°C




### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 3000 | 5.0 | 200 |
| 5000 | 5.1 | 330 |

Initial value at 25°C




### 50000Lx

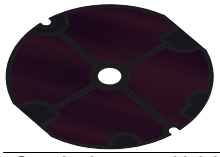
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 50000 | 5.4 | 1,100 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCSC241D4

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | ø17mm | 0.18mm | 0.15mm | 0.03g | 4 cells | 7.0μA | 1.5V | 2.8V |

- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

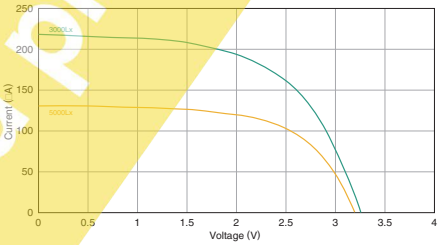
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop1.5V] |
|---|---|---|
| 200 | 2.8 | 7.0 |
| 500 | 2.9 | 16 |

Initial value at 25°C


### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop1.5V] |
|---|---|---|
| 3000 | 3.2 | 120 |
| 5000 | 3.25 | 205 |

Initial value at 25°C




### 50000Lx

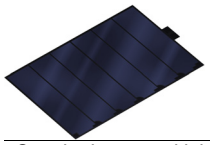
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop1.5V] |
|---|---|---|
| 50000 | 3.7 | 1,450 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCSC491B6

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 44 x 30mm (Light receiving section) 46 x 30mm (Electrode-containing protrusion) | 0.18mm | 0.15mm | 0.20g | 6 cells | 30μA | 2.6V | 4.2V |

- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

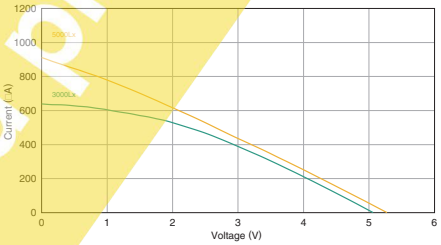
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 200 | 4.2 | 33 |
| 500 | 4.4 | 80 |

Initial value at 25°C


### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 3000 | 5.0 | 450 |
| 5000 | 5.1 | 480 |

Initial value at 25°C

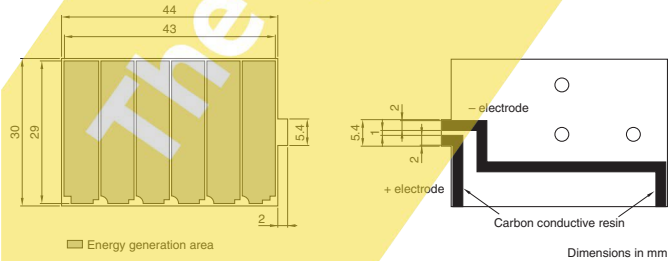



### 50000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 50000 | 5.4 | 550 |

Initial value at 25°C

## SCHEMATIC DIAGRAM

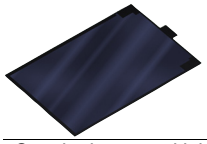



- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Connector connection is also possible.
  Recommended connector: Kyocera Corporation: FPC / FFC connector 6293 series model number: 046293617005829+

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCSC421B1

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 44 x 30mm (Light receiving section) 46 x 30mm (Electrode-containing protrusion) | 0.18mm | 0.15mm | 0.20g | 1 cells | 180μA | 0.433V | 0.7V |

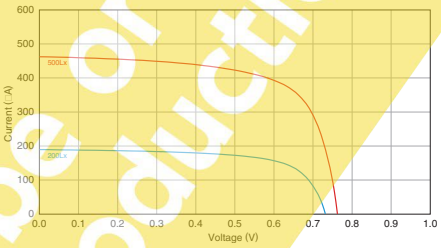
- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop0.433V] |
|---|---|---|
| 200 | 0.7 | 180 |
| 500 | 0.7 | 450 |

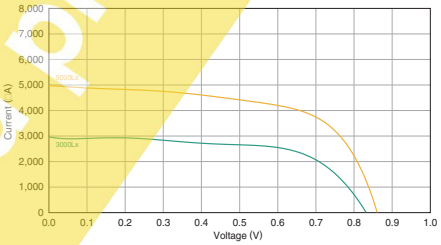
Initial value at 25°C



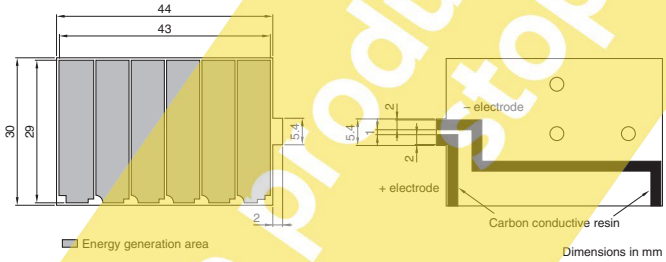

### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop0.433V] |
|---|---|---|
| 3000 | 0.7 | 2,700 |
| 5000 | 0.7 | 4,500 |

Initial value at 25°C




## SCHEMATIC DIAGRAM

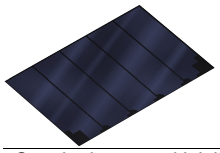



- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Connector connection is also possible.
  Recommended connector: Kyocera Corporation: FPC / FFC connector 6293 series model number: 046293617005829+

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCS4430B5

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 44 x 30mm | 0.18mm | 0.15mm | 0.20g | 5 cells | 34.8μA | 2.2V | 3.4V |

- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

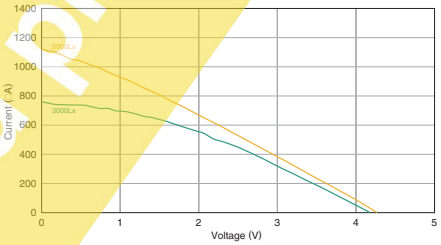
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.2V] |
|---|---|---|
| 200 | 3.4 | 34.8 |
| 500 | 3.6 | 90.0 |

Initial value at 25°C


### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.2V] |
|---|---|---|
| 3000 | 4.0 | 540 |
| 5000 | 4.1 | 640 |

Initial value at 25°C




### 50000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.2V] |
|---|---|---|
| 50000 | 4.3 | 950 |

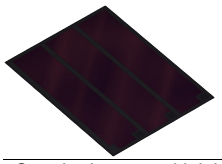
Initial value at 25°C



Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCSC452B3

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 25×19mm | 0.18mm | 0.15mm | 0.07g | 3 cells | 19μA | 1.5V | 2.1V |

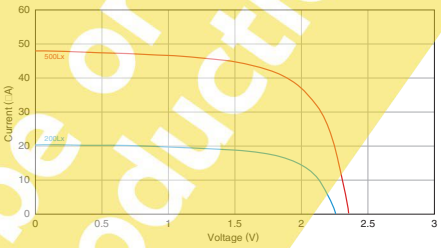
- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop1.5V] |
|---|---|---|
| 200 | 2.1 | 19 |
| 500 | 2.2 | 44 |

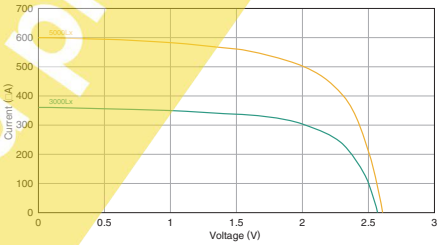
Initial value at 25°C




### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop1.5V] |
|---|---|---|
| 3000 | 2.55 | 330 |
| 5000 | 2.6 | 565 |

Initial value at 25°C




### 50000Lx

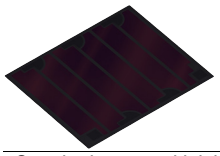
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop1.5V] |
|---|---|---|
| 50000 | 2.7 | 6,150 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCS1714B6

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 17 x 14mm | 0.18mm | 0.15mm | 0.04g | 6 cells | 5.0μA | 2.6V | 4.2V |

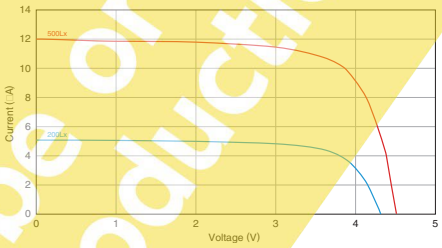
- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 200 | 4.2 | 5.0 |
| 500 | 4.4 | 11 |

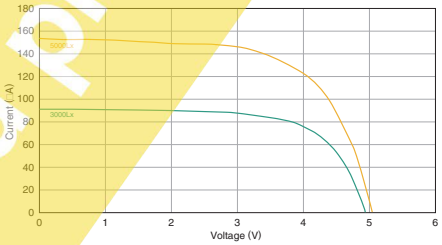
Initial value at 25°C




### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 3000 | 5.0 | 90 |
| 5000 | 5.1 | 145 |

Initial value at 25°C




### 50000Lx

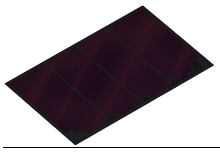
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.6V] |
|---|---|---|
| 50000 | 5.3 | 1,000 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCSC441B4 (Former BCS2717B4)

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 27 x 17mm | 0.18mm | 0.15mm | 0.07g | 4 cells | 16µA | 2.0V | 2.8V |

- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

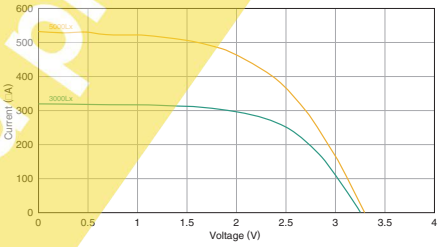
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (µA) [Vop2.0V] |
|---|---|---|
| 200 | 2.8 | 16 |
| 500 | 2.9 | 38 |

Initial value at 25°C


### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (µA) [Vop2.0V] |
|---|---|---|
| 3000 | 3.2 | 290 |
| 5000 | 3.25 | 460 |

Initial value at 25°C




### 50000Lx

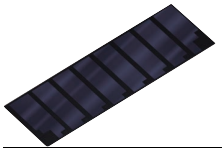
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (µA) [Vop2.0V] |
|---|---|---|
| 50000 | 3.55 | 1,100 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCSC404B8

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 46 x 15mm | 0.18mm | 0.15mm | 0.10g | 8 cells | 8.0μA | 3.8V | 5.6V |

- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

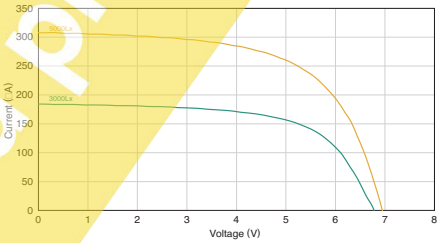
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop3.8V] |
|---|---|---|
| 200 | 5.6 | 8.0 |
| 500 | 6.1 | 19 |

Initial value at 25°C


### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop3.8V] |
|---|---|---|
| 3000 | 6.8 | 170 |
| 5000 | 6.9 | 285 |

Initial value at 25°C




### 50000Lx

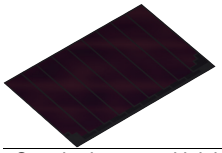
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop3.8V] |
|---|---|---|
| 50000 | 7.2 | 2,550 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCS4630B9

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 46 x 30mm | 0.18mm | 0.15mm | 0.20g | 9 cells | 19μA | 3.8V | 6.3V |

- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

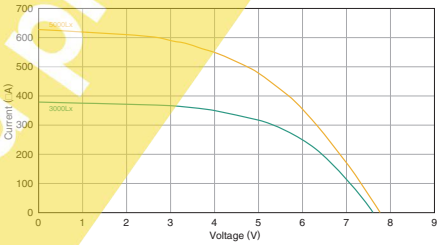
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop3.8V] |
|---|---|---|
| 200 | 6.3 | 19 |
| 500 | 6.7 | 47 |

Initial value at 25°C


### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop3.8V] |
|---|---|---|
| 3000 | 7.6 | 355 |
| 5000 | 7.7 | 565 |

Initial value at 25°C




### 50000Lx

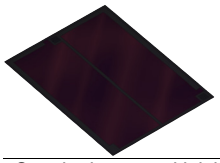
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop3.8V] |
|---|---|---|
| 50000 | 8.2 | 1,350 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCSC451B2

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 25 x 19mm | 0.18mm | 0.15mm | 0.07g | 2 cells | 30μA | 1.0V | 1.4V |

- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

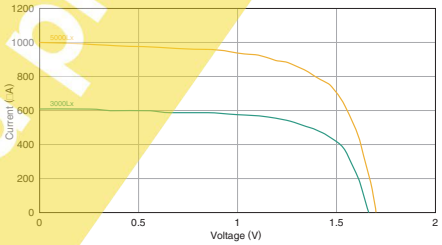
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop1.0V] |
|---|---|---|
| 200 | 1.4 | 30 |
| 500 | 1.5 | 70 |

Initial value at 25°C


### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop1.0V] |
|---|---|---|
| 3000 | 1.68 | 580 |
| 5000 | 1.72 | 940 |

Initial value at 25°C




### 50000Lx

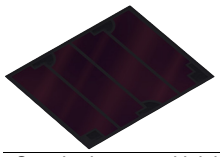
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop1.0V] |
|---|---|---|
| 50000 | 1.85 | 9,550 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCS1714B4

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 17 x 14mm | 0.18mm | 0.15mm | 0.04g | 4 cells | 7.8μA | 2.0V | 2.8V |

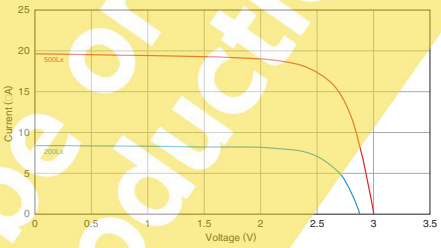
- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.0V] |
|---|---|---|
| 200 | 2.8 | 7.8 |
| 500 | 2.9 | 18 |

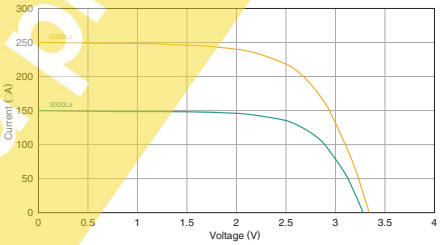
Initial value at 25°C




### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.0V] |
|---|---|---|
| 3000 | 3.2 | 140 |
| 5000 | 3.25 | 230 |

Initial value at 25°C




### 50000Lx

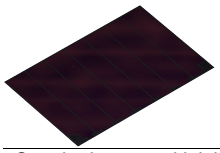
| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop2.0V] |
|---|---|---|
| 50000 | 3.55 | 1,100 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# BCS6040B7

## CHARACTERISTICS SPECIFICATION TABLE

| | Product size | Thickness (Electrode part) | Thickness (Other) | Individual weight | Number of series cells | Output at illuminance 200Lx (Standard value) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Operating current | Operating voltage | Open circuit voltage |
|  | 60 x 40mm | 0.18mm | 0.15mm | 0.35g | 7 cells | 44μA | 3.0V | 4.9V |

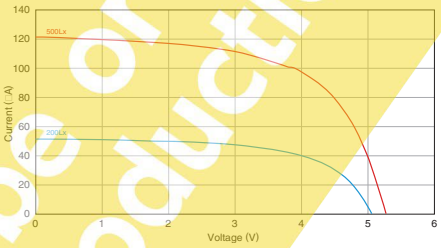
- Standard output with initial value at 25°C. It is not guaranteed.
- The product thickness shows the typical value.
- The operating temperature range is -20 to +60°C. The characteristics vary depending on the operating temperature.
- Continuous light irradiation causes a decrease in output over time, called light deterioration, which is called light deterioration.
- Spring probes, heat seals and conductive adhesives are recommended for circuit connections.
- Please contact our sales department, our distributors, or our website if you would like to consider using the product for mass production or request a custom design.

## IV CHARACTERISTICS

### 200Lx, 500Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop3.0V] |
|---|---|---|
| 200 | 4.9 | 44 |
| 500 | 5.1 | 110 |

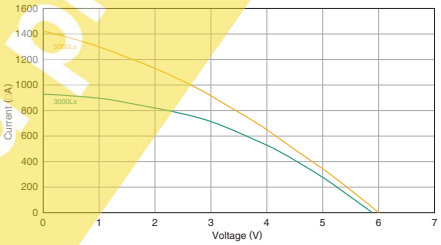
Initial value at 25°C




### 3000Lx, 5000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop3.0V] |
|---|---|---|
| 3000 | 5.8 | 710 |
| 5000 | 5.9 | 925 |

Initial value at 25°C




### 50000Lx

| Illuminance (Lx) | Open circuit voltage (V) | Operating current (μA) [Vop3.0V] |
|---|---|---|
| 50000 | 6.3 | 1,650 |

Initial value at 25°C

Note) It is not in the reference value of a guaranteed value.
The operating voltages and operating currents in the table are examples. It is different from the maximum output point.

# HANDLING PRECAUTIONS

- Do not apply strong force, shock, or pressure due to external stress. If the product is scratched or cracked, an electrical short circuit may occur and the voltage may drop. Be careful when you touch the light-receiving surface or bend the product.
- If you have the product, please grasp the non-power generation part.
- Since it is sensitive to static electricity, please take necessary measures against static electricity when handling it.
- If the amount of light transmission decreases or the incident light area decreases due to dirt on the light-receiving surface, the output will decrease. Do not touch the light receiving surface with your bare hands.
- If the product is reused or reattached, it may be damaged due to scratches, cracks, dirt, electrostatic discharge, etc.
- If the productslightreceivingsurfaceisleftexposedtosunlight,thecharacteristicswilldeteriorateduetolightdeterioration.\q
- Do not wash the product with water, solvents, detergents, etc. Also, make sure that these liquids do not come into contact.
- Do not touch with wet hands.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Do not contact flammable gas, flammable liquid, or organic solvent.
- If dropped, the characteristics listed in the catalog may not be obtained.
- Do not supply external power to this product.
- When disposing, please follow the sorting method of each municipality.

# DESIGN PRECAUTIONS

- This product is designed for indoor environment and low light use. The amount of power generation will vary greatly when used in an outdoor environment or under high illuminance. The reliability has not been confirmed in the outdoor environment and high illuminance characteristics.
- This product recommends spring contacts, conductive adhesives and heat seals for electrical connection to the circuit. Not suitable for soldering, reflow and ACF.
- The output may be reduced if the product is scratched or cracked. Take appropriate protection as needed.
- Protect the package according to the operating environment to prevent water intrusion, condensation, and light-receiving surface impact.
  For the package on the light receiving surface, use a material that transmits light. If the transmittance of the package on the light receiving surface becomes low, the output of the solar cell will decrease according to the transmittance.
- If there is a spot where the light receiving surface is not exposed to light, the amount of power generation will decrease. It is recommended to design the light so that it illuminates the entire light receiving surface.
- Irradiation with strong light causes a decrease in output called light deterioration. The degree of output reduction depends on the light intensity and irradiation time.
- Make sure that the built-in devices and circuits do not allow static electricity to flow into this product.
- Product characteristics show the characteristics when light is incident perpendicularly to the light receiving surface. The maximum output is at normal incidence, and the output decreases according to the incident angle of light.
- If necessary, connect a backflow prevention diode to prevent the flow of current from the storage device.
- When connecting multiple products in parallel, connect a bypass diode between the products if necessary.
- Please note that the generated voltage will increase when exposed to strong light such as sunlight.
- The output varies depending on the type of light source, even with the same illuminance.
- Do not heat the product above 150°C. Also, if the product is heated in a free state even below 150°C, the product warpage will increase depending on the temperature and time.
- The output has temperature dependence. When the product temperature rises, the behavior of voltage drop/current rise, and when the product temperature falls, behavior of voltage rise/current fall.
- The output may be reduced if dust or dirt adheres to the light receiving surface.
- When fixing the back side of the product with double-sided tape or adhesive, be careful of damage due to pressure or adhesive shrinkage.
- When connecting, make sure that the polarity is correct.
- Be careful not to touch the conductive parts on the end face of the product. Characteristic deterioration may occur.
- Before using the product, make sure that the characteristics of this product are suitable for the equipment and circuit to be incorporated.

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(3) Medical equipment
(4) Power-generation control equipment
(5) Atomic energy-related equipment
(6) Seabed equipment
(7) Transportation control equipment
(8) Public information-processing equipment
(9) Military equipment
(10) Electric heating apparatus, burning equipment
(11) Disaster prevention/crime prevention equipment
(12) Safety equipment
(13) Other applications that are not considered general-purpose applications

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