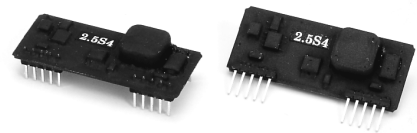


# 3A/4A BSI Series



**Ultra High Efficiency (90-95%), Minimum Size Step-Down DC-DC Converter**

**Input: +2.5V, +3.3V, +5V**

**Input: +5V, +12V**

**Input: +6V, +12V, +15V**

**Output: +2.5V (+1.5V to +2.5V)**

**Output: +3.3V (+1.8V to +3.3V)**

**Output: +5.0V (+3.0V to +5.0V)**

- Input Voltage Range 2.5V-16.5V
- Output Voltage Range 1.5V-5V
- Latest Technology, Synchronous Rectification Circuit
- Efficiency 90% to 95%
- Adjustable Output Voltage
- Non-Isolated Type Converter
- Short Circuit, Over-Current Protection
- No Electrolytic Capacitor used
- No Tantalum Capacitor used
- Heat Sink Not Required
- Minimum Size
- Remote ON/OFF Control
- Low Standby Current 100μA (3A output type product)
- MTBF 1,000,000Hrs
- Operating Temp Range -10°C to +70°C (Temp Derating required)
- High Reliability, High Performance
- RoHS Compliance

| Models<br>BSI Series | Input V<br>Vdc | Output V<br>Vdc | Output I<br>A | Line Reg<br>%(typ.) | Load Reg<br>%(typ.) | Ripple/Noise<br>mVpp(typ.) | Efficiency<br>%(typ.) |
|----------------------|----------------|-----------------|---------------|---------------------|---------------------|----------------------------|-----------------------|
| <b>BSI-2.5S4R0A</b>  | 2.5-5.25       | 2.5             | 0-4           | 0.2                 | 0.2                 | 40                         | 90                    |
| <b>BSI-2.5S4R0FA</b> |                | (1.5-2.5)       |               |                     |                     |                            |                       |
| <b>BSI-3.3S3R0A</b>  | 4.75-13.6      | 3.3             | 0-3           | 0.2                 | 0.3                 | 50                         | 91                    |
| <b>BSI-3.3S3R0FA</b> |                | (1.8-3.3)       |               |                     |                     |                            |                       |
| <b>BSI-5.0S3R0A</b>  | 6.0-16.5       | 5.0             |               | 0.2                 | 0.2                 |                            | 95                    |
| <b>BSI-5.0S3R0FA</b> |                | (3.0-5.0)       |               |                     |                     |                            |                       |

Note 1: The output voltage inside the ( ) indicates the adjustable range.

Note 2: External capacitors are required.

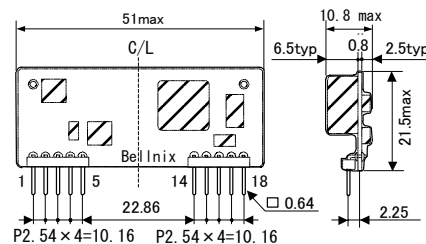
Note 3: Suffix "A" stands for version.

<Outline> (SIP type)

**BSI-2.5S4R0A** (t=9.8typ.)

**BSI-3.3S3R0A** (t=8.8typ.)

**BSI-5.0S3R0A** (t=8.8typ.)



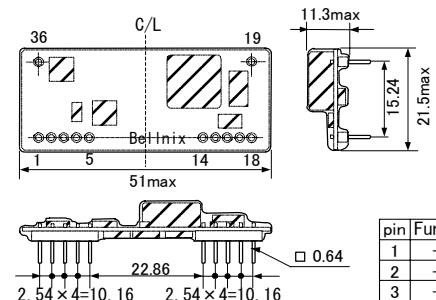
| pin | Function |
|-----|----------|
| 1   | +Vin     |
| 2   | +Vin     |
| 3   | -Vin     |
| 4   | -Vin     |
| 5   | on/off   |
| 14  | V.ADJ    |
| 15  | -Vout    |
| 16  | -Vout    |
| 17  | +Vout    |
| 18  | +Vout    |

(DIP type)

**BSI-2.5S4R0FA** (h=11.3max.)

**BSI-3.3S3R0FA** (h=9.3typ.)

**BSI-5.0S3R0FA** (h=9.3typ.)



| pin | Function |
|-----|----------|
| 1   | +Vin     |
| 2   | +Vin     |
| 3   | -Vin     |
| 4   | -Vin     |
| 5   | on/off   |
| 14  | V.ADJ    |
| 15  | -Vout    |
| 16  | -Vout    |
| 17  | +Vout    |
| 18  | +Vout    |
| 19  | NC       |
| 36  | NC       |

- Note!

This catalogue is an outline of the products.

When designing, be sure to refer to the data sheets.

Weight: 10g typ.  
Units: mm

- Externally coated by resinous

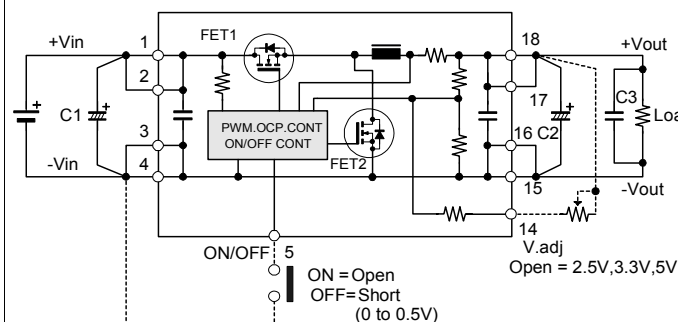
- Tolerances unless otherwise specified: ±0.5

Weight: 10g typ.  
Units: mm

- Externally coated by resinous

- Tolerances unless otherwise specified: ±0.5

<Standard Connection Diagram>



- External Capacitors (SH, FA type OS-CON Recommended)

3.3V, 5V Output Product

C1=100μF20WV×2pcs or more

C2=220μF10WV×1pcs or more

2.5V Output Product

C1=220μF10WV×2pcs or more

C2=330μF6.3WV×2pcs or more

- ON/OFF Control

ON/OFF control is controlled by opening and shortening between 5pin(ON/OFF) and 3, 4pin (-Vin).

- Adjustable Output Voltage

The output voltage is adjusted by connecting a resistor between 14pin (V.ADJ) and 17, 18pin (+Vout).

When 14pin is open, the rated output voltage is as follows:

BSI-2.5S = +2.5V±5%

BSI-3.3S = +3.3V±5%

BSI-5.0S = +5.0V±5%

- A voltage difference of 0.6V or more between the Input/ Output is required for output current 4A type.