



10-15 Watt BSI Series

Ultra High Efficiency POL DC-DC Converters/ BSI 10-15Watt Series

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

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

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

Input: +5V, +12V

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

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

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%-95%
- Adjustable Output Voltage
- Non-Isolated Type Converter
- Short Circuit, Over-Current Protection
- No Electrolytic Capacitor, No Tantalum Capacitor
- 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 BSI-Series	Input V Vdc	Output V Vdc	Output I A	Line Reg % (typ.)	Load Reg % (typ.)	Ripple/Noise mVpp (typ.)	Efficiency % (typ.)
BSI-2.5S4R0A BSI-2.5S4R0FA	+2.5 to +5.25	2.5 (1.5-2.5)	0-4	0.2	0.2	40	90
BSI-3.3S3R0A BSI-3.3S3R0FA	+4.75 to +13.6	3.3 (1.8-3.3)	0-3	0.2	0.3	50	91
BSI-5.0S3R0A BSI-5.0S3R0FA	+6.0 to +16.5	5.0 (3.0-5.0)		0.2	0.2		

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

Note 2: External capacitors are required.

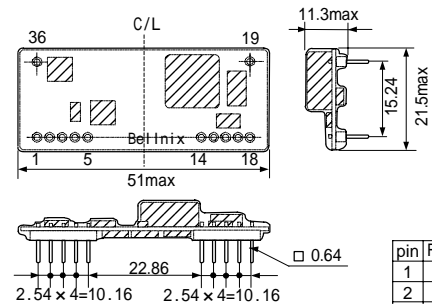
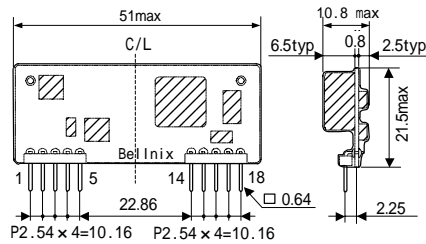
Note 3: Suffix "A" stands for version.

<Outline> (SIP type)

- BSI-2.5S4R0A** (t=9.8typ.)
- BSI-3.3S3R0A** (t=10.3typ.)
- BSI-5.0S3R0A** (t=8.8typ.)

(DIP type)

- BSI-2.5S4R0FA** (h=11.3max.)
- BSI-3.3S3R0FA** (h=9.3typ.)
- BSI-5.0S3R0FA** (h=9.3typ.)



- Note!
This catalogue is an outline of the products.
When designing, be sure to refer to the data sheets.

Weight: 10g typ.
Dimensions: mm

- External resinous coating
- Tolerances unless otherwise specified: ±0.5

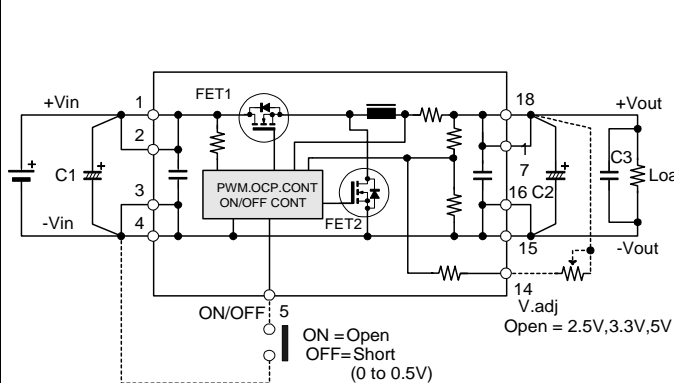
pin	Function
1	+Vin
2	+Vin
3	-Vin
4	-Vin
5	on/off
14	V.ADJ
15	-Vout
16	-Vout
17	+Vout
18	+Vout

Weight: 10g typ.
Dimensions: mm

- External resinous coating
- Tolerances unless otherwise specified: ±0.5

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

<Standard Connection Circuit 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) pin.

- **Adjustable Output Voltage**
The output voltage is adjustable 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%

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