

Bellnix® High Efficiency, Non-isolated Type DC-DC Converter

Size equivalent to TO-220, Peak Power Output 39.6W

3A/6A BSI-N Series

SIP Type Small Size Step-Down DC-DC Converters/BSI-N Series

Ultra Small, Low Cost Step Down DC-DC Converter

Input: 5.6V - 14V Output: 0.8V - 6.6V

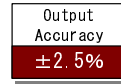
Voltage can be set with an external resistors (e.g. 0.8V, 1V, 1.2V, 1.5V, 1.8V, 2.5V, 3.3V, 5V, 6V)

- Ultra Small 12.0mm x 10.0mm
- Ultra Thin 4.7mm (3A)
5.6mm (6A)
- Non-Isolated Type Converter
- SIP Package
(Size equivalent to T-220)
- High Efficiency
3A 90.0% (Vout=3.3V)
6A 89.5% (Vout=3.3V)
- Wide Input Voltage
- Adjustable Output Voltage
- Remote ON/OFF Control
- Undervoltage Lockout
- Over Current Protection
- High Performance,
Low Cost
- Operating Temperature
-40°C - +85°C
(Temperature Derating required)
- Heatsink not required
- RoHS compliant

Output Set Accuracy ±2.5%

$V_{in}=12V, I_o=0A,$
 $V_o=0.8V$
(Trim Pin OPEN)

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



Models BSI-N Series	Input V Vdc	Output V Vdc	Output I A	Line Reg. %(typ.)	Load Reg. %(typ.)	Ripple Noise mVpp(typ.)	Efficiency %(typ.)
BSI-0.8S3R0N	5.6 - 14.0	0.8 - 6.6	0 - 3	0.2	0.6	60	90.0
BSI-0.8S6R0N			0 - 6		0.8	40	89.5

Note 1: The output voltage is 0.8V when TRIM pin is open.

Note 2: Ripple noise, efficiency value is when $V_{in}=12V, V_{out}=3.3V$ at the rated load.

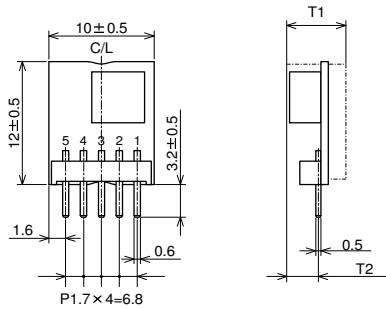
Note 3: Ripple noise is measured at 20MHz bandwidth with a multi layered ceramic capacitor below.

BSI-0.8S3R0N: 47µF at input, 10µF + 1µF at output

BSI-0.8S6R0N: 47µF x 2 at input, 22µF + 1µF at output

Note 4: Cooling airflow may be required depending on ambient temperature conditions.

<Outline>



(Front View)

(Side View)

Pin	Function
1	ON/OFF
2	Vin
3	GND
4	Vout
5	TRIM

Weight BSI-0.8S3R0N : 0.95g typ.

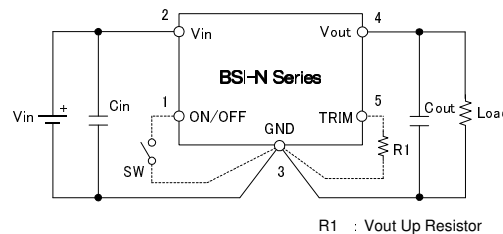
BSI-0.8S6R0N : 1.05g typ.

Units : mm

Tolerances unless otherwise specified: ±0.5

Series	T1	T2
BSI-0.8S3R0N	4.7max	2.1max
BSI-0.8S6R0N	5.6max	3.0max

<Standard Connection Diagram>



BSI-0.8S3R0N

Cin : 47 µF (Ceramic Capacitor)
Cout : 10 µF (Ceramic Capacitor)

BSI-0.8S6R0N

Cin : 47 µF x 2 (Ceramic Capacitor)
Cout : 22 µF (Ceramic Capacitor)

- SW1: Output turns off when short.
- TRIM: Output voltage is 0.8V when open.
- When adjusting the output voltage, connect R1 between Trim pin and GND pin.