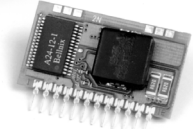
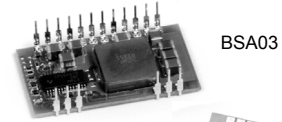


# Bellnix® High Efficiency, Ultra Small Size, Non-Isolated Type POL DC-DC Converter

Achieved high efficiency at a low price !

## 1A/2.2A/6A BSA Series



### High Efficiency, Low Price Step-Down DC-DC Converter

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

**Input: +12V, +15V, +24V**

**Input: +24V**

**Output: +1.8V (+1.0V to +3.3V)**

**Output: +3.3V (+3V to +5V)**

**Output: +12V (+9V to +12V)**

- High Efficiency (82%-91%)
- Ultra Small Size
- Adopted Original MCM
- MTBF 1,000,000Hrs
- Low Price
- Simple Structure
- Over-Heat Protection
- Over-Current Protection
- Easy to Use SIP, DIP Type
- Adjustable Output Voltage
- Non-Isolated Type Converter
- Heat Sink Not Required
- Long Life, High Reliability
- Operating Temp Range  
-20°C to +70°C  
(Temp Derating Required)
- BSA24 series
- Operating Temp Range  
-30°C to +85°C  
(-30°C to -20°C :  
Startup guaranteed)  
(Temp Derating Required)
- BSA03 series
- RoHS Compliance

Models BSA Series	Input V Vdc	Output V Vdc	Output I A	Line Reg %(typ.)	Load Reg %(typ.)	Ripple/Noise mVpp(typ.)	Efficiency %(typ.)
<b>BSA03-1.8S6R0</b>	3.3	1.8	0-6	1	1	30	86
<b>BSA03-1.8S6R0-D</b>	(3-5.5)	(1-3.3)					
<b>BSA24-3.3S2R2</b>	24	3.3	0-1.8	1.5	1	50	82
<b>BSA24-3.3S2R2-D</b>	(9-36)	(3-5)	(0-2.2)				
<b>BSA24-12S1R0</b>	24	12	0-0.75	1.5	1	100	91
<b>BSA24-12S1R0-D</b>	(18-36)	(9-12)	(0-1)				

Note 1: For DIP type add a suffix "D".

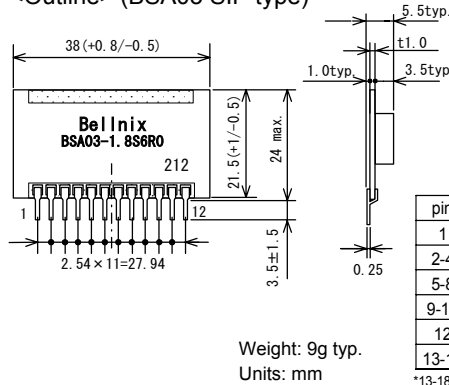
Note 2: External capacitors are required.

Note 3: The output voltage inside the ( ) indicates the adjustable range.

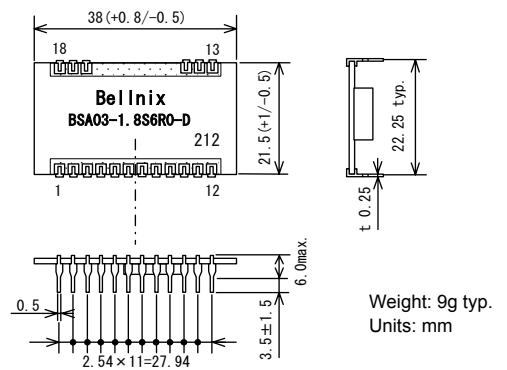
Note 4: The output current inside the ( ) indicates the value with air flow cooling.

Note 5: The BSA03 has requirements for input/ output voltage differences. Depending on conditions, air flow cooling maybe required.

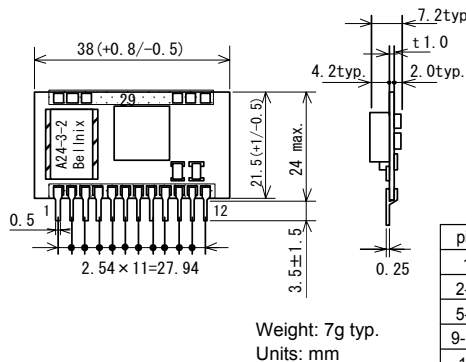
<Outline> (BSA03 SIP type)



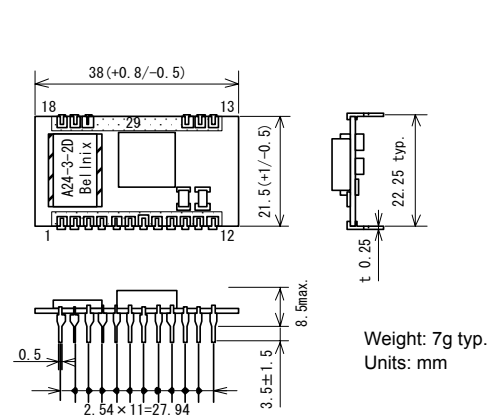
(BSA03 DIP type)



(BSA24 SIP type)



(BSA24 DIP type)



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