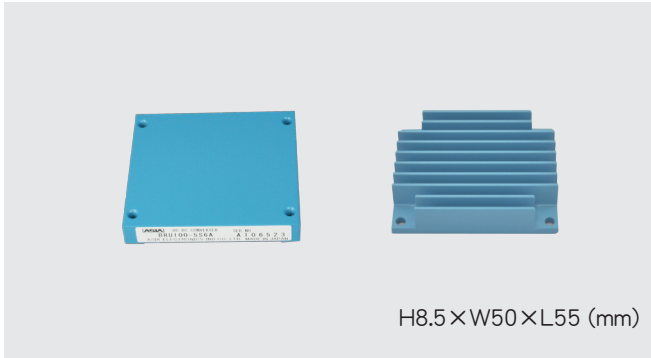
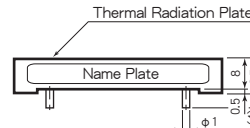
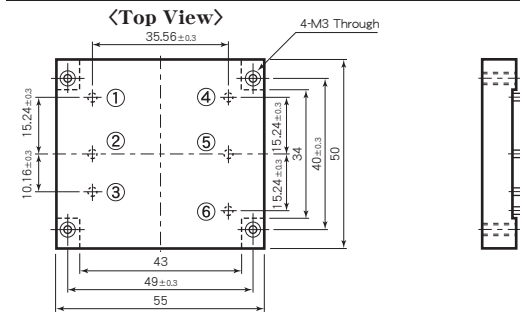


# BRU SERIES

## 23~30W DC/DC CONVERTERS Single Output

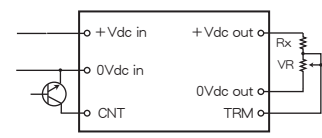


### Pin Outs & Dimensions (±0.5mm)



Pin Outs	
①	+Vdc in
②	0 Vdc in
③	ON/OFF Control
④	+Vdc out
⑤	0 Vdc out
⑥	TRM

### Application

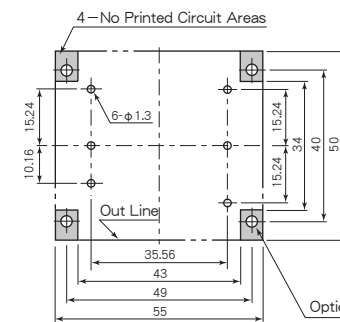


Vout (V)	3.3V	5V	6V	12V	15V	24V	28V	48V
VR (Ω)	50k	50k	50k	50k	50k	50k	50k	50k
Rx (Ω)	10k	33k	47k	47k	62k	110k	130k	220k

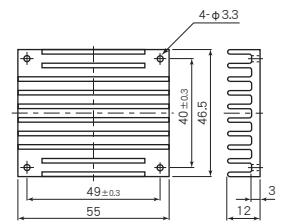
### Features

- Low Profile 8.5mm
  - Built-in Input Filter
  - Input-Output Isolation (AC2000V)
  - High Efficiency 87~90%
  - Wide Input Voltage Range
  - High Reliability
  - 6 Sided Metal Shielding
  - Remote ON/OFF Control
  - Adjustable Output Volt. ±5%
  - Input Low Voltage Protection
  - Input Over Voltage Protection
  - Output Over Voltage Protection 115~140% Operation
  - Thermal Protection +110°C~+120°C
  - Operating Ambient Temperature -40°C~+85°C
  - Max. Case Temperature +105°C
  - Conformity to RoHS2 Directive
  - Not built-in aluminum and tantalum electrolytic capacitor
- 薄型 8.5mm
  - 入力フィルタ内蔵
  - 入出力間絶縁 (AC2000V)
  - 高効率 87~90%
  - 広範囲な入力電圧
  - 高信頼性
  - 6面メタルシールド
  - リモートON/OFFコントロール
  - 可変出力電圧 ±5%
  - 入力低電圧保護回路内蔵
  - 入力過電圧保護回路内蔵
  - 出力過電圧保護回路内蔵 115~140% 動作
  - 過熱保護回路内蔵 +110°C~+120°C
  - 動作周囲温度 -40°C~+85°C
  - 最大ケース温度 +105°C
  - RoHS2指令対応
  - アルミ電解コンデンサ及びタンタルコンデンサ不使用

### Holes on PCB (Top View)



### Option Heat Sink



\* Option Heat Sink Model : A4-3080

### General Characteristics

- Input Voltage, Range
  - Output Voltage, Current
  - Output Voltage Accuracy
  - Output Voltage Range
  - Efficiency
  - Line Regulation
  - Load Regulation
  - Reflected Input Ripple, Noise
  - Output Ripple
  - Output Noise
  - Short Circuit Protection
  - Over Voltage Protection
  - Remote ON/OFF Control
  - Temperature Coefficient
  - Operating Ambient Temp.
  - Max. Case Temperature
  - Storage Temperature
  - Isolation Voltage
  - Isolation Impedance
  - Weight
  - Humidity
  - Shock
  - Vibration
  - Surface Structure
  - Soldering Conditions
  - Soldering DIP
  - Soldering iron
  - MTBF
  - Warranty
- (at Ta : 25°C, Full Load, Nominal Vin)  
DC12, 24, 48, 100V (See Table 1)  
See Table 1  
±2%  
±3% (3.3, 5, 6V Vout only)  
±5% Adjustable (Used trimmer)  
See Table 1  
±0.3% max. (at Vin Range)  
±0.5% max. (0~100% Load)  
(3% Vin)Vp-p max.  
40mVp-p max.  
100mVp-p max. (48V Vout only)  
100mVp-p max.  
200mVp-p max. (48V Vout only)  
Built-in, Auto-restart (See Fig. 2)  
115~140% Output Voltage  
ON : Short or 0~0.8V  
OFF : Open or 2~10V  
(Between pin ② ~ ③)  
0.02%/°C max.  
-40°C~+85°C (See Fig. 1)  
+105°C  
-50°C~+115°C  
AC2000V one minute  
(Input-Output-Case)  
100MΩ min. (at DC1000V)  
(Input-Output-Case)  
Main Body : 60g max.  
Heat Sink : 40g max.  
20~95% RH  
490m/s<sup>2</sup> (11msec 3directions)  
10~55Hz 98m/s<sup>2</sup>  
(30minutes 3directions)  
6 Sided Aluminum Case  
260°C, for 15 seconds max.  
360°C, for 5 seconds max.  
500,000H  
(Ta : 25°C, 80% Load, Nominal Vin)  
5 years

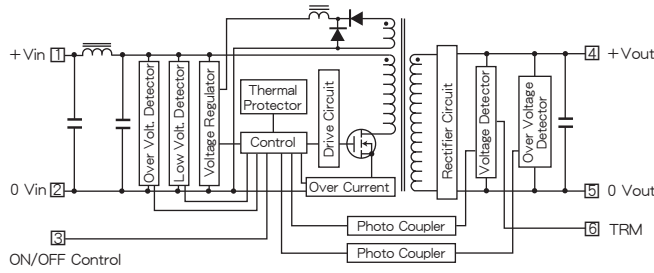
### Selection Guide

Model Number	Input Volt. (Range) (V. DC)	Output Voltage (V. DC)	Output Current (A)	Efficiency (Typical)(%)		
				20% Load	80% Load	
BRU12-33S 7A	12 (8~18)	3.3	7	84	87	
BRU12-5S 6A		5	6	84	90	
BRU12-6S 5A		6	5	84	90	
BRU12-12S 2.5A		12	2.5	84	90	
BRU12-15S 2A		15	2	84	90	
BRU12-24S 1.25A		24	1.25	84	90	
BRU12-28S 1.07A		28	1.07	84	90	
BRU12-48S 0.6A		48	0.6	84	90	
BRU24-33S 7A		24 (16~36)	3.3	7	84	87
BRU24-5S 6A			5	6	84	90
BRU24-6S 5A			6	5	84	90
BRU24-12S 2.5A			12	2.5	84	90
BRU24-15S 2A	15		2	84	90	
BRU24-24S 1.25A	24		1.25	84	90	
BRU24-28S 1.07A	28		1.07	84	90	
BRU24-48S 0.6A	48		0.6	84	90	
BRU48-33S 7A	48 (32~76)		3.3	7	84	87
BRU48-5S 6A			5	6	84	90
BRU48-6S 5A			6	5	84	90
BRU48-12S 2.5A			12	2.5	84	90
BRU48-15S 2A		15	2	84	90	
BRU48-24S 1.25A		24	1.25	84	90	
BRU48-28S 1.07A		28	1.07	84	90	
BRU100-33S 7A		100 (64~144)	3.3	7	84	87
BRU100-5S 6A			5	6	84	90
BRU100-6S 5A			6	5	84	90
BRU100-12S 2.5A			12	2.5	84	90
BRU100-15S 2A			15	2	84	90
BRU100-24S 1.25A	24		1.25	84	90	
BRU100-28S 1.07A	28		1.07	84	90	

\* 上記仕様以外にも対応可能ですのでお問い合わせ下さい。  
Please consult with us about other specification.

# BRU SERIES DATA SHEET

## Block Diagram



## Characteristic Curves

Fig. 1 Derating Curve

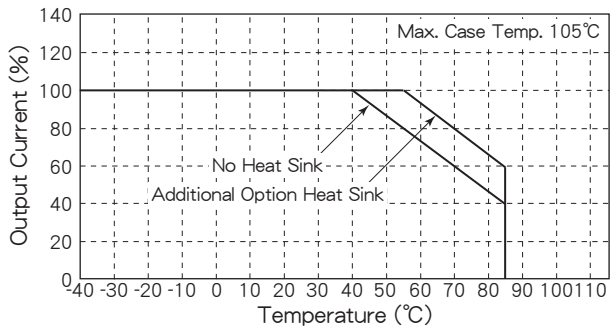


Fig. 2 Short Circuit Operating Area

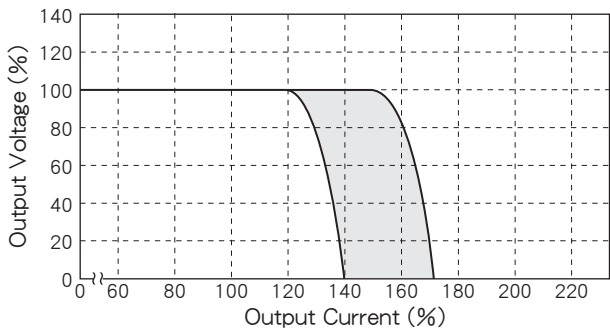


Fig. 3 Temperature Characteristic on Case Surface

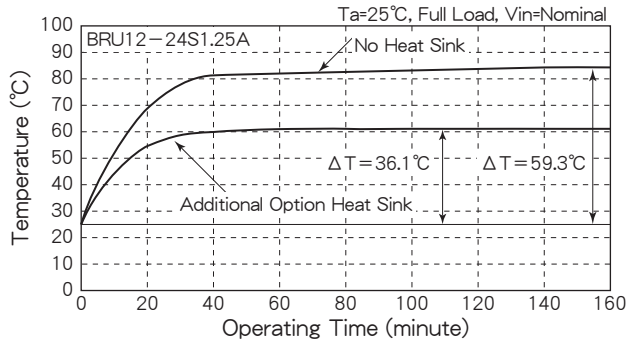


Fig. 4 Efficiency vs. Output Current

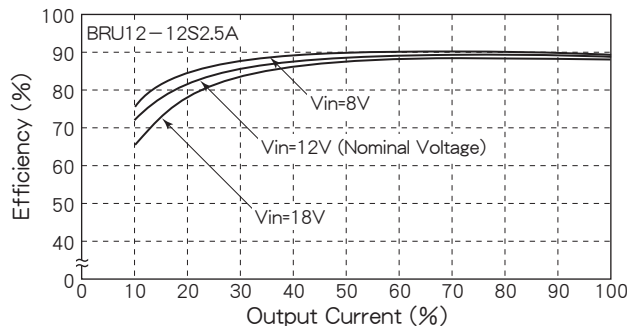


Fig. 5 Efficiency vs. Output Current

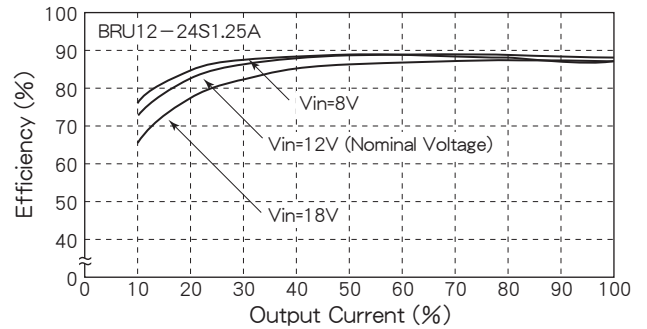


Fig. 6 Efficiency vs. Output Current

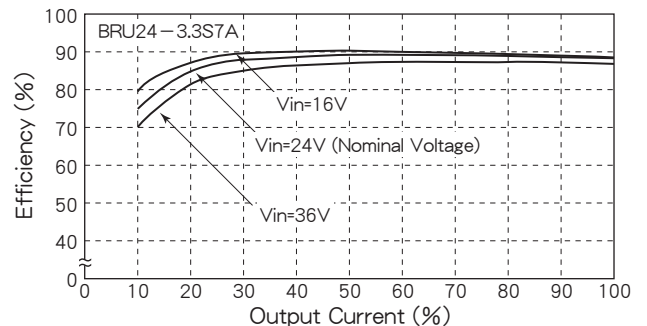


Fig. 7 Efficiency vs. Output Current

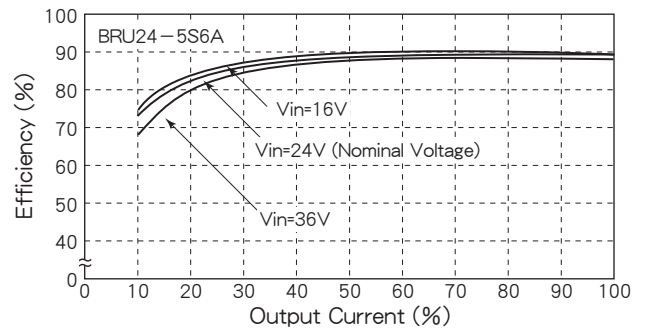


Fig. 8 Efficiency vs. Output Current

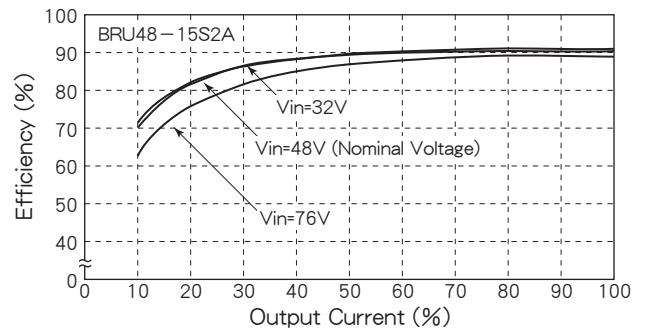


Fig. 9 Efficiency vs. Output Current

