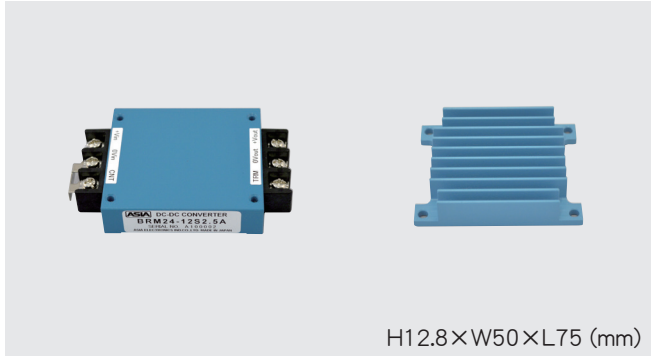


# BRM SERIES

## 20~30W DC/DC CONVERTERS Single Output



H12.8×W50×L75 (mm)

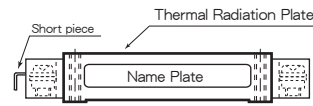
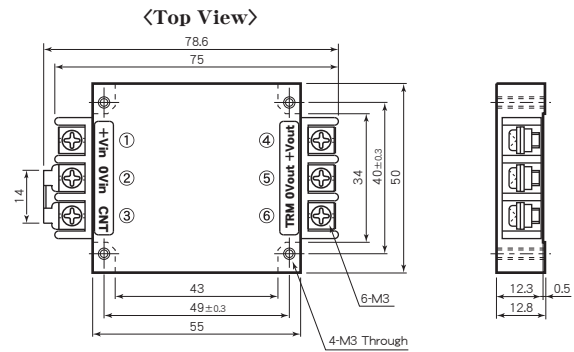
### Features

- Low Profile 12.8mm
  - Built-in Input Filter
  - Input-Output Isolation (AC2000V)
  - High Efficiency 85~90%
  - 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 RoHS Directive
  - Not built-in aluminum and tantalum electrolytic capacitor
- 薄型 12.8mm
  - 入力フィルタ内蔵
  - 入出力間絶縁 (AC2000V)
  - 高効率 85~90%
  - 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
  - RoHS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

### General Characteristics

- Input Voltage, Range
  - Output Voltage, Current
  - Output Voltage Accuracy
- (at Ta:25°C, Full Load, Nominal Vin)  
DC 12, 24, 48, 100V (See Table 1)  
See Table 1  
±2% (12V, 15V, 24V, 28V, 48V Vout)  
±3% (2.5V, 3.3V, 5V, 6V Vout)  
±5% (Used trimmer)
- Output Adjustment Range
  - Efficiency
  - Line Regulation
  - Load Regulation
  - Reflected Input Ripple, Noise
  - Output Ripple
- See Table 1  
±0.3% max. (at Vin Range)  
±0.5% max. (0~100% Load)  
(3% Vin)Vp-p max.  
40mVp-p max.  
(48V Vout : 100mVp-p max.)  
100mVp-p max.  
(48V Vout : 200mVp-p max.)
- Short Circuit Protection
  - Over Voltage Protection
  - Remote ON/OFF Control
- Built-in, Auto-restart (See Fig 2)  
115~140% Output Voltage  
ON : Short or 0~0.8V  
OFF : Open or 2~10V  
(Between terminal ② ~ ③)  
0.02%/°C max.  
-40°C~+85°C (See Fig 1)
- Temperature Coefficient
  - Operating Ambient Temp.
  - Max. Case Temperature
  - Storage Temperature
  - Isolation Voltage
- 50°C~+115°C  
AC2000V one minute  
(Input-Output-Case)
- Isolation Impedance
- 100MΩ min. (at DC1000V)  
(Input-Output-Case)
- Weight
- Main Body : 100g max.  
Heat Sink : 40g max.
- Humidity
  - Shock
  - Vibration
- 20~95% RH  
490m/s<sup>2</sup> (11msec 3directions)  
10~55Hz 98m/s<sup>2</sup>  
(30minutes 3directions)
- Surface Structure
  - MTBF
  - Warranty
- 6 Sided Aluminum Case  
500,000H  
(Ta:25°C, 80%Load, Nominal Vin)  
5 years

### Terminal Outs & Dimensions (±0.5mm)

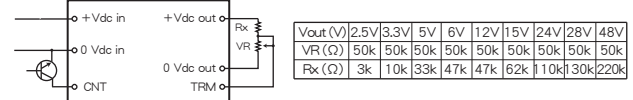


#### Terminal Outs

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

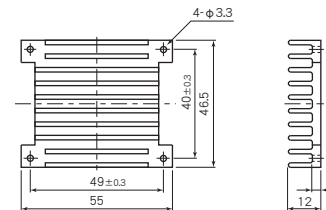
#### Application

ON/OFF Control and Vout Adjustment



Vout (V)	2.5V	3.3V	5V	6V	12V	15V	24V	28V	48V
VR (Ω)	50k	50k	50k	50k	50k	50k	50k	50k	50k
Rx (Ω)	3k	10k	33k	47k	47k	62k	110k	130k	220k

### Option Heat Sink



\* Option Heat Sink Model : A3-13988

### Selection Guide

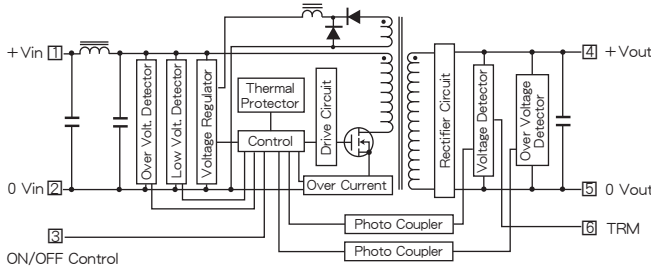
Table 1

Model Number	Input Volt. (Range) (V. DC)	Output Voltage (V. DC)	Output Current (A)	Efficiency (Typical)(%)	
				20% Load	80% Load
BRM12-2.5S 8A	12 (8~18)	2.5	8	82	85
BRM12-3.3S 7A		3.3	7	84	87
BRM12-5S 6A		5	6	84	90
BRM12-6S 5A		6	5	84	90
BRM12-1.2S 2.5A		12	2.5	84	90
BRM12-1.5S 2A		15	2	84	90
BRM12-2.4S 1.25A		24	1.25	84	90
BRM12-2.8S 1.07A		28	1.07	84	90
BRM12-4.8S 0.6A		48	0.6	84	90
BRM24-2.5S 8A		24 (16~36)	2.5	8	82
BRM24-3.3S 7A	3.3		7	84	87
BRM24-5S 6A	5		6	84	90
BRM24-6S 5A	6		5	84	90
BRM24-1.2S 2.5A	12		2.5	84	90
BRM24-1.5S 2A	15		2	84	90
BRM24-2.4S 1.25A	24		1.25	84	90
BRM24-2.8S 1.07A	28		1.07	84	90
BRM24-4.8S 0.6A	48		0.6	84	90
BRM48-2.5S 8A	48 (32~76)		2.5	8	82
BRM48-3.3S 7A		3.3	7	84	87
BRM48-5S 6A		5	6	84	90
BRM48-6S 5A		6	5	84	90
BRM48-1.2S 2.5A		12	2.5	84	90
BRM48-1.5S 2A		15	2	84	90
BRM48-2.4S 1.25A		24	1.25	84	90
BRM48-2.8S 1.07A		28	1.07	84	90
BRM48-4.8S 0.6A		48	0.6	84	90
BRM100-2.5S 8A		100 (64~144)	2.5	8	82
BRM100-3.3S 7A	3.3		7	84	87
BRM100-5S 6A	5		6	84	90
BRM100-6S 5A	6		5	84	90
BRM100-1.2S 2.5A	12		2.5	84	90
BRM100-1.5S 2A	15		2	84	90
BRM100-2.4S 1.25A	24		1.25	84	90
BRM100-2.8S 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.

# BRM SERIES DATA SHEET

## Block Diagram



## Characteristic Curves

Fig 1 Derating Curve

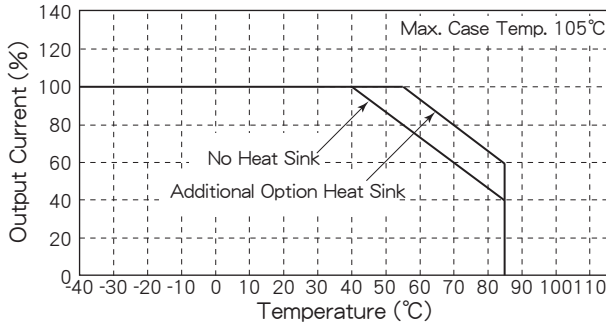


Fig 2 Short Circuit Operating Area

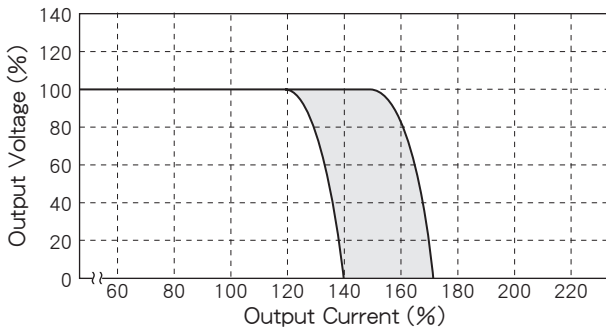


Fig 3 Temperature Characteristic on Case Surface

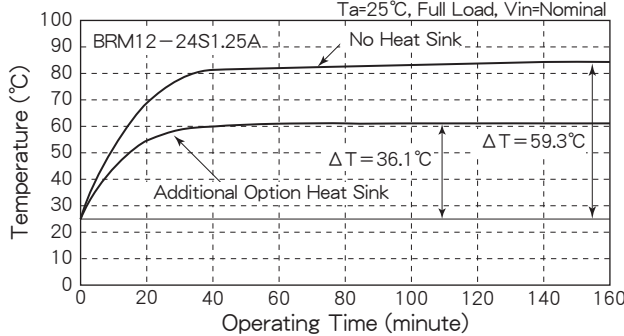


Fig 4 Efficiency vs. Output Current (Vin=12V)

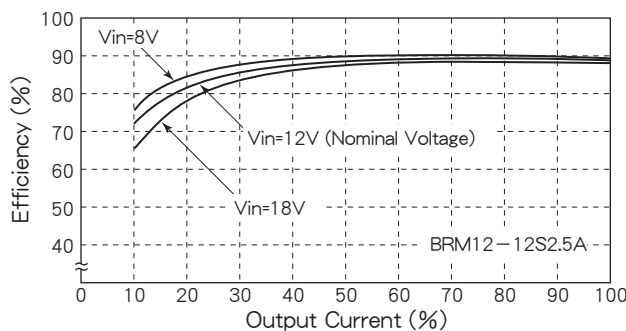


Fig 5 Efficiency vs. Output Current (Vin=12V)

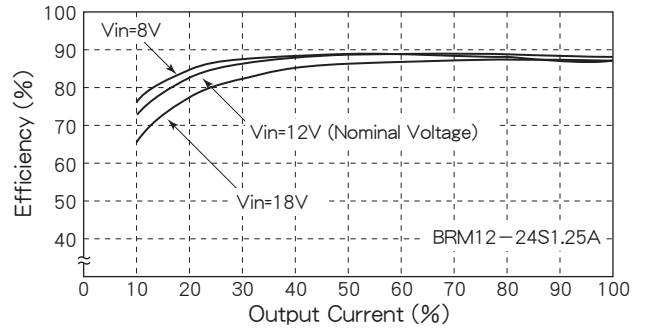


Fig 6 Efficiency vs. Output Current (Vin=24V)

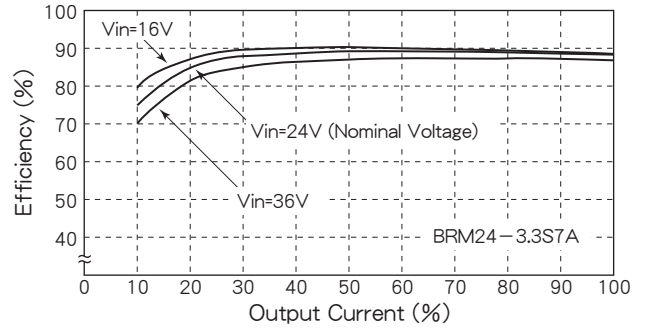


Fig 7 Efficiency vs. Output Current (Vin=24V)

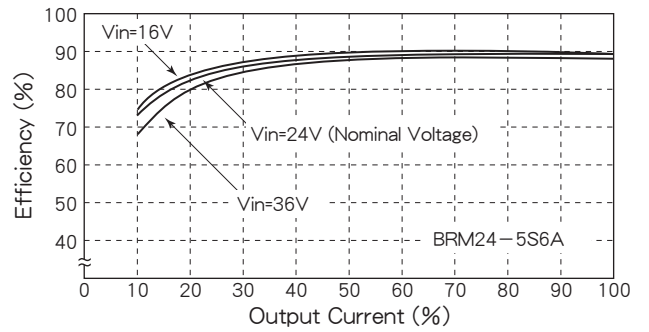


Fig 8 Efficiency vs. Output Current (Vin=48V)

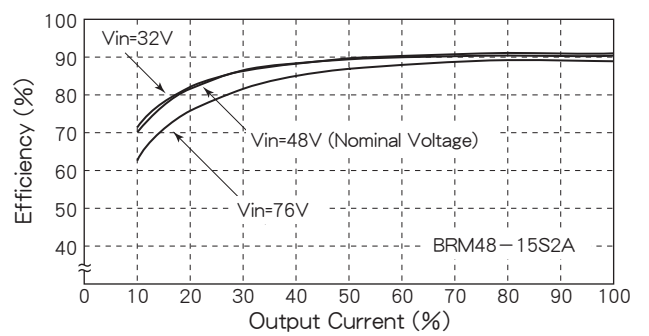


Fig 9 Efficiency vs. Output Current (Vin=100V)

