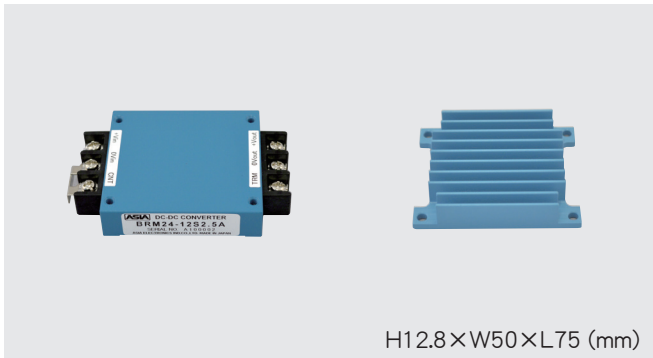


# BRM SERIES

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



H12.8×W50×L75 (mm)

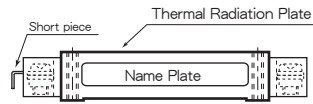
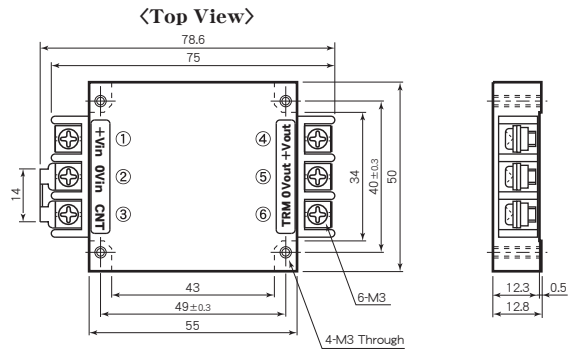
### Features

- Low Profile 12.8mm
  - Built-in Input Filter
  - Input-Output Isolation (AC2000V)
  - High Efficiency 87~90%
  - Wide Input Voltage Range
  - High Reliability
  - 6 Sided Metal Shielding
  - Remote ON/OFF Control
  - Adjustable Output Volt.  $\pm 5\%$
  - 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 12.8mm
  - 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  $\pm 5\%$
  - 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

### General Characteristics

- Input Voltage, Range
- Output Voltage, Current
- Output Voltage Accuracy  $\pm 2\%$   
 $\pm 3\%$  (3.3, 5, 6V Vout only)  
 $\pm 5\%$  Adjustable (Used trimmer)
- 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. -40°C~+85°C (See Fig. 1)
- Max. Case Temperature +105°C
- Storage Temperature -50°C~+115°C
- Isolation Voltage AC2000V one minute (Input-Output-Case)
- Isolation Impedance 100M $\Omega$  min. (at DC1000V) (Input-Output-Case)
- Weight Main Body : 100g max. Heat Sink : 40g max.
- Humidity 20~95% RH
- Shock 490m/s<sup>2</sup> (11msec 3directions)
- Vibration 10~55Hz 98m/s<sup>2</sup> (30minutes 3directions)
- Surface Structure 6 Sided Aluminum Case
- MTBF 500,000H (Ta : 25°C, 80% Load, Nominal Vin)
- Warranty 5 years

### Terminal Outs & Dimensions ( $\pm 0.5$ mm)

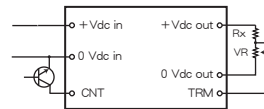


#### Terminal Outs

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

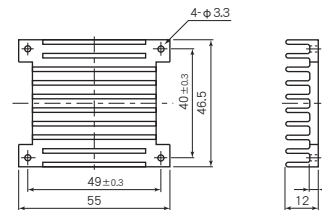
#### Application

ON/OFF Control and Vout Adjustment



Vout (V)	3.3V	5V	6V	12V	15V	24V	28V	48V
VR ( $\Omega$ )	50k	50k	50k	50k	50k	50k	50k	50k
Rx ( $\Omega$ )	10k	33k	47k	47k	62k	110k	30k	220k

### Option Heat Sink



\* Option Heat Sink Model : A3-13988

### Selection Guide

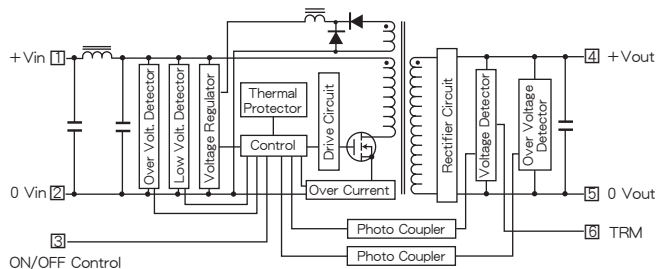
Table 1

Model Number	Input Volt. (Range) (V. DC)	Output Voltage (V. DC)	Output Current (A)	Efficiency (Typical)(%)		
				20% Load	80% Load	
BRM12-3.3S 7A	12 (8~18)	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	
BRM24-3.3S 7A		24 (16~36)	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	
BRM48-3.3S 7A	48 (32~76)		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	
BRM100-3.3S 7A		100 (64~144)	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.

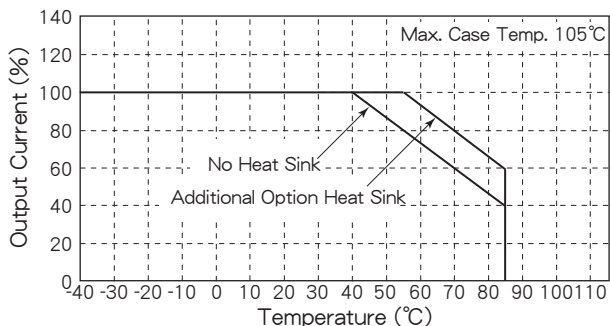
# BRM SERIES DATA SHEET

## Block Diagram

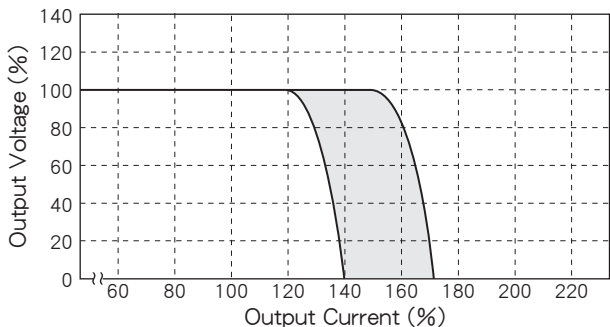


## Characteristic Curves

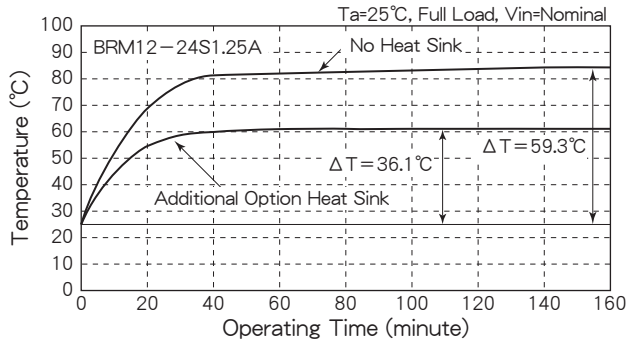
**Fig. 1 Derating Curve**



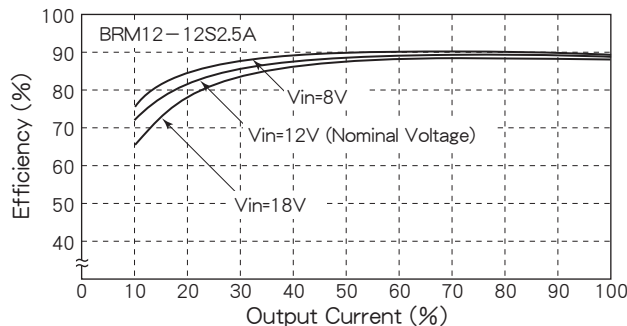
**Fig. 2 Short Circuit Operating Area**



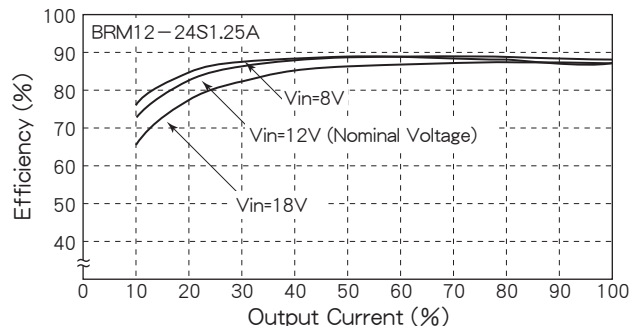
**Fig. 3 Temperature Characteristic on Case Surface**



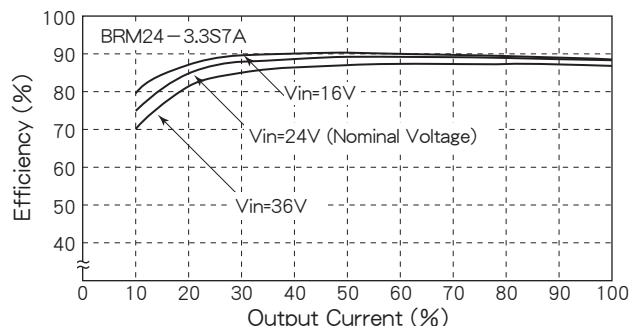
**Fig. 4 Efficiency vs. Output Current (Vin=12V)**



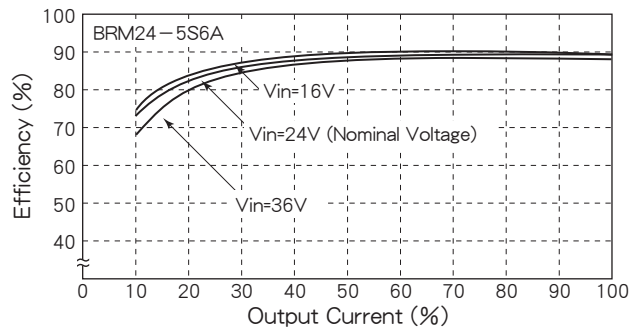
**Fig. 5 Efficiency vs. Output Current (Vin=12V)**



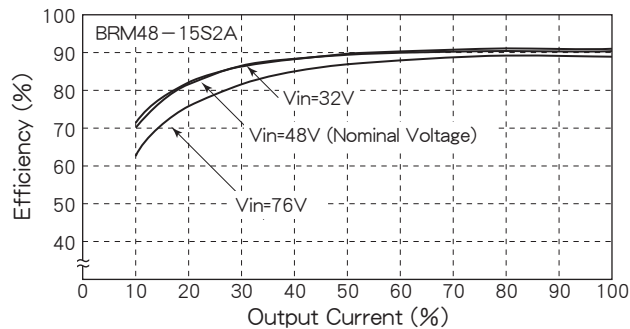
**Fig. 6 Efficiency vs. Output Current (Vin=24V)**



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



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



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

