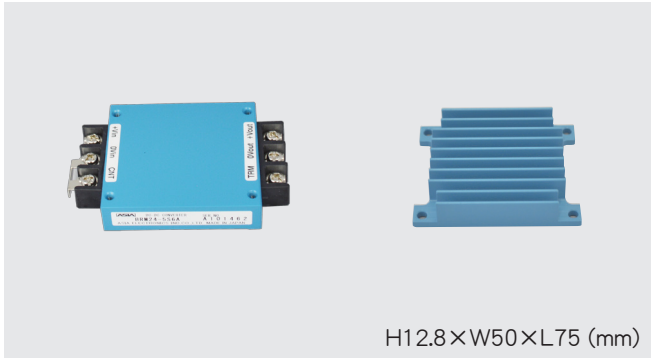


# BRM SERIES

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



H12.8×W50×L75 (mm)

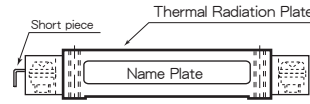
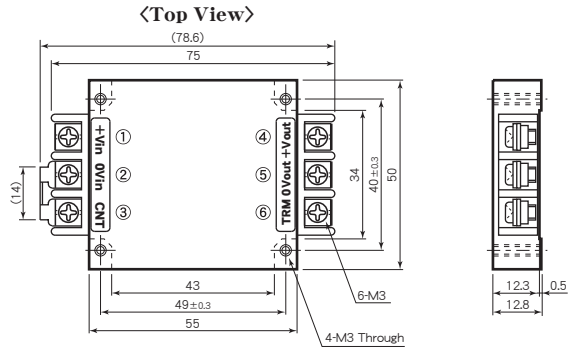
### Features

- 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.
  - Max. Case Temperature
  - Storage Temperature
  - Isolation Voltage
  - Isolation Impedance
  - Weight
  - Humidity
  - Shock
  - Vibration
  - Surface Structure
  - MTBF
  - Warranty
- (at Ta : 25°C, Full Load, Nominal Vin)  
DC12, 24, 48, 100V (See Table 1)  
See Table 1  
See Table 1  
 $\pm 0.3\%$  max. (at Vin Range)  
 $\pm 0.5\%$  max. (0~100% Load)  
3% Vin) Vp-p max.  
40mVp-p max.  
100mVp-p max. (48V Vout only)  
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 terminal 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)  
100M $\Omega$  min. (at DC1000V)  
(Input-Output-Case)  
Main Body : 100g 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  
500,000H  
(Ta : 25°C, 80% Load, Nominal Vin)  
5 years

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

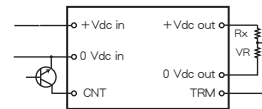


#### Terminal Outs

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

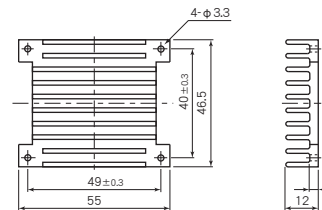
#### Application

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

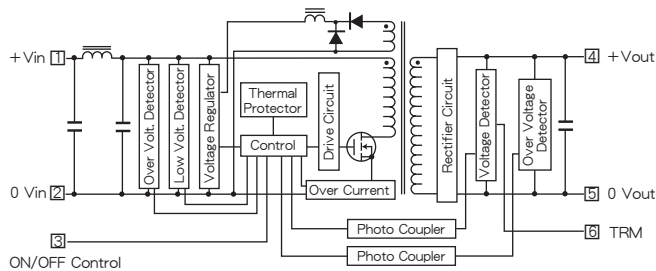
Table 1

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.

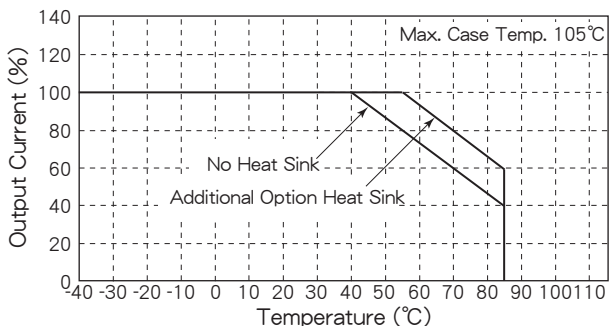
# BRM SERIES DATA SHEET

## Block Diagram

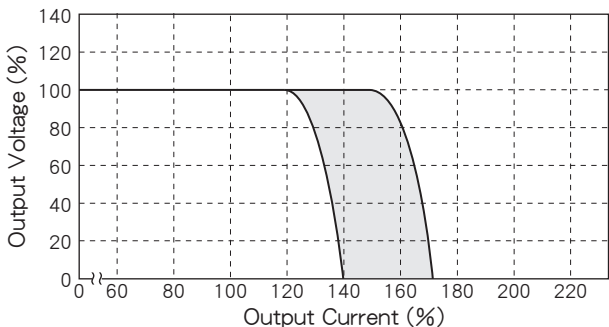


## Characteristic Curves

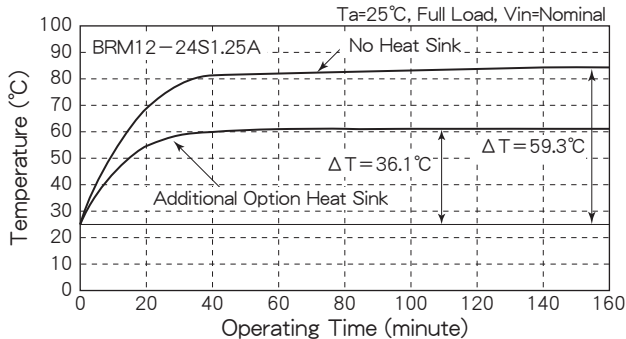
**Fig. 1 Derating Curve**



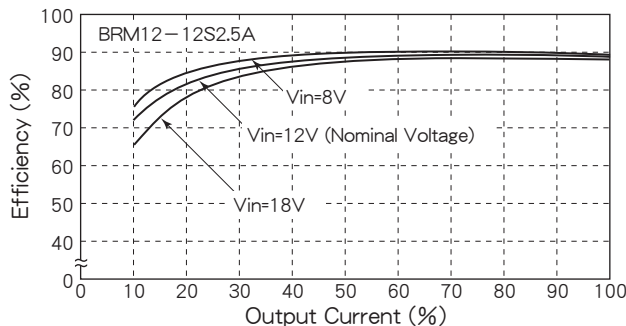
**Fig. 2 Short Circuit Operating Area**



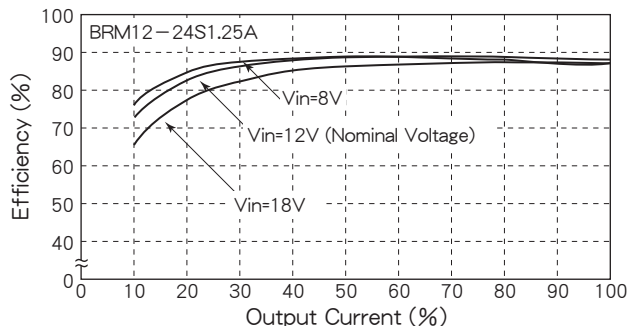
**Fig. 3 Temperature Characteristic on Case Surface**



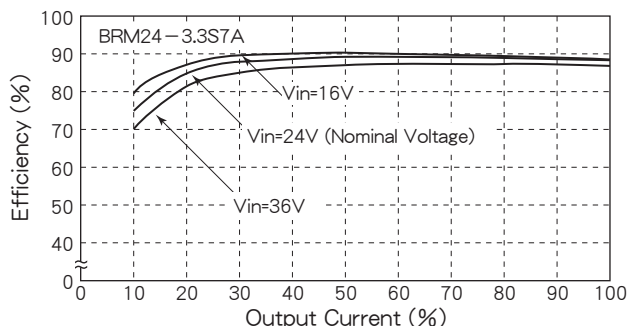
**Fig. 4 Efficiency vs. Output Current**



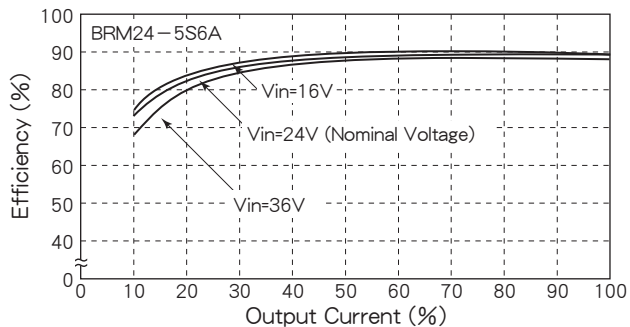
**Fig. 5 Efficiency vs. Output Current**



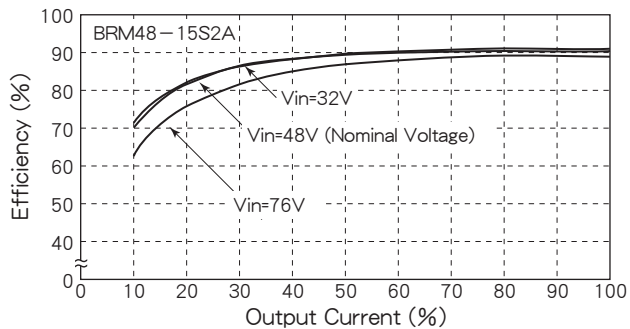
**Fig. 6 Efficiency vs. Output Current**



**Fig. 7 Efficiency vs. Output Current**



**Fig. 8 Efficiency vs. Output Current**



**Fig. 9 Efficiency vs. Output Current**

