

# BTM SERIES

## 80~100W DC/DC CONVERTERS Single Output



H12.8×W50×L118 (mm)

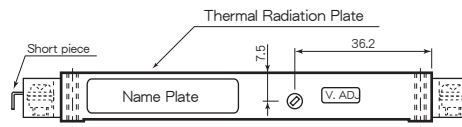
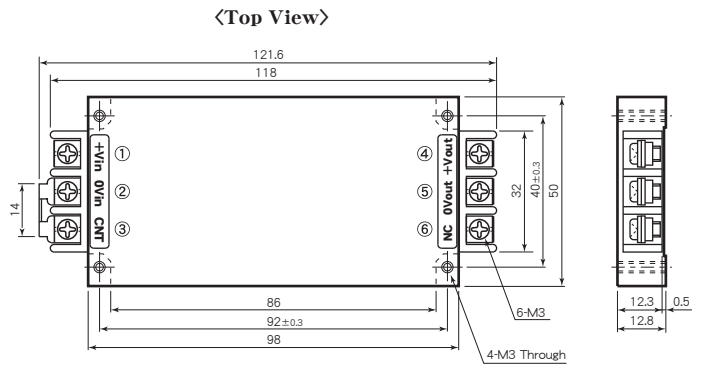
### Features

- Low Profile 12.8mm
  - Built-in Input Filter
  - Input-Output Isolation
  - High Efficiency 88~91%
  - Wide Input Voltage Range
  - High Reliability
  - 6 Sided Metal Shielding
  - Remote ON/OFF Control
  - Adjustable Output Voltage  $\pm 5\%$
  - 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 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
  - 高効率 88~91%
  - 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
  - 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 Range
  - Efficiency
  - Line Regulation
  - Load Regulation
  - Reflected Input Ripple, Noise
  - Output Ripple
  - Output Noise
  - Short Circuit Protection
  - Over Voltage Protection
  - Remote ON/OFF Control
- (at Ta:25°C, Full Load, Nominal Vin)  
DC12V, 24V, 48V, 100V (See Table 1)  
See Table 1  
 $\pm 5\%$  Adjustable  
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.  
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  
-55°C~+125°C  
AC1500V 1 min. (12V, 24V, 48V Input)  
AC2000V 1 min. (100V Input)  
(Input-Output-Case)  
100M $\Omega$  min. (at DC1000V)  
(Input-Output-Case)  
Main Body : 170g max.  
Heat Sink : 73g max.  
20~95% RH  
490m/s<sup>2</sup> (11msec 3directions)  
10~55Hz 98m/s<sup>2</sup>  
(30minutes 3directions)  
6 Sided Aluminum Case  
400,000H  
(Ta:25°C, 80%Load, Nominal Vin)  
5 years
- Isolation Impedance
  - Weight
  - Humidity
  - Shock
  - Vibration
  - Surface Structure
  - MTBF
  - Warranty

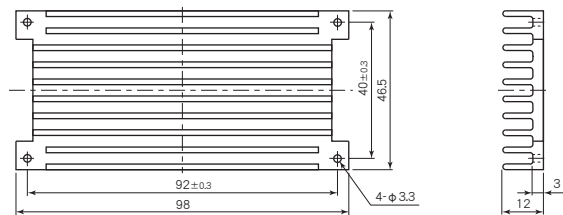
### Terminal Outs & Dimensions ( $\pm 0.5$ mm)



### Terminal Outs

| Single Output |                |
|---------------|----------------|
| ①             | +Vdc in        |
| ②             | 0 Vdc in       |
| ③             | ON/OFF Control |
| ④             | +Vdc out       |
| ⑤             | 0 Vdc out      |
| ⑥             | No Connection  |

### Option Heat Sink



\* Option Heat Sink Model : A3-13986

### Selection Guide

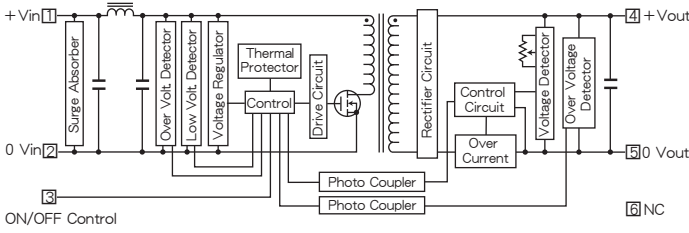
Table 1

| Model Number      | Input Volt. (Range) (V. DC) | Output Voltage (V. DC) | Output Current (A) | Efficiency (Typical)(%) |          |
|-------------------|-----------------------------|------------------------|--------------------|-------------------------|----------|
|                   |                             |                        |                    | 20% Load                | 80% Load |
| BTM 12-3.3S 24 A  | 12 (8~18)                   | 3.3                    | 24                 | 88                      | 88       |
| BTM 12- 5S 20 A   |                             | 5                      | 20                 | 87                      | 89       |
| BTM 12- 6S16.7A   |                             | 6                      | 16.7               | 87                      | 89       |
| BTM 12- 12S 8.4 A |                             | 12                     | 8.4                | 87                      | 89       |
| BTM 12- 15S 6.7 A |                             | 15                     | 6.7                | 86                      | 89       |
| BTM 12- 24S 4.2 A |                             | 24                     | 4.2                | 85                      | 89       |
| BTM 24-3.3S 24 A  | 24 (16~36)                  | 3.3                    | 24                 | 88                      | 88       |
| BTM 24- 5S 20 A   |                             | 5                      | 20                 | 88                      | 90       |
| BTM 24- 6S16.7A   |                             | 6                      | 16.7               | 88                      | 90       |
| BTM 24- 12S 8.4 A |                             | 12                     | 8.4                | 86                      | 90       |
| BTM 24- 15S 6.7 A |                             | 15                     | 6.7                | 86                      | 90       |
| BTM 24- 24S 4.2 A |                             | 24                     | 4.2                | 86                      | 90       |
| BTM 48-3.3S 24 A  | 48 (32~72)                  | 3.3                    | 24                 | 87                      | 88       |
| BTM 48- 5S 20 A   |                             | 5                      | 20                 | 87                      | 90       |
| BTM 48- 6S16.7A   |                             | 6                      | 16.7               | 87                      | 90       |
| BTM 48- 12S 8.4 A |                             | 12                     | 8.4                | 87                      | 91       |
| BTM 48- 15S 6.7 A |                             | 15                     | 6.7                | 86                      | 91       |
| BTM 48- 24S 4.2 A |                             | 24                     | 4.2                | 86                      | 91       |
| BTM100-3.3S 24 A  | 100 (64~144)                | 3.3                    | 24                 | 85                      | 88       |
| BTM100- 5S 20 A   |                             | 5                      | 20                 | 86                      | 90       |
| BTM100- 6S16.7A   |                             | 6                      | 16.7               | 86                      | 90       |
| BTM100- 12S 8.4 A |                             | 12                     | 8.4                | 86                      | 91       |
| BTM100- 15S 6.7 A |                             | 15                     | 6.7                | 86                      | 91       |
| BTM100- 24S 4.2 A |                             | 24                     | 4.2                | 86                      | 89       |

※ 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.

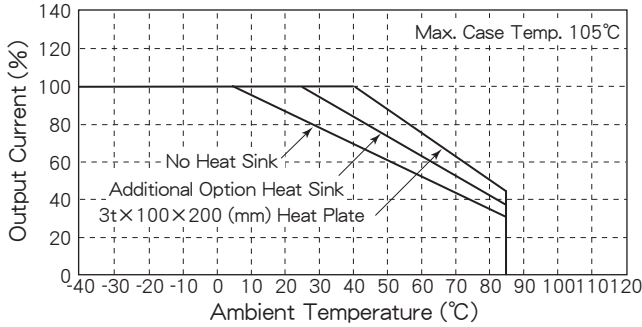
# BTM SERIES DATA SHEET

## Block Diagram

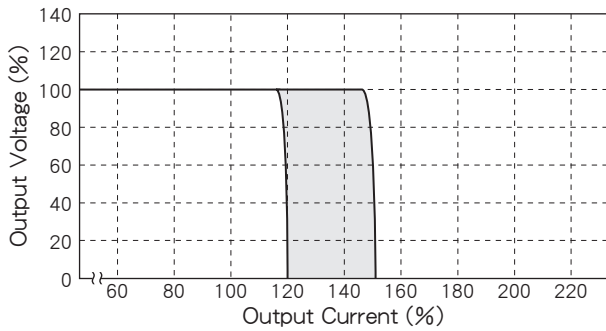


## Characteristic Curves

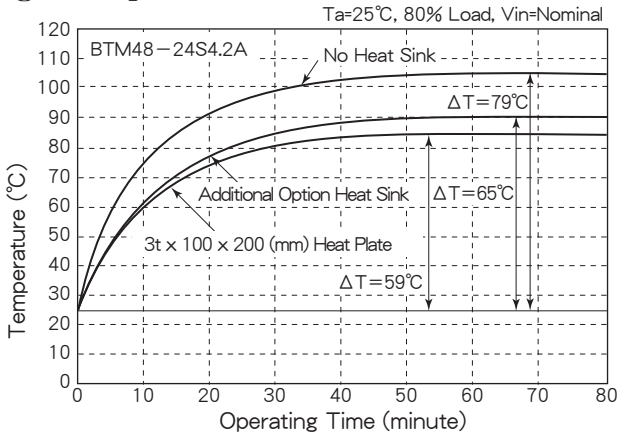
**Fig 1 Derating Curve**



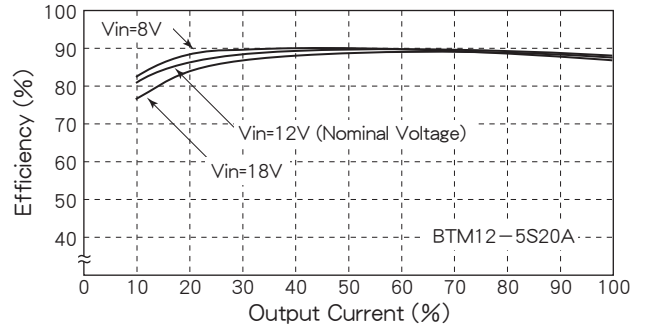
**Fig 2 Short Circuit Operating Area**



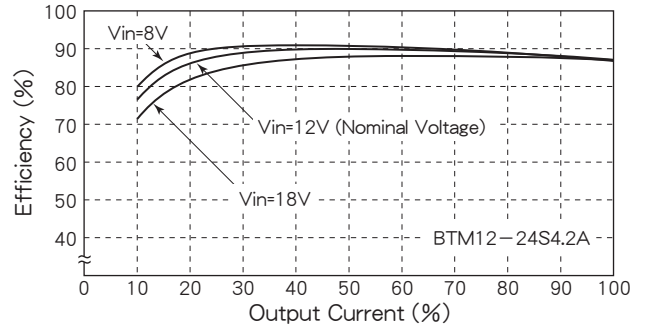
**Fig 3 Temperature Characteristic on Case Surface**



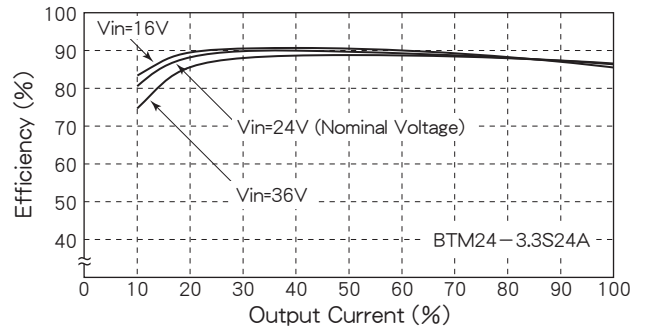
**Fig 4 Efficiency vs. Output Current (Vin=12V)**



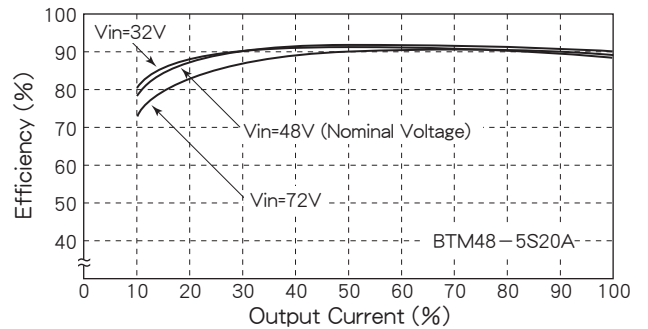
**Fig 5 Efficiency vs. Output Current (Vin=12V)**



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



**Fig 7 Efficiency vs. Output Current (Vin=48V)**



**Fig 8 Efficiency vs. Output Current (Vin=100V)**

