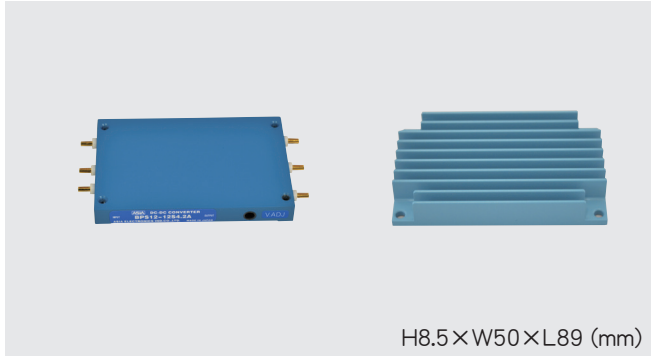


# BPS SERIES

## 20~50W DC/DC CONVERTERS Single Output & Dual Outputs



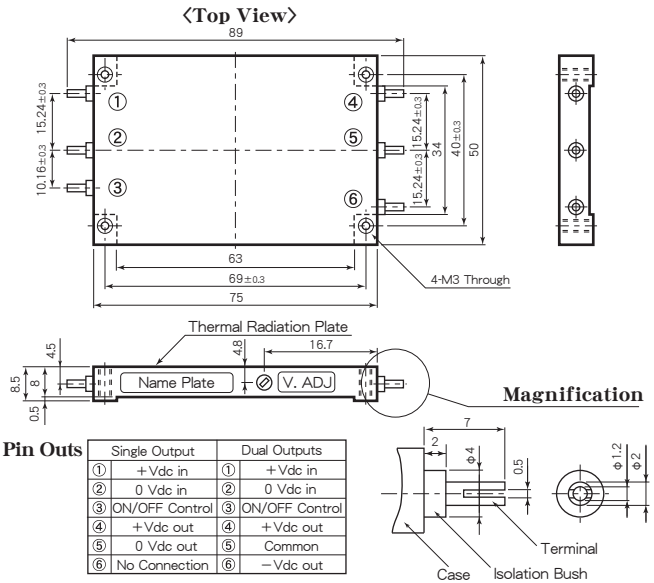
### Features

- Low Profile 8.5mm
- 6 Sided Metal Shielding
- Built-in Input Filter
- Wide Input Voltage Range
- Input-Output Isolation
- Adjustable Output Volt.  $\pm 5\%$
- High Efficiency 81~90%
- Remote ON/OFF Control
- 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
- High Reliability
- Conformity to RoHS Directive
- Not built-in aluminum and tantalum electrolytic capacitor
- 薄型 8.5mm
- 6面メタルシールド
- 入力フィルタ内蔵
- 広範囲な入力電圧
- 入出力間絶縁
- 可変出力電圧  $\pm 5\%$
- 高効率 81~90%
- リモートON/OFFコントロール
- 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
- 高信頼性
- 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

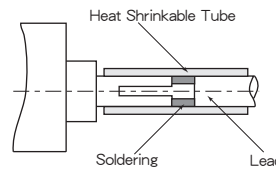
### General Characteristics

- 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
  - Temperature Coefficient
  - Operating Ambient Temp.
  - Max. Case Temperature
  - Storage Temperature
  - Isolation Voltage
  - Isolation Impedance
  - Weight
  - Humidity
  - Shock
  - Vibration
  - Surface Structure
  - MTBF
  - Warranty
- (at  $T_a$  : 25°C, Full Load, Nominal  $V_{in}$ )  
DC12, 24, 48, 100V (See Table 1)  
See Table 1  
 $\pm 5\%$  Adjustable  
See Table 1  
 $\pm 0.3\%$  max. (at  $V_{in}$  Range)  
Single :  $\pm 0.5\%$  max. (0~100% Load)  
Dual :  $\pm 3\%$  max. (10~100% Load)  
(3%  $V_{in}$ )  $V_p$ -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 pin ② ~ ③)  
0.02%/°C max.  
-40°C~+85°C (See Fig. 1)  
+105°C  
-40°C~+115°C  
AC1500V 1 min.  
AC2000V 1 min. (100V  $V_{in}$  only)  
(Input-Output-Case)  
100M $\Omega$  min. (at DC1000V)  
(Input-Output-Case)  
Main Body : 100g max.  
Heat Sink : 55g max.  
20~95% RH  
490m/s<sup>2</sup> (11msec 3directions)  
10~55Hz 98m/s<sup>2</sup>  
(30minutes 3directions)  
6 Sided Aluminum Case  
Single : 500,000H  
Dual : 600,000H  
( $T_a$  : 25°C, 80% Load, Nominal  $V_{in}$ )  
5 years

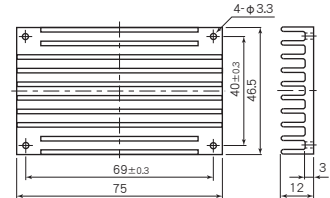
### Pin Outs & Dimensions ( $\pm 0.5$ mm)



### Soldering Method



### Option Heat Sink



### Selection Guide

Table 1

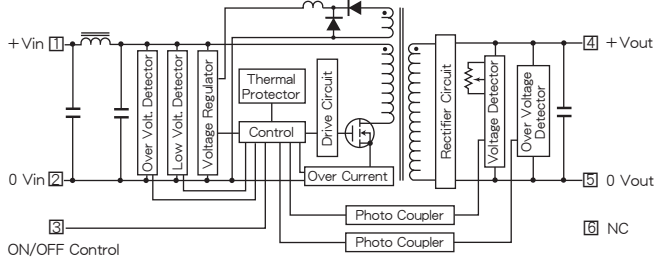
Model Number	Input Volt. (Range) (V. DC)	Output Voltage (V. DC)	Output Current (A)	Efficiency (Typical)(%)		
				30% Load	80% Load	
BPS12-3.3S12A	12 (8~18)	3.3	12	87	85	
BPS12-5S10A		5	10	86	89	
BPS12-6S8.4A		6	8.4	87	87	
BPS12-12S4.2A		12	4.2	84	88	
BPS12-15S3.3A		15	3.3	83	88	
BPS12-24S2.1A		24	2.1	83	88	
BPS12-3.3D3A		$\pm 3.3$	$\pm 3$	80	81	
BPS12-5D3A		$\pm 5$	$\pm 3$	80	82	
BPS12-12D1.5A		$\pm 12$	$\pm 1.5$	81	83	
BPS12-15D1.2A		$\pm 15$	$\pm 1.2$	81	84	
BPS24-3.3S12A		24 (16~36)	3.3	12	84	85
BPS24-5S10A			5	10	85	88
BPS24-6S8.4A	6		8.4	87	89	
BPS24-12S4.2A	12		4.2	84	89	
BPS24-15S3.3A	15		3.3	85	89	
BPS24-24S2.1A	24		2.1	84	89	
BPS24-3.3D3A	$\pm 3.3$		$\pm 3$	80	81	
BPS24-5D3A	$\pm 5$		$\pm 3$	80	82	
BPS24-12D1.5A	$\pm 12$		$\pm 1.5$	81	84	
BPS24-15D1.2A	$\pm 15$		$\pm 1.2$	82	85	
BPS48-3.3S12A	48 (32~72)		3.3	12	85	86
BPS48-5S10A			5	10	85	88
BPS48-6S8.4A		6	8.4	85	88	
BPS48-12S4.2A		12	4.2	85	88	
BPS48-15S3.3A		15	3.3	85	90	
BPS48-24S2.1A		24	2.1	85	90	
BPS48-3.3D3A		$\pm 3.3$	$\pm 3$	80	81	
BPS48-5D3A		$\pm 5$	$\pm 3$	80	82	
BPS48-12D1.5A		$\pm 12$	$\pm 1.5$	81	84	
BPS48-15D1.2A		$\pm 15$	$\pm 1.2$	82	85	
BPS100-3.3S12A		100 (64~144)	3.3	12	84	87
BPS100-5S10A			5	10	86	89
BPS100-6S8.4A	6		8.4	84	89	
BPS100-12S4.2A	12		4.2	85	90	
BPS100-15S3.3A	15		3.3	85	90	
BPS100-24S2.1A	24		2.1	85	90	
BPS100-3.3D3A	$\pm 3.3$		$\pm 3$	80	81	
BPS100-5D3A	$\pm 5$		$\pm 3$	80	82	
BPS100-12D1.5A	$\pm 12$		$\pm 1.5$	81	84	
BPS100-15D1.2A	$\pm 15$		$\pm 1.2$	82	85	

※ 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.

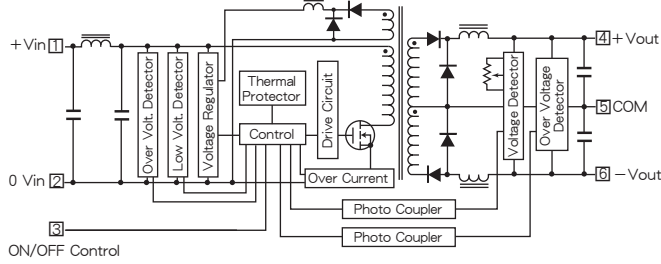
# BPS SERIES DATA SHEET

## Block Diagram

### Single Output



### Dual Outputs



## Characteristic Curves

Fig. 1 Derating Curve

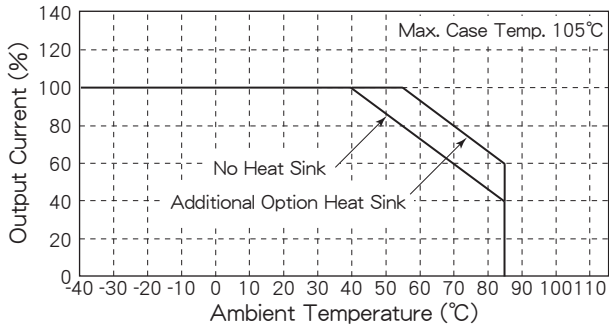


Fig. 2 Short Circuit Operating Area

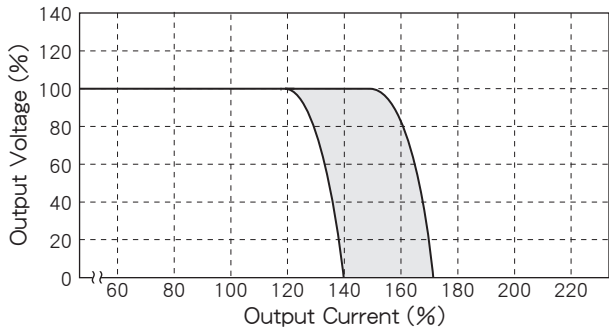


Fig. 3 Temperature Characteristic on Case Surface

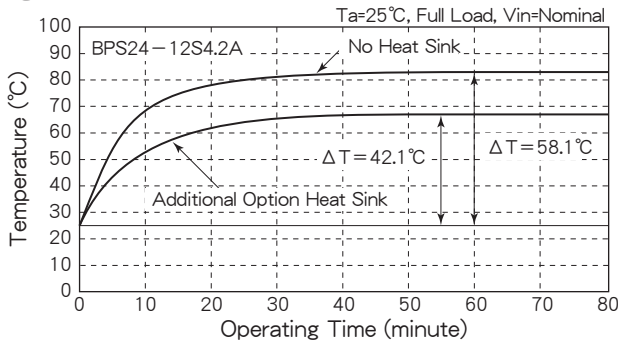


Fig. 4 Efficiency vs. Output Current (Vin=12V)

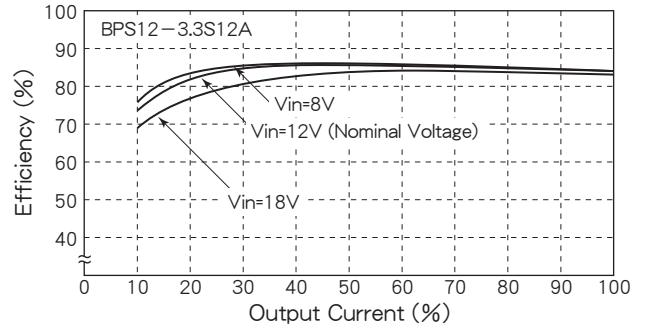


Fig. 5 Efficiency vs. Output Current (Vin=24V)

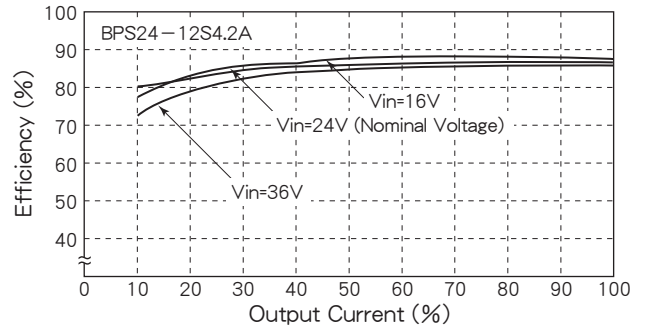


Fig. 6 Efficiency vs. Output Current (Vin=100V)

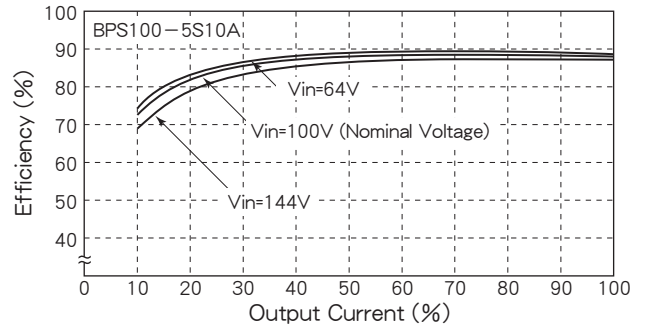


Fig. 7 Efficiency vs. Output Current (Vin=100V)

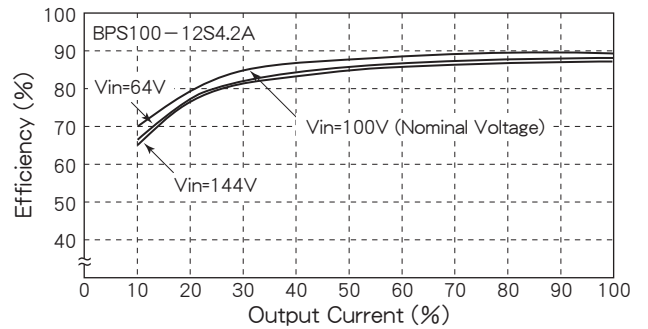


Fig. 8 Efficiency vs. Output Current (Vin=12V)

