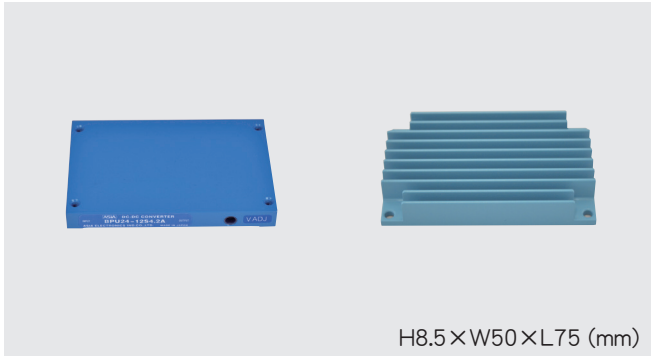


BPU SERIES

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



H8.5×W50×L75 (mm)

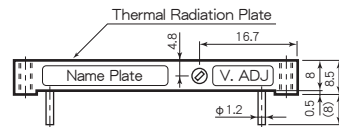
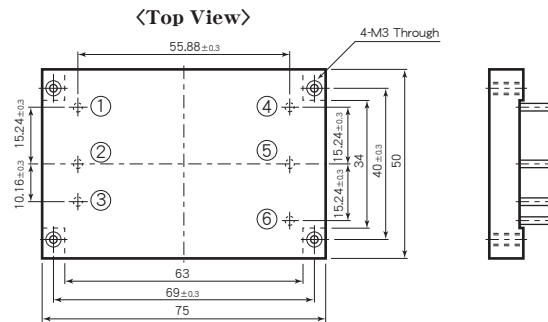
Features

- 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 RoHS2 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
 - 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 DC12, 24, 48, 100, 140V (See Table 1)
- Output Voltage, Current See Table 1
- Output Voltage Range $\pm 5\%$ Adjustable
- Efficiency See Table 1
- Line Regulation $\pm 0.3\%$ max. (at Vin Range)
- Load Regulation Single : $\pm 0.5\%$ max. (0~100% Load)
Dual : $\pm 3\%$ max. (10~100% Load)
(3% Vin)Vp-p max.
- Reflected Input Ripple, Noise 40mVp-p max.
- Output Ripple 100mVp-p max.
- Output Noise Built-in, Auto-restart (See Fig. 2)
- Short Circuit Protection 115~140% Output Voltage
- Over Voltage Protection ON : Short or 0~0.8V
- Remote ON/OFF Control OFF : Open or 2~10V (Between pin ② ~ ③)
- Temperature Coefficient 0.02%/°C max.
- Operating Ambient Temp. -40°C~+85°C (See Fig. 1)
- Max. Case Temperature +105°C
- Storage Temperature -40°C~+115°C
- Isolation Voltage AC1500V 1 min.
AC2000V 1 min. (100V, 140V Vin only)
(Input-Output-Case)
100M Ω min. (at DC1000V)
(Input-Output-Case)
- Isolation Impedance 100M Ω min. (at DC1000V)
(Input-Output-Case)
- Weight Main Body : 100g max.
Heat Sink : 55g max.
- Humidity 20~95% RH
- Shock 490m/s² (11msec 3directions)
- Vibration 10~55Hz 98m/s²
(30minutes 3directions)
- Surface Structure 6 Sided Aluminum Case
- Soldering Conditions Soldering DIP
Soldering iron
- MTBF 260°C, for 15 seconds max.
360°C, for 5 seconds max.
Single : 500,000H
Dual : 600,000H
(Ta : 25°C, 80% Load, Nominal Vin)
- Warranty 5 years

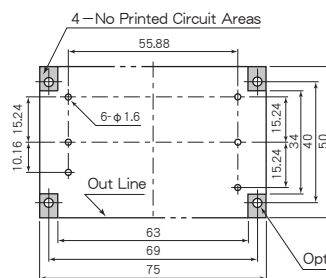
Pin Outs & Dimensions (± 0.5 mm)



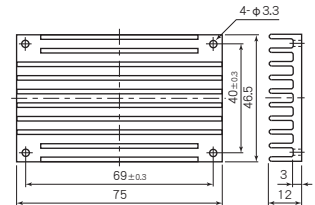
Pin Outs

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

Holes on PCB (Top View)



Option Heat Sink



* Option Heat Sink Model : A4-3079

Selection Guide

Table 1

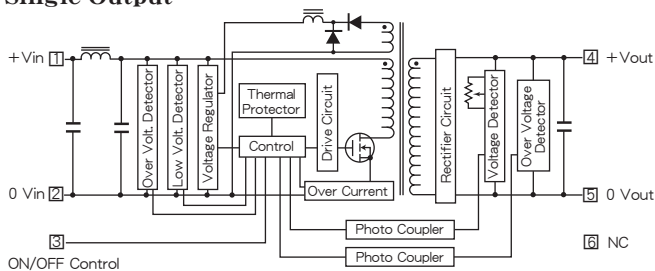
Model Number	Input Voltage (Range) (V. DC)	Output Voltage (V. DC)	Output Current (A)	Efficiency (typ.) (%)		
				30% Load	80% Load	
BPU 1 2 - 3.3S 12A	12 (8~18)	3.3	12	87	85	
BPU 1 2 - 5S 10A		5	10	86	89	
BPU 1 2 - 6S 8.4A		6	8.4	87	87	
BPU 1 2 - 12S 4.2A		12	4.2	84	88	
BPU 1 2 - 15S 3.3A		15	3.3	83	88	
BPU 1 2 - 24S 2.1A		24	2.1	83	88	
BPU 1 2 - 3.3D 3A		± 3.3	± 3	80	81	
BPU 1 2 - 5D 3A		± 5	± 3	80	82	
BPU 1 2 - 12D 1.5A		± 12	± 1.5	81	83	
BPU 1 2 - 15D 1.2A		± 15	± 1.2	81	84	
BPU 2 4 - 3.3S 12A		24 (16~36)	3.3	12	84	85
BPU 2 4 - 5S 10A			5	10	85	88
BPU 2 4 - 6S 8.4A			6	8.4	87	89
BPU 2 4 - 12S 4.2A			12	4.2	84	89
BPU 2 4 - 15S 3.3A			15	3.3	85	89
BPU 2 4 - 24S 2.1A			24	2.1	84	89
BPU 2 4 - 3.3D 3A			± 3.3	± 3	80	81
BPU 2 4 - 5D 3A			± 5	± 3	80	82
BPU 2 4 - 12D 1.5A	± 12		± 1.5	81	84	
BPU 2 4 - 15D 1.2A	± 15		± 1.2	82	85	
BPU 4 8 - 3.3S 12A	48 (32~72)		3.3	12	85	86
BPU 4 8 - 5S 10A			5	10	85	88
BPU 4 8 - 6S 8.4A			6	8.4	85	88
BPU 4 8 - 12S 4.2A			12	4.2	85	88
BPU 4 8 - 15S 3.3A			15	3.3	85	90
BPU 4 8 - 24S 2.1A			24	2.1	85	90
BPU 4 8 - 3.3D 3A			± 3.3	± 3	80	81
BPU 4 8 - 5D 3A			± 5	± 3	80	82
BPU 4 8 - 12D 1.5A		± 12	± 1.5	81	84	
BPU 4 8 - 15D 1.2A		± 15	± 1.2	82	85	
BPU 100 - 3.3S 12A		100 (64~144)	3.3	12	84	87
BPU 100 - 5S 10A			5	10	86	89
BPU 100 - 6S 8.4A			6	8.4	84	89
BPU 100 - 12S 4.2A			12	4.2	85	90
BPU 100 - 15S 3.3A			15	3.3	85	90
BPU 100 - 24S 2.1A			24	2.1	85	90
BPU 100 - 3.3D 3A			± 3.3	± 3	80	81
BPU 100 - 5D 3A			± 5	± 3	80	82
BPU 100 - 12D 1.5A	± 12		± 1.5	81	84	
BPU 100 - 15D 1.2A	± 15		± 1.2	82	85	
BPU 140 - 3.3S 12A	140 (90~200)		3.3	12	84	87
BPU 140 - 5S 10A			5	10	86	89
BPU 140 - 12S 4.2A			12	4.2	85	90
BPU 140 - 24S 2.1A			24	2.1	85	90
BPU 140 - 48S 1.05A			48	1.05	85	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.

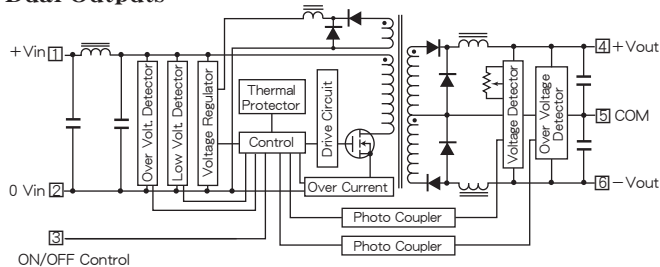
BPU SERIES DATA SHEET

Block Diagram

Single Output



Dual Outputs



Characteristic Curves

Fig. 1 Derating Curve

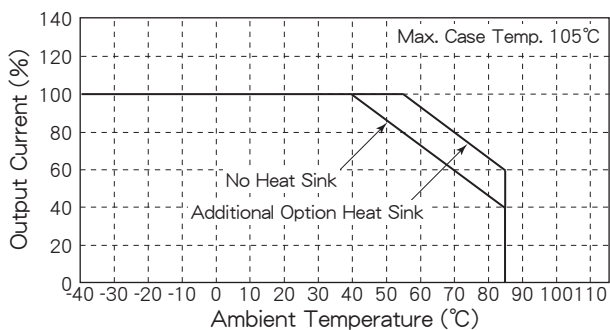


Fig. 2 Short Circuit Operating Area

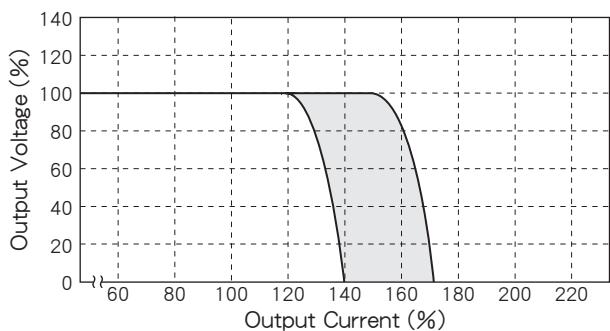


Fig. 3 Temperature Characteristic on Case Surface

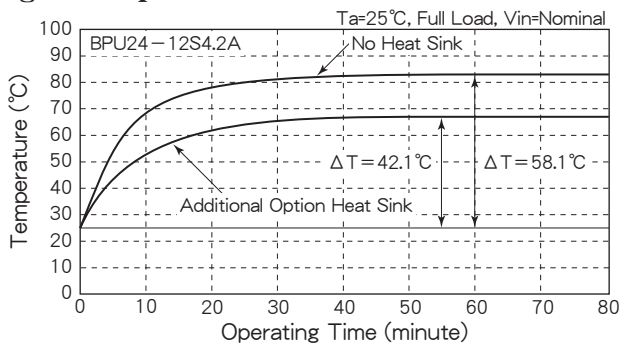


Fig. 4 Efficiency vs. Output Current (Vin=12V)

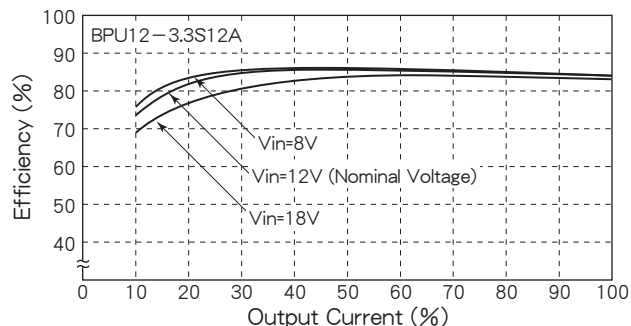


Fig. 5 Efficiency vs. Output Current (Vin=24V)

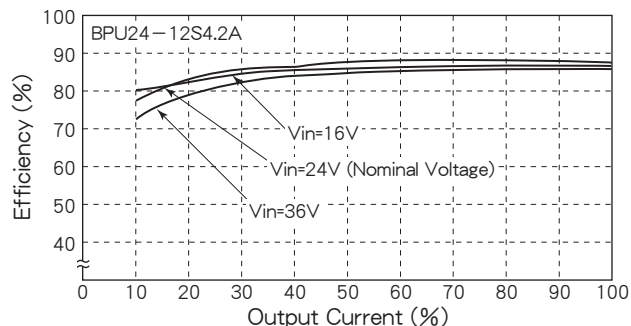


Fig. 6 Efficiency vs. Output Current (Vin=100V)

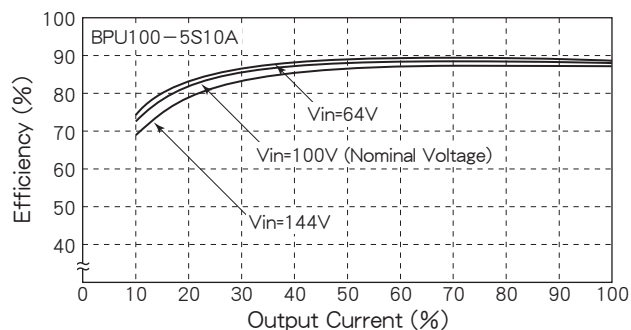


Fig. 7 Efficiency vs. Output Current (Vin=100V)

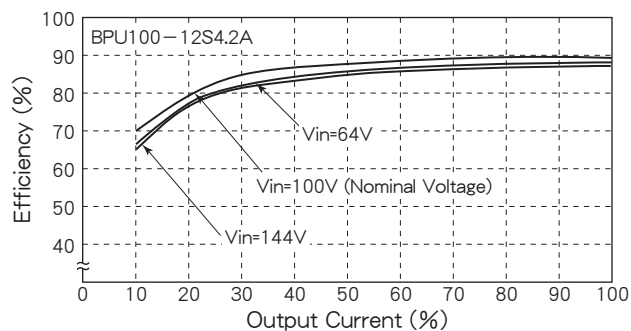


Fig. 8 Efficiency vs. Output Current (Vin=12V)

