

# BTU SERIES

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



H12.8×W50×L98 (mm)

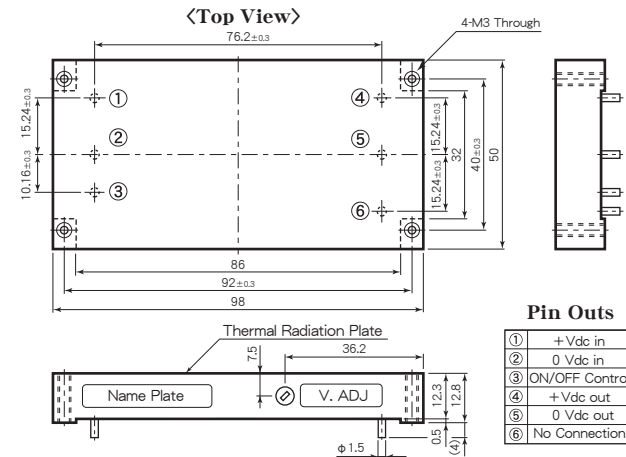
### Features

- 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 ±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
  - 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 ±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

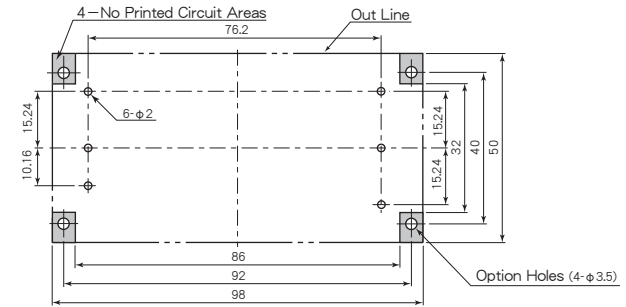
### General Characteristics

- Input Voltage, Range DC12, 24, 48, 100, 140V (See Table 1)
- Output Voltage, Current See Table 1
- Output Voltage Range ±5% Adjustable
- Efficiency See Table 1
- Line Regulation ±0.3% max. (at Vin Range)
- Load Regulation ±0.5% max. (0~100% Load)
- Reflected Input Ripple, Noise (3% Vin)Vp-p max.
- Output Ripple 40mVp-p max.
- Output Noise 100mVp-p max.
- Short Circuit Protection Built-in, Auto-restart (See Fig. 2)
- Over Voltage Protection 115~140% Output Voltage
- Remote ON/OFF Control ON : Short or 0~0.8V  
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 -55°C~+125°C
- Isolation Voltage AC1500V 1 min.  
AC2000V 1 min. (100V, 140V Vin only)  
(Input-Output-Case)  
100MΩ min. (at DC1000V)  
(Input-Output-Case)
- Isolation Impedance Main Body : 170g max.  
Heat Sink : 73g max.
- Weight 20~95% RH
- Humidity 490m/s<sup>2</sup> (11msec 3directions)
- Shock 10~55Hz 98m/s<sup>2</sup>  
(30minutes 3directions)
- Vibration 6 Sided Aluminum Case
- Surface Structure 260°C, for 15 seconds max.
- Soldering Conditions Soldering DIP  
Soldering iron 360°C, for 5 seconds max.
- MTBF 400,000H  
(Ta : 25°C, 80% Load, Nominal Vin)
- Warranty 5 years

### Pin Outs & Dimensions (±0.5mm)

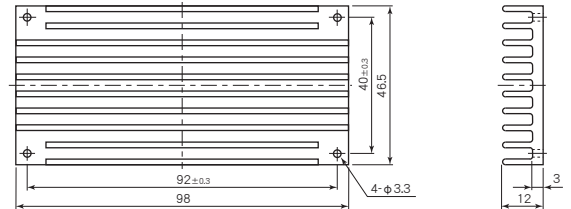


### Holes on PCB (Top View)



### Option Heat Sink

\* Option Heat Sink Model : A3-7292



### Selection Guide

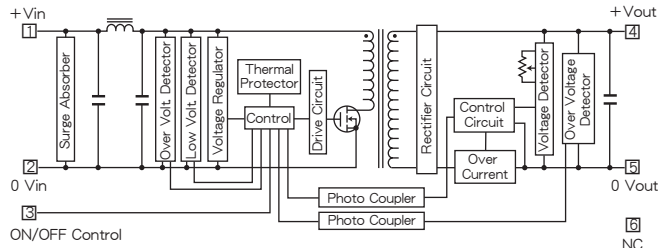
Table 1

Model Number	Input Volt. (Range) (V. DC)	Output Voltage (V. DC)	Output Current (A)	Efficiency (Typical)(%)	
				20% Load	80% Load
BTU 12-3.3S 24A	12 (8~18)	3.3	24	88	88
BTU 12-5S 20A		5	20	87	89
BTU 12-6S16.7A		6	16.7	87	89
BTU 12-12S 8.4A		12	8.4	87	89
BTU 12-15S 6.7A		15	6.7	86	89
BTU 12-24S 4.2A		24	4.2	85	89
BTU 24-3.3S 24A	24 (16~36)	3.3	24	88	88
BTU 24-5S 20A		5	20	88	90
BTU 24-6S16.7A		6	16.7	88	90
BTU 24-12S 8.4A		12	8.4	86	90
BTU 24-15S 6.7A		15	6.7	86	90
BTU 24-24S 4.2A		24	4.2	86	90
BTU 48-3.3S 24A	48 (32~72)	3.3	24	87	88
BTU 48-5S 20A		5	20	87	90
BTU 48-6S16.7A		6	16.7	87	90
BTU 48-12S 8.4A		12	8.4	87	91
BTU 48-15S 6.7A		15	6.7	86	91
BTU 48-24S 4.2A		24	4.2	86	91
BTU100-3.3S 24A	100 (64~144)	3.3	24	85	88
BTU100-5S 20A		5	20	86	90
BTU100-6S16.7A		6	16.7	86	90
BTU100-12S 8.4A		12	8.4	86	91
BTU100-15S 6.7A		15	6.7	86	91
BTU100-24S 4.2A		24	4.2	86	89
BTM140-5S 20A	140 (90~200)	5	20	86	90
BTM140-12S 8.4A		12	8.4	86	91
BTM140-24S 4.2A		24	4.2	86	89
BTM140-48S 2.1A		48	2.1	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.

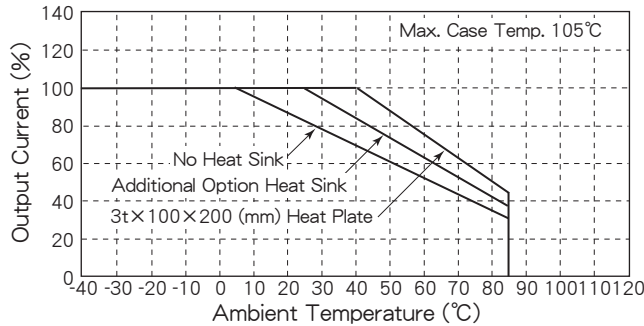
# BTU SERIES DATA SHEET

## Block Diagram

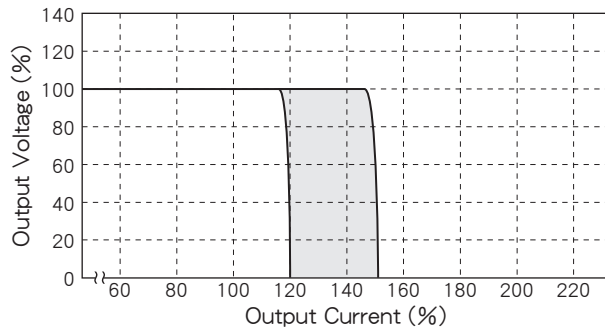


## Characteristic Curves

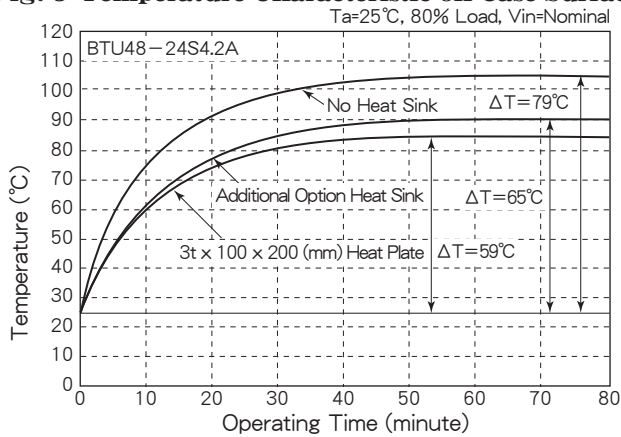
**Fig. 1 Derating Curve**



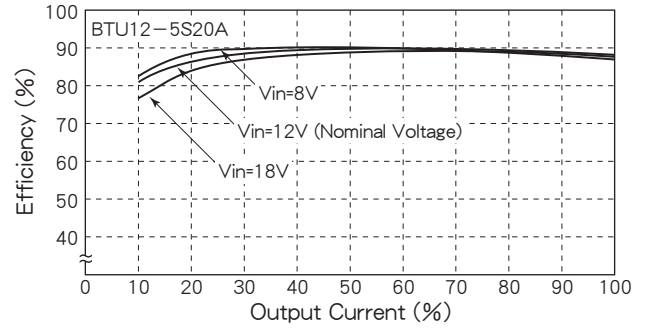
**Fig. 2 Short Circuit Operating Area**



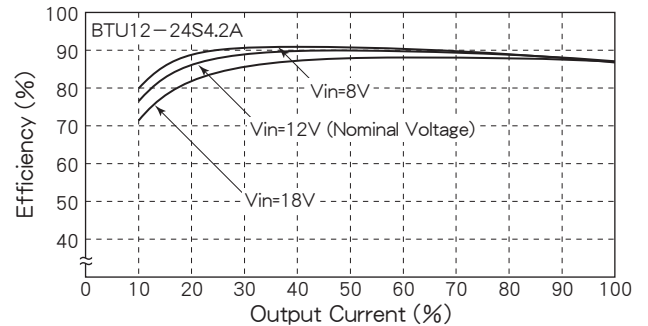
**Fig. 3 Temperature Characteristic on Case Surface**



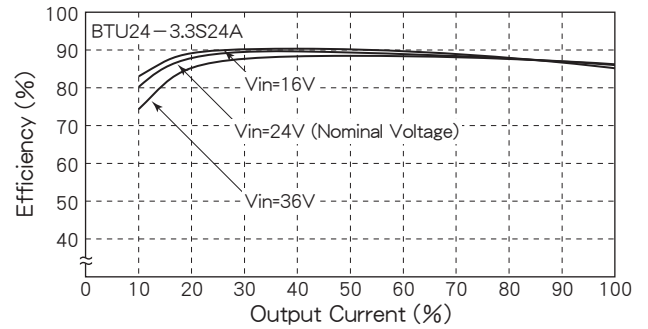
**Fig. 4 Efficiency vs. Output Current (Vin=12V)**



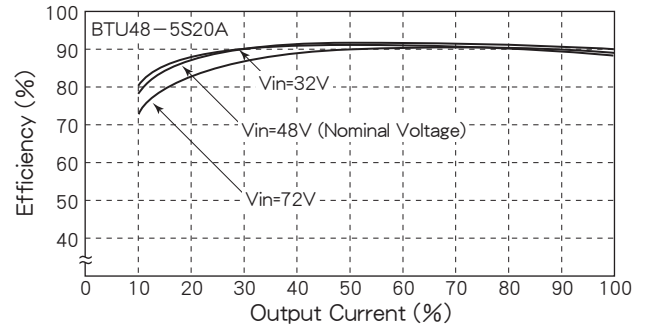
**Fig. 5 Efficiency vs. Output Current (Vin=12V)**



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



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



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

