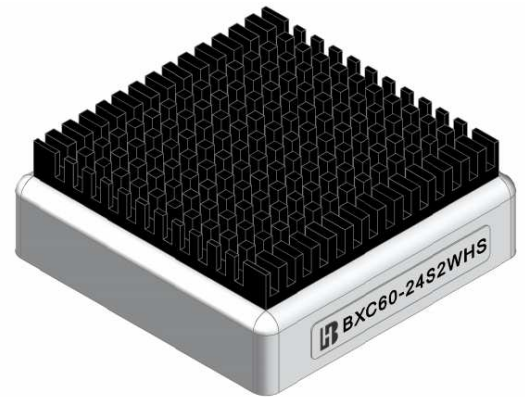


## Features

- Wide 4 : 1 Input Voltage Range
- High Power Density
- High Efficiency
- Operating Temperature Range: -40°C to +85°C
- Output Short Circuit Protection:  
Hiccup, continuous & Auto Recovery
- Output Over Voltage Protection:
- Over Temperature Protection
- Fixed Switching Frequency
- Input/ Output Isolation 1.5 kVdc
- Shielded Metal Case with Insulated Baseplate
- Lead Free Design, RoHS Compliant
- Industry Standard Pinout
- Adjustable Output Voltage



## Applications

- Distributed power system
- Telecommunication application
- Battery powered equipment
- Industrial application
- Process control equipment
- Transportation equipment

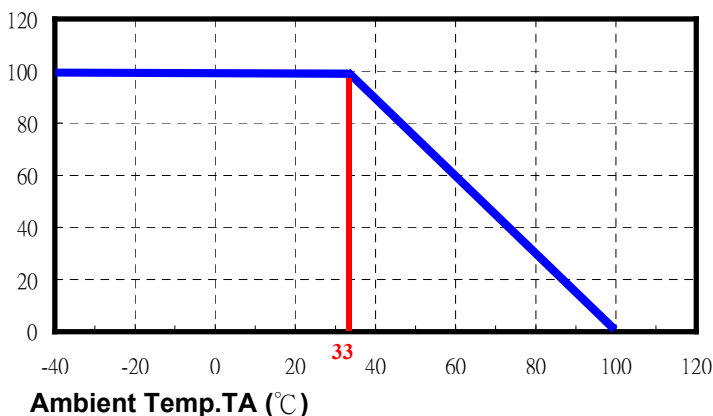
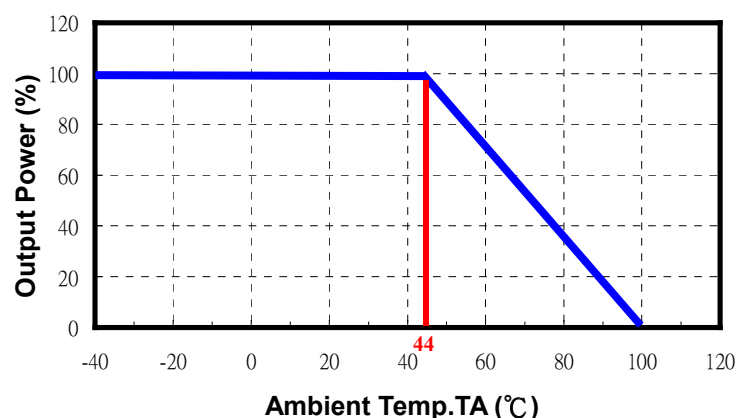
### Input Specifications

|  |                              |  |
|--|------------------------------|--|
| Input voltage range                      |                              | 9~36Vdc                                |
| Under voltage shutdown                   | Full Load                    | 8Vdc (typical)                         |
| Input current                            | Vin=24Vdc and no Load        | 100mA (typical)                        |
| Input current                            | Vin=24Vdc and full Load      | 2976mA (typical)                       |
| Input current                            | Vin=24Vdc and output shorted | 10mA (typical)                         |
| Remote ON/OFF                            | Converter: ON                | Open or 3.5V < Vr < 12V                |
|  | Converter: OFF               | Short <sup>(2)</sup> or 0V < Vr < 0.7V |
| Sourcing current of remote control pin   | Nominal Vin                  | < 0.2mA                                |
| Idle input current (at Remote OFF state) | Nominal Vin                  | < 12mA                                 |

### Output Specifications

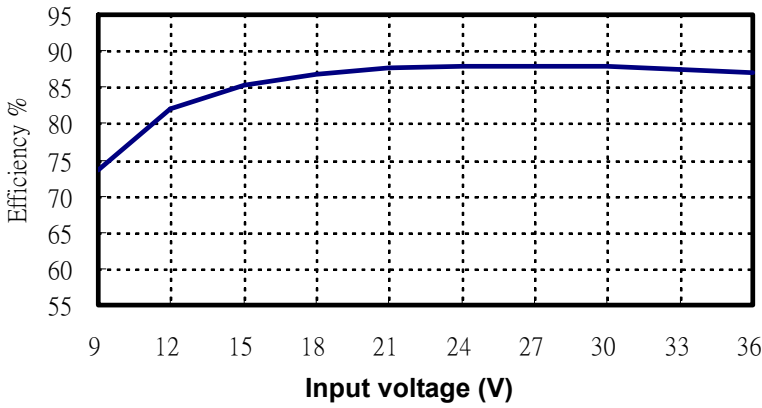
|                                 |                         |                     |
|---------------------------------|-------------------------|---------------------|
| Output voltage                  |                         | 12 Vdc              |
| Output voltage accuracy         | Vout=11.88 ~ 12.12Vdc   | ±1%                 |
| Maximum Load                    |                         | 5A                  |
| Minimum Load                    |                         | 0A                  |
| Maximum capacitive load         |                         | 4700uF (maximum)    |
| Efficiency                      | Vin=24Vdc and full load | 88% (typical)       |
| Ripple / Noise                  | 20MHz bandwidth.        | 80mVp-p (maximum)   |
| Temperature coefficient         |                         | ±0.02%/°C (maximum) |
| Output short circuit protection | Automatic recovery      | Hiccup, Continuous  |
| Output over voltage protection  |                         | 15V (typical)       |

|                                  |                           |  |
|----------------------------------|---------------------------|--|
| Line regulation                  | LL to HL at full load     | ±0.5% (maximum)                                    |
| Load regulation                  | 25% load to full load     | ±0.5% (maximum)                                    |
| <b>Dynamic Characteristics</b>   |                           |  |
| Transient response over shoot    | di/dt=0.8A/μs             | ≤ ±5% of Vo  |
| Transient response settling time | 50% load step change      | 180μs (typical)                                    |
| Start-up time                    | Nominal Vin and full load | 60msec (typical)                                   |
| Switching frequency              |                           | 300kHz (typical).                                  |
| <b>General Specifications</b>    |                           |  |
| Reliability, calculated MTBF     |                           | ≥ 8.88×10 <sup>5</sup> hours                       |
| Operating ambient temperature    | With derating             | -40°C ~+85°C                                       |
| Maximum case surface temperature |                           | 100°C  |
| Storage temperature range        |                           | -55°C ~+125 °C                                     |
| Relative humidity                |                           | 95% RH (maximum)                                   |
| Isolation voltage                | Input to output           | 1500Vdc  |
| Isolation capacitance            | Input to output           | 1200pF (typical)                                   |
| Isolation resistance             | Input to output (500Vdc)  | 10 <sup>9</sup> Ω (minimum)                        |
| Cooling                          | Free air convection       |  |
| <b>Physical Specifications</b>   |                           |  |
| Case material                    |                           | Nickel-coated copper                               |
| Base material                    |                           | FR4 PCB  |
| Potting material                 |                           | Silicon rubber (UL94V-0)                           |
| Dimensions                       |                           | 2.00 × 2.00 × 0.50 Inch<br>(50.8 × 50.8 × 12.6 mm) |
| Weight                           |                           | 103g (3.63oz) (typical)                            |
| Soldering temperature            | Lead-free wave soldering  | 260°C/10Sec (maximum)                              |
| <b>Absolute Maximum Ratings</b>  |                           |  |
| Input surge voltage              | 100msec.                  | 50Vdc  |
| <b>Performance Curves</b>        |                           |  |

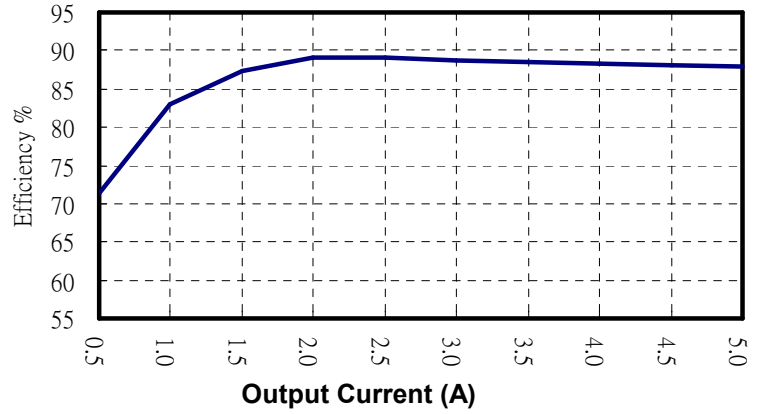
**Power Derating Curve (Without Heatsink)**

**Power Derating Curve (With Heatsink)**




Input voltage vs. Efficiency



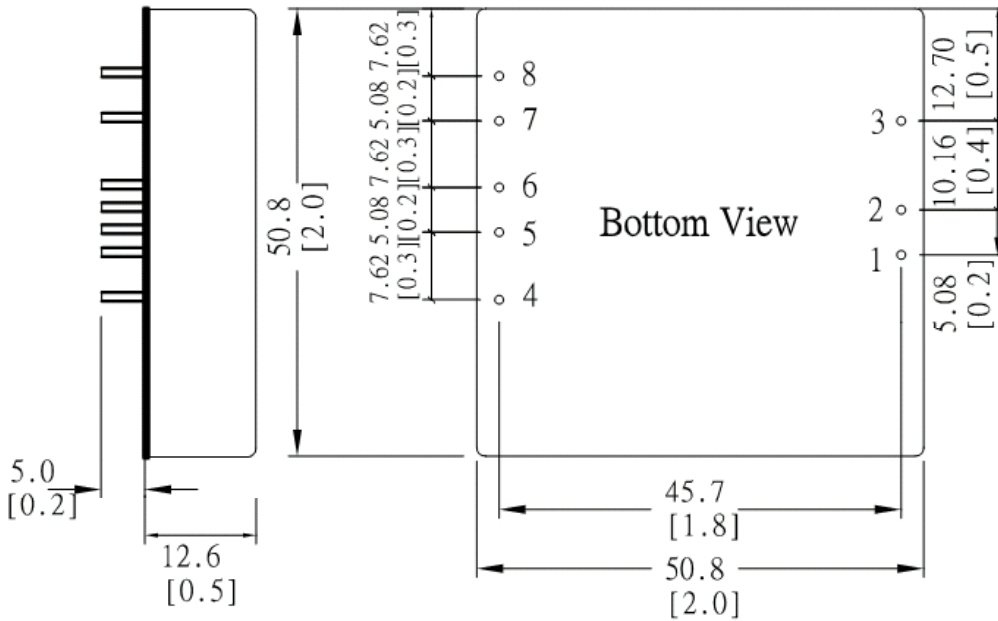
Output Current vs. Efficiency



**Note**

1. Typical value, tested at nominal input and full load.
2. Short to -Vin (Pin 2).

**Mechanical Dimensions**



| Pin Assignment |               |
|----------------|---------------|
| Pin            | Single        |
| 1              | +Vin          |
| 2              | -Vin          |
| 3              | Remote On/Off |
| 4              | -Sense        |
| 5              | +Sense        |
| 6              | +Vout         |
| 7              | -Vout         |
| 8              | Trim          |

Unit: mm [inch]  
Tolerance: ±0.5 [±0.02]



**Heat-sink**

Material: Aluminum

Weight: 19g (0.67oz) (without converter)

