Features

- Wide 4 : 1 Input Voltage Range (9~36V,18~75V)
- High Power Density
- High Efficiency
- Operating Temperature Range: -40°C to +85°C
- Output Short Circuit Protection
- Output Over Voltage Protection
- Remote On /Off Control
- Input/ Output Isolation 3000 VDC
- Shielded Metal Case with Insulated Baseplate
- Lead Free Design, RoHS Compliant
- 24pin DIP Package with Industry-Standard Footprint

RoHS compliant

Applications

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

Technical Specification

All specifications are typical at nominal input, full load and 25°C unless otherwise stated.

Model Number	Input Voltage Range	Output Voltage (Vdc)	Output Current (mA)		Input Current (mA)		Eff. (2) (%)	Capacitive Load, max. (3) (uF)
			Min. Load (1)	Full. Load	No Load	Full Load		
BOB3-24S0WH3	9~36V Nominal:24Vdc	3.3	22	750	5	143	76	470
BOB3-24S1WH3		5	10	600	4	169	78	330
BOB3-24S2WH3		12	0	250	9	164	80	147
BOB3-24S3WH3		15	0	200	10	14	80	82
BOB3-24D1WH3		±5	0	±300	8	167	79	168
BOB3-24D2WH3		±12	0	±125	14	164	80	47
BOB3-24D3WH3		±15	0	±100	16	164	80	33
BOB3-48S0WH3	18~75V Nominal:48Vdc	3.3	11	750	3	72	76	470
BOB3-48S1WH3		5	10	600	2	84	78	330
BOB3-48S2WH3		12	0	250	5	83	79	100
BOB3-48S3WH3		15	0	200	6	82	80	68
BOB3-48D1WH3		±5	0	±300	5	84	78	168
BOB3-48D2WH3		±12	0	±125	8	83	79	33
BOB3-48D3WH3		±15	0	±100	9	86	77	33

Input Specifications		
Input Voltage	24V nominal input	9-36Vdc
	48V nominal input	18-75Vdc
Input filter		Pi Type
Input surge voltage	24V input	50Vdc
(100ms max.)	48V input	100Vdc
Input reflected ripple current	Nominal Vin and full load	72mAp-p typ.
Remote On/Off control	Converter: ON	Open or 3.5V < Vr < 12V
	Converter: OFF	Short (4) or 0V < Vr < 1.2V
Sourcing current of remote control pin	Nominal Vin	< 0.2 mA
Idle input current (at Remote OFF state)	Nominal Vin	< 2.5 mA
Start up time	Nominal Vin and constant resistive load	400ms max.
Environmental Specifications		
Operating ambient temperature		-40°C to +85°C (with derating)
Maximum case temperature		+100°C
Storage temperature range		-55°C to +105°C
Relative humidity		5% to 95% RH
Temperature coefficient		±0.02% / °C max.
Output Specifications		
Output power		3 Watts max.
Voltage accuracy	Full load and nominal Vin	±2%
Minimum load		See table
Line regulation	LL to HL at full load	±0.5%
Load Regulation	25% load to full load Single	±0.5%
	Balanced load Dual	±0.5%
	Unbalanced load 25% to 100% full load	±3%
Ripple and Noise	20MHz bandwidth	60mVp-p max.
Over voltage protection (Zener Diode Clamp)	3.3Vout models	3.9V
	5Vout models	6.2V
	12Vout models	15V
	15Vout models	18V
Capacitive load		See table
Over load protection	% of full load	120% min.
Short circuit protection		Continuous, automatic recovery
Transient response settling time	50% load step change	1320μs max.
Transient response over shoot	di/dt=0.8A/μs	≤ ±5% of Vo

General Specifications

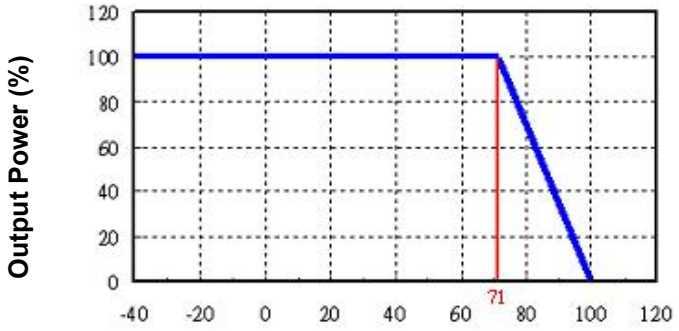
Efficiency	Nominal input	See table
Isolation voltage	Input to output	3000VDC
Isolation resistance	500Vdc	10^9 Ohms min.
Isolation capacitance		270pF typ.
Switching frequency		300kHz typ.
Reliability, calculated MTBF		2.53 × 10^6 Hrs

Physical Specifications

Case material	Nickel-coated copper
Base material	Non-conductive black plastic
Potting material	Silicon rubber (UL94V-0)
Dimensions	1.25 × 0.80 × 0.40 Inch (31.75 × 20.32 × 10.16 mm)
Weight	17.2g (0.59oz) typ.

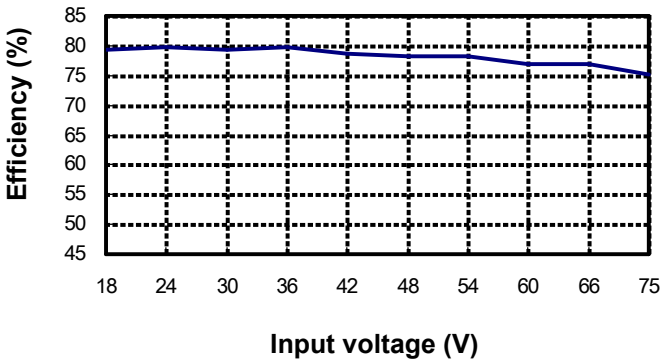
BOB3WH3Series

Power Derating Curve(5)



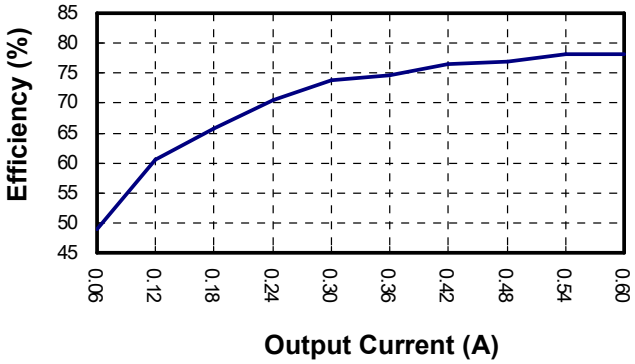
BOB3-48S1WH3

Input voltage vs. Efficiency



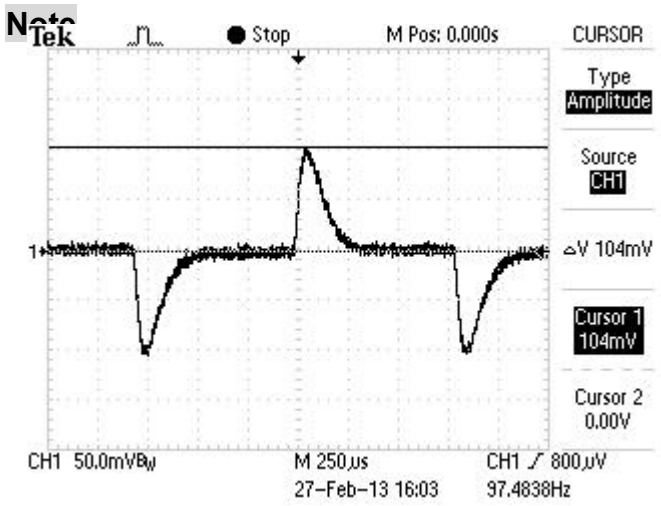
BOB3-48S1WH3

Output Current vs. Efficiency

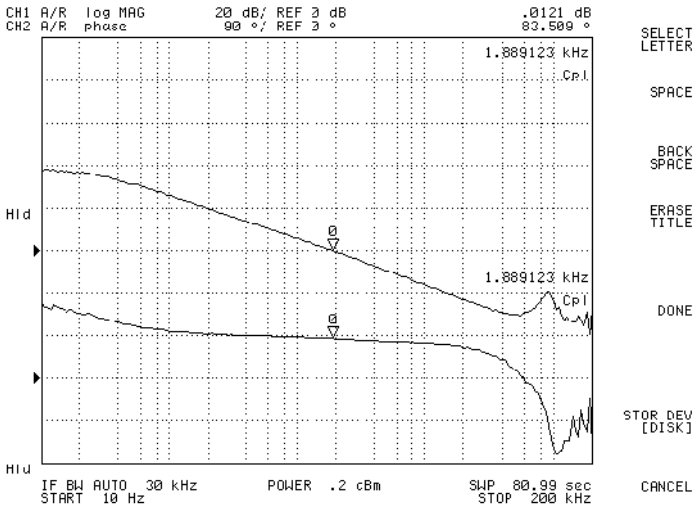


BOB3-48S1WH3 **BOB3-48S1WH3**

Transient Response at 50%~100% Max Load

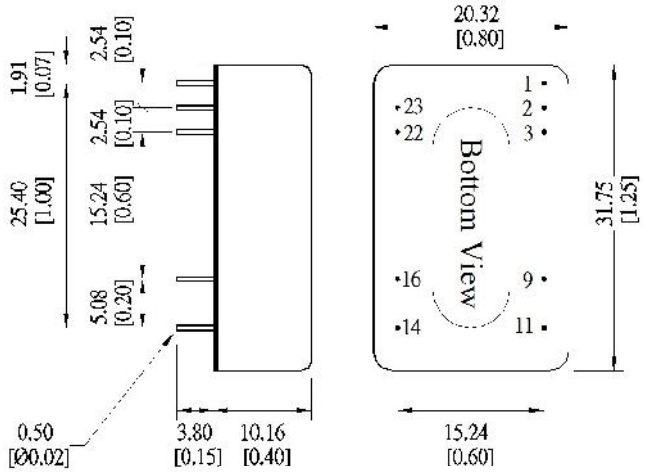


Loop Gain & Phase at Vi=48V,Full Load



1. Io below this value will not damage these converters, however, they may not meet all listed specifications.
2. Typical value, tested at nominal input and full load.
3. For each output.
4. Short to -Vin (Pin 2,3).
5. Based on BOB3-48S1WH3.

Mechanical Dimensions



Unit: mm [inch]
Tolerance:±0.5[0.02]

Pin Assignment		
Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-Vin	-Vin
3	-Vin	-Vin
9	No pin	Common
11	No function	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

Specifications subject to change without notice.