

KEY FEATURES

- Power Module for PCB Mountable
- Regulated Output
- Low Ripple and Noise
- Remote ON/OFF Control (Optional)
- 2:1 Wide Input Range
- 2 Years Product Warranty


ELECTRICAL SPECIFICATIONS

Model No.	ZB-12-3.3S	ZB-12-5S	ZB-12-12S	ZB-12-15S	ZB-12-24S
Input Voltage (V.DC.)	12V (9-18V)	12V (9-18V)	12V (9-18V)	12V (9-18V)	12V (9-18V)
Output Voltage (V.DC.)	3.3V / 3000mA	5V / 3000mA	12V / 1250mA	15V / 1000mA	24V / 625mA
Efficiency	77%	80%	82%	84%	84%

Model No.	ZB-24-3.3S	ZB-24-5S	ZB-24-12S	ZB-24-15S	ZB-24-24S
Input Voltage (V.DC.)	24V (18-36V)	24V (18-36V)	24V (18-36V)	24V (18-36V)	24V (18-36V)
Output Voltage (V.DC.)	3.3V / 3000mA	5V / 3000mA	12V / 1250mA	15V / 1000mA	24V / 625mA
Efficiency	77%	82%	85%	86%	87%

Model No.	ZB-48-3.3S	ZB-48-5S	ZB-48-12S	ZB-48-15S	ZB-48-24S
Input Voltage (V.DC.)	48V (36-75V)	48V (36-75V)	48V (36-75V)	48V (36-75V)	48V (36-75V)
Output Voltage (V.DC.)	3.3V / 3000mA	5V / 3000mA	12V / 1250mA	15V / 1000mA	24V / 625mA
Efficiency	79%	83%	86%	87%	87%

Model No. (Dual Output)	ZB-12-5D	ZB-12-12D	ZB-12-15D
Input Voltage (V.DC.)	12V (9-18V)	12V (9-18V)	12V (9-18V)
Output Voltage (V.DC.)	±5V / ±1500mA	±12 / ±625mA	±15 / ±500mA
Efficiency	78%	79%	79%

Model No. (Dual Output)	ZB-24-5D	ZB-24-12D	ZB-24-15D
Input Voltage (V.DC.)	24V (18-36V)	24V (18-36V)	24V (18-36V)
Output Voltage (V.DC.)	±5V / ±1500mA	±12 / ±625mA	±15 / ±500mA
Efficiency	78%	79%	79%

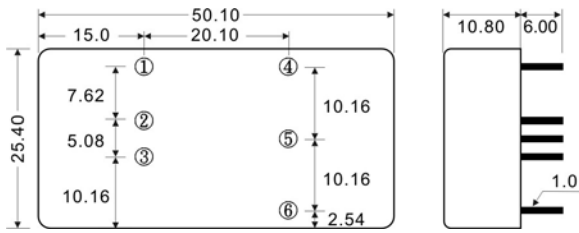
Model No. (Dual Output)	ZB-48-5D	ZB-48-12D	ZB-48-15D
Input Voltage (V.DC.)	48V (36-75V)	48V (36-75V)	48V (36-75V)
Output Voltage (V.DC.)	±5V / ±1500mA	±12 / ±625mA	±15 / ±500mA
Efficiency	78%	79%	79%

ZB SERIES
15 Watts

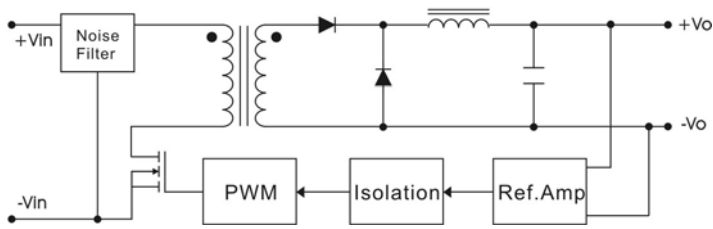
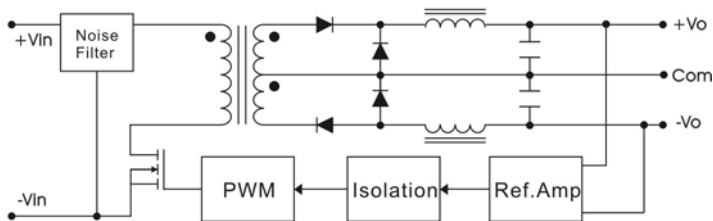
Model No. (Single Output)		ZB-12-3.3S ZB-24-3.3S ZB-48-3.3S	ZB-12-5S ZB-24-5S ZB-48-5S	ZB-12-12S ZB-24-12S ZB-48-12S	ZB-12-15S ZB-24-15S ZB-48-15S	ZB-12-24S ZB-24-24S ZB-48-24S
Max Output Wattage (W)		9.9W	15W	15W	15W	15W
Input	Input Filter	π type				
Output	Voltage (V.DC.)	3.3	5	12	15	24
	Voltage Accuracy	$\pm 2\%$				
	Current (mA) max	3000	3000	1250	1000	625
	Line Regulation (LL-HL) (typ.)	$\pm 0.5\%$				
	Load Regulation (10-100%) (typ.)	$\pm 1\%$				
	Minimum Load	3%	3%	0%	0%	0%
	Ripple	<0.2% Vout +40mV max (Vp-p)				
	Noise	<0.5% Vout +50mV max (Vp-p)				
Protection	Switching Frequency	300KHz				
	Over Power Protection	Works over 120% of rating and recovers automatically.				
	Over Voltage Protection	Zener diode clamp				
Isolation	Short Circuit Protection	Current limit, auto-recovery				
	Voltage	1600 VDC.				
	Resistance	10^8 ohms				
Environment	Capacitance	1000 pF				
	Operating Temperature	2:1 Range: -25°C...+70°C (at Full Load)				
	Storage Temperature	-55°C...+105°C				
	Case Temperature	+100°C max.				
	Temperature Coefficient	$\pm 0.02\%$ Per°C				
	Humidity	95% RH				
Physical	MTBF	>800,000 h @ 25°C (MIL-HDBK-217F)				
	Dimension (L x W x H)	1.97 x 1.0 x 0.425 Inches (50.1 x 25.4 x 10.8 mm) Tolerance ± 0.5 mm				
	Case Material	Nickel-Coated Copper with Non-conductive Base, Six-side Shielded				
	Weight	32 g				
	Cooling Method	Free-air convection				

Model No. (Dual Output)		ZB-12-5D ZB-24-5D ZB-48-5D	ZB-12-12D ZB-24-12D ZB-48-12D	ZB-12-15D ZB-24-15D ZB-48-15D
Max Output Wattage (W)		15W		
Input	Input Filter	π type		
Output	Voltage (V.DC.)	± 5	± 12	± 15
	Voltage Accuracy	$\pm 2\%$		
	Current (mA) max	± 1500	± 625	± 500
	Line Regulation (LL-HL) (typ.)	$\pm 0.5\%$		
	Load Regulation (10-100%)(Balance Load)	$\pm 1\%$		
	Minimum Load	3%		
	Ripple	<0.2% Vout +40mV max (Vp-p)		
	Noise	<0.5% Vout +50mV max (Vp-p)		
Protection	Switching Frequency	300KHz		
	Over Power Protection	Works over 120% of rating and recovers automatically.		
	Over Voltage Protection	Zener diode clamp		
Isolation	Short Circuit Protection	Current limit, auto-recovery		
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	Case Material	Nickel-Coated Copper with Non-conductive Base, Six-side Shielded		
	Weight	32 g		
	Cooling Method	Free-air convection		

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

MECHANICAL DIMENSION (Top View)


PIN#	Single	Dual
1	ON / OFF CTL (Optional)	ON / OFF CTL (Optional)
2	-DC IN	-DC IN
3	+DC IN	+DC IN
4	-DC OUT	-DC OUT
5	NO PIN	COMMON
6	+DC OUT	+DC OUT

BLOCK DIAGRAM
Single Output

Dual Outputs

DERATING
