

Features

- Wide 2:1 Input Voltage Range
- Very Low Stand-by (no-load) Power Consumption
50mW typ. and 150mW max.
- Very High Efficiency up to 86%
- 5W Single and Dual outputs
- I/O Isolation 2KVDC,4KVDC and 6KVDC Option
- Operating Temperature Range -40°C to +75°C
- Continuous Short Circuit Protection
- Remote ON/OFF Control add Suffix "/CTRL" Option
- A&C Pinning Option

Description

The BW5 series is an excellent performance and,

Wide 2:1 input voltage ranges: 4.5V-9V,9V-18V,18V-36V and 36V-75V

The highest efficiency allows -40°C to +75°C operating temperatures.

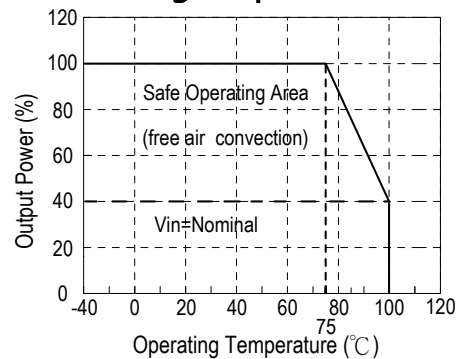
The very low stand-by (no-load)input power consumption 50mW typ,makes them an ideal solution for application in battery-powered equipment and instrumentation.

DIP24, Single & Dual Outputs



RoHS

Derating Graph



Selection Guide

Part Number	Input Voltage Range VDC	Output Voltage VDC	Output Current max. mA	Efficiency Typ. %	Max. Capacitive Load
BW5-xx03SXY	4.5-9,9-18,18-36,36-75	3.3 VDC	1200 mA	79,81,81,81	1000uF
BW5-xx05SXY	4.5-9,9-18,18-36,36-75	5 VDC	1000 mA	82,84,84,84	1000uF
BW5-xx09SXY	4.5-9,9-18,18-36,36-75	9 VDC	555 mA	82,85,86,85	680uF
BW5-xx12SXY	4.5-9,9-18,18-36,36-75	12 VDC	420 mA	84,87,87,87	470uF
BW5-xx15SXY	4.5-9,9-18,18-36,36-75	15 VDC	333 mA	85,87,87,87	330uF
BW5-xx05DXY	4.5-9,9-18,18-36,36-75	±5 VDC	±500 mA	81,84,84,84	±470uF
BW5-xx12DXY	4.5-9,9-18,18-36,36-75	±12 VDC	±210 mA	84,86,87,87	±100uF
BW5-xx15DXY	4.5-9,9-18,18-36,36-75	±15 VDC	±167 mA	85,86,87,87	±47uF

X=Isolation(KVDC),X=2=2KVDC,X=4=4KVDC,X=6=6KVDC

Y=Pinning ; Y=A=A Pinning,Y=C=C Pinning

xx=Vin(Nominal), xx=05=5VDC(4.5~9VDC)

xx=12=12VDC(9~18VDC)

xx=24=24VDC(18~36VDC)

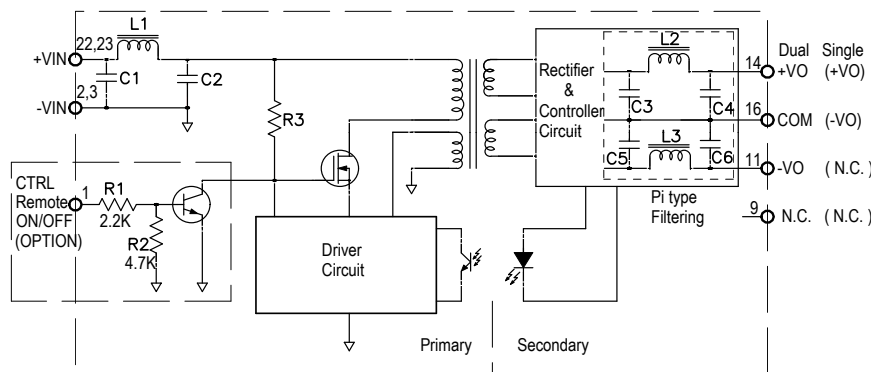
xx=48=48VDC(36~75VDC)

Specifications

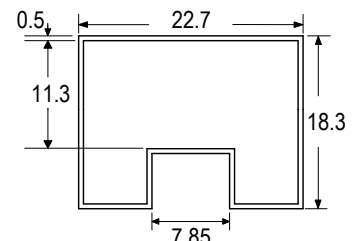
(measured at $T_A=25^{\circ}\text{C}$, nominal input voltage, full load and after warm-up)

Input Voltage Range	4.5-9V,9-18V,18-36V,36-75V	2:1
Input Filter		Pi type
Output Voltage Accuracy	Nominal V_{in} and full load	$\pm 2\%$
Line Voltage Regulation	$V_{in}=\text{min to max, full load}$	$\pm 0.5\%$ typ.
Load Voltage Regulation	20% to 100% of full load	$\pm 0.5\%$ typ.
Output Ripple and Noise	20MHz BW	60mVp-p max.
Operating Frequency		200kHz min.
No Load Power Consumption		50mW typ. / 150mW max.
Isolation Voltage	1 second	2K,4K & 6K VDC
Isolation Capacitance	100KHz tested	30PF max.
Isolation Resistance	500VDC, input to output	15G Ω min.
Short Circuit Protection		Continuous
Temperature Coefficient	-40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$ ambient	0.015%/ $^{\circ}\text{C}$ typ.
Temperature Rise at Full Load		21 $^{\circ}\text{C}$ typ.
Operating Temperature Range	see Graph	-40 $^{\circ}\text{C}$ to +100 $^{\circ}\text{C}$
Operating Case Temperature		+110 $^{\circ}\text{C}$ max.
Storage Temperature Range		-55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$
Relative Humidity		95% RH
Case Material	UL94-V0	Non-conductive black plastic
Potting Material	UL94-V0	Epoxy
Package Weight		13g
Packing Quantity		15 pcs per Tube
Lead Temperature		300 $^{\circ}\text{C}$ max. 1.5mm from case for 10 sec
Remote Power OFF (leave open if not used) (15VDC max.)	Device ON Device OFF Device OFF Stand by input current	open or <0.8VDC CTRL>1.5VDC 0.5mA max.
MTBF(+25 $^{\circ}\text{C}$)	using MIL-HDBK 217F	2597x10 ³ hours
(+75 $^{\circ}\text{C}$)	using MIL-HDBK 217F	313x10 ³ hours

Functional Block Diagram (A Pinning)



Tube Outline Dimensions (mm)



Tolerance:

XX.X ± 0.5 mm

Note:

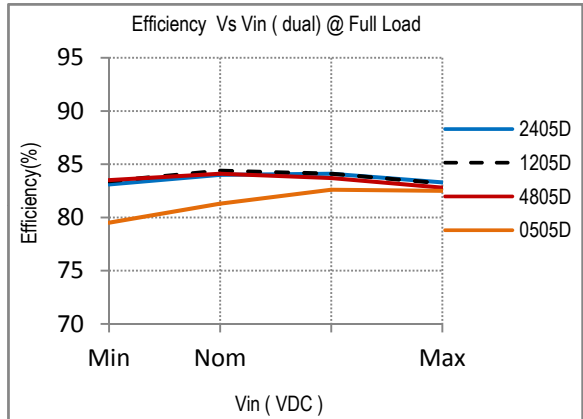
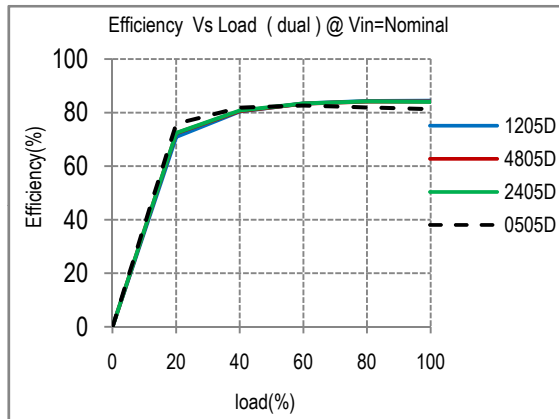
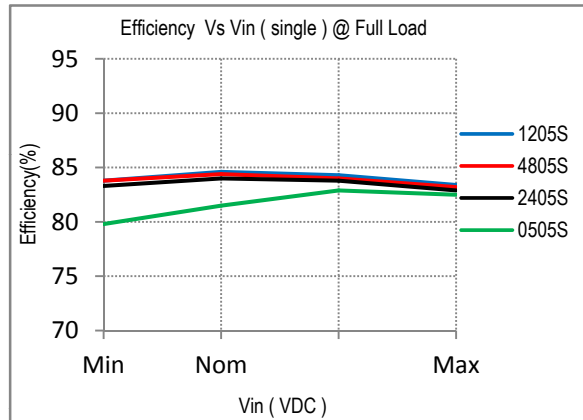
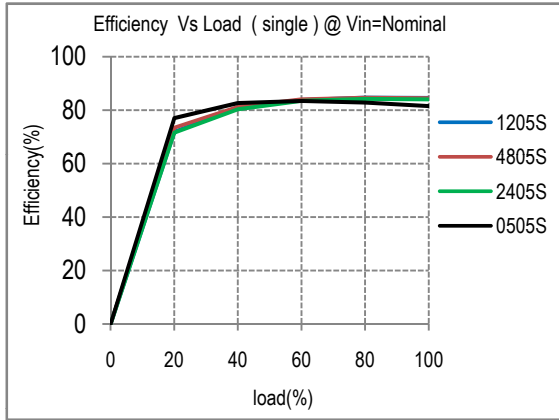
L=530 ± 2 mm

Devices per tube

Quantity: 15PCS

The Values of Input π type Filtering

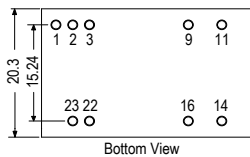
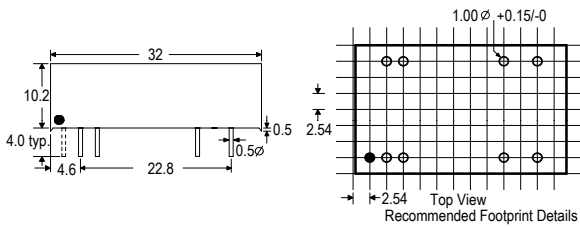
Input Voltage	C1	C2	L1
4.5~9, 9~18VDC	1uF~10uF	10uF/25V	0.47uH~4.7uH
18~36VDC	0.1uF~1uF	4.7uF/50V	1uH~10uH
36~75VDC	0.1uF~1uF	1uF/100V	2.2uH~22uH



Package Style and Pinning (mm)

DIP24 Package

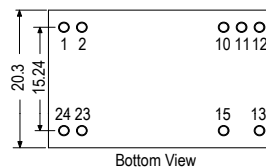
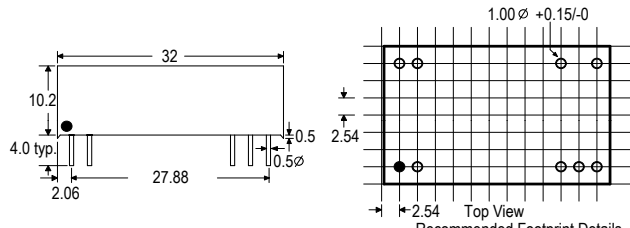
"A" PINNING



Pin#	Single	Dual
1(option)	CTRL	CTRL
2	-Vin	-Vin
3	-Vin	-Vin
9	NC	Com
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	COM
22	+Vin	+Vin
23	+Vin	+Vin

NC=No Connection
CTRL=Remote ON/OFF Control
e.g. BW5-1205S4A/CTRL

"C" PINNING



Pin#	Single	Dual
1	+Vin	+Vin
2	+Vin	+Vin
10	NC	Com
11	NC	Com
12	-Vout	NC
13	+Vout	-Vout
15	NC	+Vout
23	-Vin	-Vin
24	-Vin	-Vin

NC=No Connection

XX.X ± 0.25 mm

XX.XX ± 0.15 mm