



3 WATT SINGLE & DUAL OUTPUT

**Regulated,
Wide Input (4:1)
DC/DC Converters**

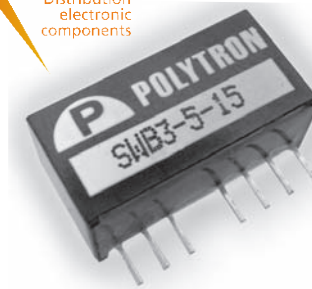
FEATURES

- **4:1 Wide Input Voltage Range**
- **SIP Package
0.86" x 0.36" x 0.44"**
- **High Efficiency
up to 82 %**
- **Low Ripple and Noise**
- **Input to Output Isolation up to 1.6kVdc**
- **Continuous Short Circuit Protection**
- **External On/Off Control**
- **RoHS Compliant**

SWB3 Series

HIGH VOLTAGE
(HVPS) Condatas AG

Distribution
electronic
components



Specifications

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

INPUT

Input Voltage Range	
24V nominal input	9 - 36 Vdc
48V nominal input	18 - 72 Vdc
Input Filter	Capacitor type
Input Surge Voltage	100mS max.
24V input	50 Vdc
48V input	100 Vdc
Input Reflected Ripple Current	
24V input	380mA-p max
48V input	200mA-p max
Start up time	Nominal Vin and constant resistor load
	Power Up
	Remote ON/OFF
Remote ON/OFF	DC-DC ON
	DC-DC OFF
Remote OFF state Input current	Nominal Vin

OUTPUT

Output Power	3 Watts max.
Voltage Accuracy	Full load and nominal Vin
Minimum Load	
Line Regulation	LL to HL at Full load
Load Regulation	No load to full load
	5% load to 100% load
	No load to full load
Cross Regulation (Dual)	Asymmetrical load 25%/100% FL
Ripple and Noise	20MHz bandwidth
Temperature Coefficient	
Transient Response Recovery Time	25% load step change
Short Circuit Protection	

GENERAL

Efficiency	
Isolation Voltage	
Isolation Resistance	
Isolation Capacitance	
Switching Frequency	

ENVIRONMENTAL

Operating Ambient Temperature	
Storage Temperature Range	
Cooling	
Thermal Shock	
Vibration	
Relative Humidity	

PHYSICAL

Design Meets Safety Standard	
Case Material	
Base Material	
Potting Material	
Dimensions	
Weight	
MTBF (note①)	

EMC CHARACTERISTICS

EMI (note⑤⑥)	EN55022			Class A
ESD	EN61000-4-3	Air ±8KV	Contact ±6KV	Perf. Criteria A
Radiated Immunity	EN61000-4-3	10V/m		Perf. Criteria A
Fast Transient (note⑥)	EN61000-4-4	± 2KV		Perf. Criteria A
Surge (note⑥)	EN61000-4-5	± 1KV		Perf. Criteria A
Conducted Immunity	EN61000-4-6	10 Vr.m.s.		Perf. Criteria A

Selection Guide

(Continued)

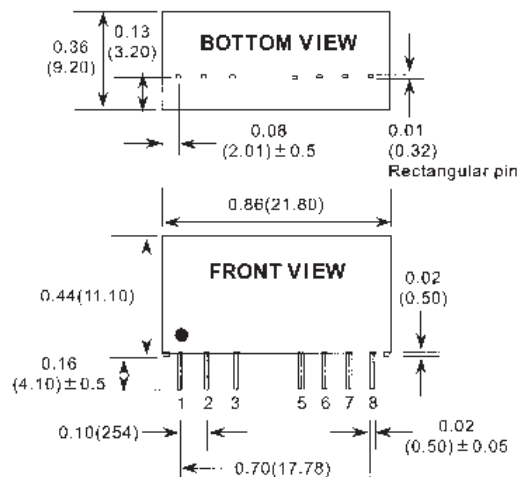
	Input Range (Vdc)	Output Voltage (Vdc)	Output Current		Input Current		Efficiency ^④ %	Model Number	Capacitor Load Max
			Min. Load ^③ (mA)	Full Load (mA)	No Load (mA)	Full Load (mA)			
SINGLE OUTPUT VOLTAGE	9 – 36	3.3	0	700	20	140	75	SWB3-24S33	1760 μ F
	9 – 36	5	0	600	20	165	80	SWB3-24S5	1000 μ F
	9 – 36	9	0	333	19	166	79	SWB3-24S9	470 μ F
	9 – 36	12	0	250	20	167	79	SWB3-24S12	170 μ F
	9 – 36	15	0	200	19	166	79	SWB3-24S15	110 μ F
	18 – 72	3.3	0	700	12	71	74	SWB3-48S33	1760 μ F
	18 – 72	5	0	700	12	85	78	SWB3-48S5	1000 μ F
	18 – 72	9	0	700	13	85	78	SWB3-48S9	470 μ F
	18 – 72	12	0	700	14	85	78	SWB3-48S12	170 μ F
	18 – 72	15	0	700	14	84	79	SWB3-48S15	110 μ F
DUAL OUTPUT VOLTAGE	9 – 36	± 5	0	± 300	25	169	78	SWB3-24-5	$\pm 470\mu$ F
	9 – 36	± 23	0	± 125	25	165	80	SWB3-24-12	$\pm 100\mu$ F
	9 – 36	± 15	0	± 100	25	160	82	SWB3-24-15	$\pm 47\mu$ F
	18 – 72	± 5	0	± 300	14	85	78	SWB3-48-5	$\pm 470\mu$ F
	18 – 72	± 12	0	± 125	14	84	79	SWB3-48-12	$\pm 100\mu$ F
	18 – 72	± 15	0	± 100	14	82	80	SWB3-48-15	$\pm 47\mu$ F

NOTES:

- ① Bellcore TR-NWT-00032, Case: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment). MIL-STD-217F Notice 2 @ Ta = 25°C, Full load (Ground, Benign, controlled environment).
 ② The SWB3 Series requires external filter to meet EN55022 class B.
 ③ The SWB3 series requires a minimum load at the output to maintain specified regulation. Operation under no-load condition will not damage these devices, however they may not meet all listed specifications.
 ④ Typical value at nominal input voltage and full load.
 ⑤ The SWB3 Series meet EN55022 Class A with external L-C filter before the input pins to the converter.
 Recommend: 24 Vin : C1=2.2 μ F/50V 1210 MLCC. L1=10 μ H0504 SMD Inductor P/N:PMT-47.
 48 Vin : C1=2.2 μ F/100V 1210 MLCC. L1=10 μ H0504 SMD Inductor P/N:PMT-47.
 ⑥ An external input filter capacitor is required if the module has to meet EN61000-4-4. EN61000-4-5.

Mechanical Specifications

PIN CONNECTION		
PIN	SINGLE	DUAL
1	–INPUT	–INPUT
2	+INPUT	+INPUT
3	CTRL	CTRL
5	NC	NC
6	+OUTPUT	+OUTPUT
7	–OUTPUT	COM
8	NC	–OUTPUT



1. All Dimensions are in inches (mm)
2. Pin pitch tolerance ± 0.02 (0.5)

Application Circuit

