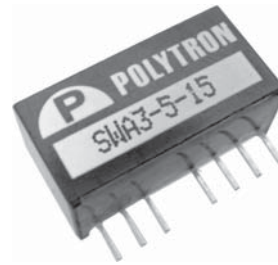




# 3 WATT SINGLE & DUAL OUTPUT

**Regulated,  
Wide Input (2:1)  
DC/DC Converters**



## Specifications

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

### INPUT

	Voltage Range
5V nominal input .....	4.5 - 9 Vdc
12V nominal input .....	9 - 18 Vdc
24V nominal input .....	18 - 36 Vdc
48V nominal input .....	36 - 72 Vdc
Input Filter .....	Capacitor type
Input Surge Voltage .....	100mS max.
5V input .....	15 Vdc
12V input .....	36 Vdc
24V input .....	50 Vdc
48V input .....	100 Vdc
Reflected Ripple Current .....	There is an external capacitor at input (Note 2)
5V input .....	400mVp-p max
12V input .....	150mVp-p max
24V input .....	380mVp-p max
48V input .....	170mVp-p max

Start up time	Nominal Vin and constant resistor load .....	1mS typ.
Remote ON/OFF	DC-DC ON .....	Open or high impedance
	DC-DC OFF .....	Control pin applied current 4 ~ 8mA max. (via 1KΩ)
Remote OFF Input current	Nominal input .....	1mA max.

### OUTPUT

Output Power	.....	3 Watts max.
Voltage Accuracy	Full load and nominal Vin .....	±1%
Minimum Load	.....	25% of FL
Line Regulation	LL to HL at Full load .....	±0.2%
Load Regulation	Min. load to 100% load .....	Single ±0.5%, Dual ±1%
Ripple and Noise	Balanced on all output .....	75mVp-p
Temperature Coefficient	.....	±0.1%/°C max.
Transient Response Recovery Time	25% load step change .....	500μS, typ
Short Circuit Protection	.....	Continuous, automatic recovery

### GENERAL

Efficiency .....	See table
Isolation Voltage .....	1600 Vdc
Isolation Resistance .....	10 <sup>9</sup> Ohms
Isolation Capacitance .....	1000pF, max.
Switching Frequency .....	1000 KHz, min.

### ENVIRONMENTAL

Operating Temperature Range .....	-40°C to +71°C (without derating)
Storage Temperature Range .....	-55°C to +125°C
Cooling .....	Free Air Convection
Thermal Shock .....	MIL-STD-810D
Vibration .....	10-55Hz, 10G, 30 minutes along X, Y, Z
Relative Humidity .....	5% to 95% RH

### PHYSICAL

Case Material .....	Non-conductive black plastic
Base Material .....	None
Potting Material .....	Silicon
Dimensions .....	0.86" x 0.36" x 0.44" (21.8 x 9.2 x 11.1 mm)
Weight .....	4.8 g. (0.17 oz.)
MTBF (note①) .....	

### EMC CHARACTERISTICS

Meet EN55022 classes B recommend circuit with external L-C at input (note②)	
5V input .....	100μF & 10μH
12V input .....	100μF & 10μH
24V input .....	100μF & 120μH
48V input .....	10μF & 120μH

## FEATURES

- SIP Package  
0.86" x 0.36" x 0.44"
- 2:1 Wide Input  
Voltage Range
- Low Ripple and  
Noise
- Input to Output  
Isolation up to 1.6 kvdc
- Continuous Short  
Circuit Protection
- External On/Off  
Control
- RoHS Compliant

SWA3 Series

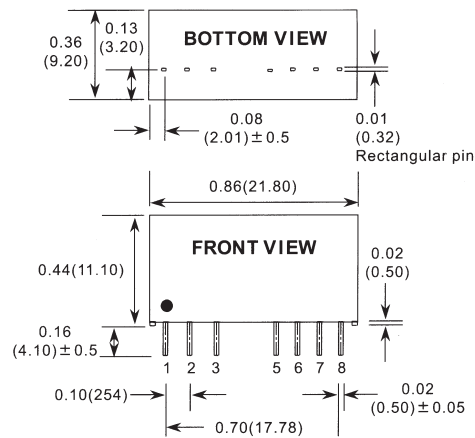
Selection Guide

(Continued)

	Input Voltage Nominal (Range) (Vdc)	Output Voltage (Vdc)	Output Current		Efficiency ④	Model Number	Case
			Min. Load ③ (mA)	Full Load (mA)			
SINGLE OUTPUT VOLTAGE	5 (4.5-9)	3.3	35	700	73	SWA3-5S33	SIP3
	5 (4.5-9)	5	30	600	77	SWA3-5S5	SIP3
	5 (4.5-9)	9	20	333	78	SWA3-5S9	SIP3
	5 (4.5-9)	12	17	250	79	SWA3-5S12	SIP3
	5 (4.5-9)	15	14	200	80	SWA3-5S15	SIP3
	12 (9-18)	3.3	35	700	74	SWA3-12S33	SIP3
	12 (9-18)	5	30	600	78	SWA3-12S5	SIP3
	12 (9-18)	9	20	333	79	SWA3-12S9	SIP3
	12 (9-18)	12	17	250	80	SWA3-12S12	SIP3
	12 (9-18)	15	14	200	81	SWA3-12S15	SIP3
	24 (18-36)	3.3	35	700	74	SWA3-24S33	SIP3
	24 (18-36)	5	30	600	78	SWA3-24S5	SIP3
	24 (18-36)	9	20	333	79	SWA3-24S9	SIP3
	24 (18-36)	12	17	250	80	SWA3-24S12	SIP3
	24 (18-36)	15	14	200	81	SWA3-24S15	SIP3
	DUAL OUTPUT VOLTAGE	5 (4.5-9)	±5	15	±300	77	SWA3-5-5
5 (4.5-9)		±12	10	±125	79	SWA3-5-12	SIP3
5 (4.5-9)		±15	10	±100	80	SWA3-5-15	SIP3
12 (9-18)		±5	15	±300	80	SWA3-12-5	SIP3
12 (9-18)		±12	10	±125	81	SWA3-12-12	SIP3
12 (9-18)		±15	10	±100	81	SWA3-12-15	SIP3
24 (18-36)		±5	15	±300	80	SWA3-24-5	SIP3
24 (18-36)		±12	10	±125	81	SWA3-24-12	SIP3
24 (18-36)		±15	10	±100	81	SWA3-24-15	SIP3
48 (36-72)		±5	15	±300	80	SWA3-48-5	SIP3
48 (36-72)		±12	10	±125	81	SWA3-48-12	SIP3
48 (36-72)		±15	10	±100	81	SWA3-48-15	SIP3

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)

NOTE:

- 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 SWA3 Series requires (Not required) external filter to meet ENS5022 class B.
- ③ The SWA3 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.



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