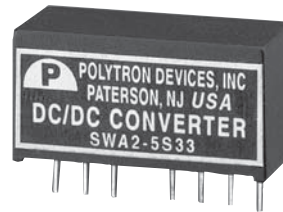




2 WATT SINGLE & DUAL OUTPUT

**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

Input Voltages Range	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 - 75 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 (100µF).....400mA-p max

12V input (100µF).....150mA-p max

24V input (10µF).....380mA-p max

48V input (10µF).....170mA-p max

Start up time Nominal Vin and constant resistor load1mS typ.

Remote ON/OFFDC-DC ONOpen or high impedance

.....DC-DC OFFControl pin applied current 3 ~ 6mA max. (via 1KΩ)

Remote OFF Input currentNominal input1mA max.

OUTPUT

Output Power2 Watts max.

Voltage AccuracyFull load and nominal Vin.....±2%

Minimum Load25% of FL

Line RegulationLL to HL at Full load.....±0.5%

Load Regulation25% to 100% FL.....±0.75%

Ripple and Noise20 MHz bandwidth50mVp-p

Temperature Coefficient±0.1%/°C max.

Transient Response Recovery Time 25% load step change.....500µS, typ

Short Circuit ProtectionContinuous, automatic recovery

GENERAL

Efficiency70%

Isolation Voltage1000 Vdc min.

Isolation Resistance.....10⁹ Ohms, min.

Isolation Capacitance300pF, max.

Switching FrequencyFull load to minimum load.....100 to 650KHz

ENVIRONMENTAL

Operating Temperature Range-40°C to +85°C

Storage Temperature Range-55°C to +105°C

Cooling.....Nature Convection

Thermal ShockMIL-STD-810D

Vibration.....10-55Hz, 2G, 30 minutes along X, Y and Z

Relative Humidity5% to 95% RH

PHYSICAL

Case MaterialNon-conductive black plastic

Base MaterialNone

Potting Material.....Silicon (UL94-V0)

Dimensions.....0.86 x 0.36 x 0.44 inch (21.8 x 9.2 x 11.1 mm)

Weight4.8 g. (0.17 oz.)

MTBF5.107 x 10⁶ Hours

EMC CHARACTERISTICS

Meet EN55022 classes B recommend circuit with external L-C at input

5V input.....100µF & 10µH

12V input.....100µF & 10µH

24V input.....10µF & 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 1kvdc**
- **Continuous Short Circuit Protection**
- **External On/Off Control**

SWA2 Series

Selection Guide

(Continued)

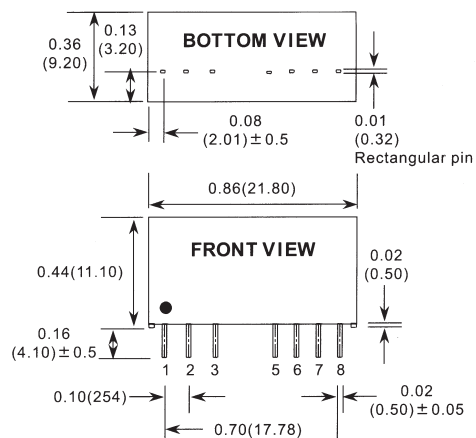
	Input Voltage Nominal (Range) (Vdc)	Output Voltage (Vdc)	Output Current (mA)	Efficiency	Model Number	Case
SINGLE OUTPUT VOLTAGE	5 (4.5-9)	3.3	500	65	SWA2-5S33	SIP3
	5 (4.5-9)	5	400	66	SWA2-5S5	SIP3
	5 (4.5-9)	9	222	71	SWA2-5S9	SIP3
	5 (4.5-9)	12	167	71	SWA2-5S12	SIP3
	5 (4.5-9)	15	134	73	SWA2-5S15	SIP3
	12 (9-18)	3.3	500	70	SWA2-12S33	SIP3
	12 (9-18)	5	400	75	SWA2-12S5	SIP3
	12 (9-18)	9	222	79	SWA2-12S9	SIP3
	12 (9-18)	12	167	80	SWA2-12S12	SIP3
	12 (9-18)	15	134	80	SWA2-12S15	SIP3
	24 (18-36)	3.3	500	71	SWA2-24S33	SIP3
	24 (18-36)	5	400	76	SWA2-24S5	SIP3
	24 (18-36)	9	222	80	SWA2-24S9	SIP3
	24 (18-36)	12	167	80	SWA2-24S12	SIP3
	24 (18-36)	15	134	81	SWA2-24S15	SIP3
	48 (36-72)	3.3	500	70	SWA2-48S33	SIP3
DUAL OUTPUT VOLTAGE	48 (36-72)	5	400	73	SWA2-48S5	SIP3
	48 (36-72)	9	222	78	SWA2-48S9	SIP3
	48 (36-72)	12	167	79	SWA2-48S12	SIP3
	48 (36-72)	15	134	79	SWA2-48S15	SIP3
	5 (4.5-9)	±5	±200	64	SWA2-5S5	SIP3
	5 (4.5-9)	±12	±83	69	SWA2-5-12	SIP3
	5 (4.5-9)	±15	±67	71	SWA2-5-15	SIP3
	12 (9-18)	±5	±200	73	SWA2-12-5	SIP3
	12 (9-18)	±12	±83	78	SWA2-12-12	SIP3
	12 (9-18)	±15	±67	78	SWA2-12-15	SIP3
	24 (18-36)	±5	±200	78	SWA2-24-5	SIP3
	24 (18-36)	±12	±83	80	SWA2-24-12	SIP3
	24 (18-36)	±15	±67	70	SWA2-24-15	SIP3
	48 (36-72)	±5	±200	71	SWA2-48-5	SIP3
	48 (36-72)	±12	±83	77	SWA2-48-12	SIP3
	48 (36-72)	±15	±67	77	SWA2-48-15	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

NOTE:

- Maximum output deviation is 10% inclusive of trim. If remote sense is not being used, the +Vsense should be connected to its corresponding +OUTPUT and likewise the -sense should be connected to its corresponding -OUTPUT.
- An external filter capacitor is required for normal operation. The capacitor should be capable of handling 1A ripple current for 48V models. Suggest: Nippon chemi-con KMF series, 220μ F/100V, ESR 90mΩ.
- The negative / positive logic and pin length are optional (see table). The pin voltage is referenced to negative input.
- Heat sink is optional and P/N: 7G-0029, 7G-0030, 7G-0031, 7G-0032.
- The SWA2 meets level A & level B conducted emissions only with external components connected before the input pin to the converter.
- Typical value at nominal input voltage and full load.
- BASEPLATE GROUNDING: Base-plate should be grounded at one of the four screw bolts prior to operation.
- The converter is provided by basic insulation.



- All Dimensions are in inches (mm)
- Pin pitch tolerance ±0.02 (0.5)

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