

## DC/DC Converter – SB-S1/D1(H)

1 WATT

Single Output

### FEATURES

- 1000 Vdc Isolation
- Up to 3000 Vdc Isolation
- Wide 2:1 Input Range
- 8 Pin SIL // 16 Pin DIL Package
- Regulated
- Continuous Short Circuit Protection
- MTBF > 1.4 MHours

Model Number	Input Vdc	Output Vdc	Output Current (mA)	Efficiency @FL (%)
SB-0505S1/D1	4.5-9	5	200	62
SB-0509S1/D1		9	111	64
SB-0512S1/D1		12	84	66
SB-0515S1/D1		15	67	66
SB-0524S1/D1	9-18	24	42	64
SB-1205S1/D1		5	200	68
SB-1209S1/D1		9	111	70
SB-1212S1/D1		12	84	72
SB-1215S1/D1	18-36	15	67	72
SB-1224S1/D1		24	42	70
SB-2405S1/D1		5	200	68
SB-2409S1/D1		9	111	70
SB-2412S1/D1	4.5-9	12	84	72
SB-2415S1/D1		15	67	72
SB-2424S1/D1		24	42	70
SB-0505S1/D1H		5	200	62
SB-0509S1/D1H	9-18	9	111	64
SB-0512S1/D1H		12	84	66
SB-0515S1/D1H		15	67	66
SB-0524S1/D1H		24	42	64
SB-1205S1/D1H	18-36	5	200	68
SB-1209S1/D1H		9	111	70
SB-1212S1/D1H		12	84	72
SB-1215S1/D1H		15	67	72
SB-1224S1/D1H	4.5-9	24	42	70
SB-2405S1/D1H		5	200	68
SB-2409S1/D1H		9	111	70
SB-2412S1/D1H		12	84	72
SB-2415S1/D1H	18-36	15	67	72
SB-2424S1/D1H		24	42	70

1. Suffix "H" means 3000 Vdc Isolation.  
2. Input Voltage range is from 5 V to 48 V and Output Voltage is from 3.3 V to 24 V.

#### Input Specifications:

Voltage Range 5Vdc, 4.5-9 Vdc, 12Vdc, 9-18 Vdc, 24Vdc, 18-36 Vdc, 48Vdc, 36-72 Vdc  
Filter Capacitors

#### Isolation Specification:

Rated Voltage 1000 Vdc, Standard  
Resistance 1000M  $\Omega$  Min.  
Capacitance 80 pF, Typ.

#### Output Specifications:

Voltage Accuracy:  $\pm 2\%$ , Max.  
Ripple and Noise (at 20 MHz BW) 80mVp-p, Max.  
Short Circuit Protection Continuous  
Short Circuit Restart Automatic  
Line Voltage Regulation  $\pm 0.5\%$ , Max.  
Load Voltage Regulation  $\pm 0.5\%$ , Max.  
Temperature Coefficient  $\pm 0.02\% / ^\circ\text{C}$

#### General Specifications:

Efficiency 62% ~ 72%  
Switching Frequency 350 KHz, Typ.

#### Environmental Specification:

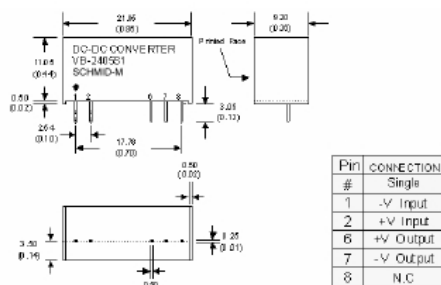
Operating Temperature (Ambient)  $-40^\circ\text{C} \sim +85^\circ\text{C}$   
Case Temperature  $95^\circ\text{C}$  Max.  
Storage Temperature  $-40^\circ\text{C} \sim +125^\circ\text{C}$   
Derating None Required  
Humidity Up to 90%, Non-condensing  
Cooling Free-air Convection

#### Capacitive Load:

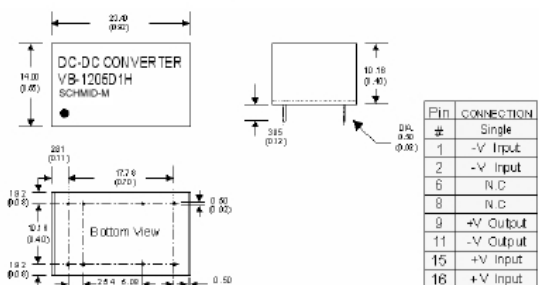
3.3, 5 Vout: 330 $\mu\text{F}$ , Max.  
9, 12, 15 Vout: 470 $\mu\text{F}$ , Max.  
24 Vout: 220 $\mu\text{F}$ , Max.

### MECHANICAL DIMENSIONS & PIN CONNECTIONS

#### 8 SIL Package



#### 16 DIL Package



Notes: 1. All dimensions are typical in millimeters (inches). Tolerance x.xx =  $\pm 0.25$  ( $\pm 0.01$ )