

DC/DC Converters – SA-D01(H)/DD1(H) series

1 WATT

Dual Separate / Dual Output

FEATURES

- 8 Pin DIL Package
- Up to 3000 VDC Isolation
- 1000 VDC Isolation
- Low Ripple and Noise
- Efficiency up to 79 %
- Operating Temperature Range - 40°C ~ 85°C
- Non-Conductive Black Plastic Case
- EMI Complies With EN55022 Class B



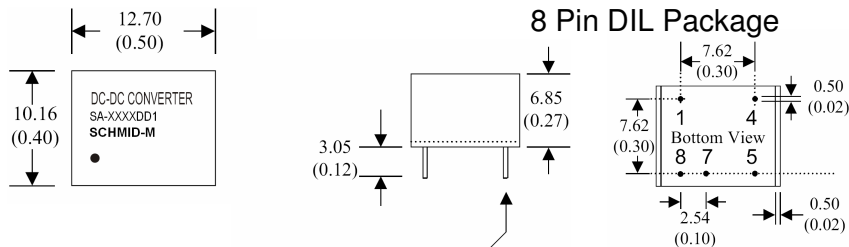
Model Number	Input Vdc	Output Vdc, out1, out2	Output Current (mA)	Eff. @FL (%)
SA-3R33R3D01	3.3	3.3, 3.3	152, 152	73
SA-3R305D01/		5, 5	100, 100	75
SA-3R37R2D01		7.2, 7.2	69, 69	75
SA-3R309D01		9, 9	56, 56	75
SA-3R312D01		12, 12	50, 50	78
SA-3R315D01		15, 15	33, 33	78
SA-3R318D01		18, 18	28, 28	78
SA-3R324D01		24, 24	25, 25	79
SA-053R3D01/DD1	5	3.3, 3.3	152, 152	74
SA-0505D01/DD1		5, 5	100, 100	74
SA-057R2D01/DD1		7.2, 7.2	69, 69	75
SA-0509D01/DD1		9, 9	56, 56	75
SA-0512D01/DD1		12, 12	50, 50	75
SA-0515D01/DD1		15, 15	33, 33	77
SA-0518D01/DD1		18, 18	28, 28	77
SA-0524D01/DD1		24, 24	25, 25	77
SA-123R3D01/DD1	12	3.3, 3.3	152, 152	75
SA-1205D01/DD1		5, 5	100, 100	75
SA-127R2D01/DD1		7.2, 7.2	69, 69	75
SA-1209D01/DD1		9, 9	56, 56	75
SA-1212D01/DD1		12, 12	50, 50	76
SA-1215D01/DD1		15, 15	33, 33	76
SA-1218D01/DD1		18, 18	28, 28	76
SA-1224D01/DD1		24, 24	25, 25	79
SA-153R3D01	15	3.3, 3.3	152, 152	75
SA-1505D01		5, 5	100, 100	76
SA-157R2D01		7.2, 7.2	69, 69	76
SA-1509D01		9, 9	56, 56	76
SA-1512D01		12, 12	50, 50	77
SA-1515D01		15, 15	33, 33	77
SA-1518D01		18, 18	28, 28	77
SA-1524D01		24, 24	25, 25	78
SA-243R3D01/DD1	24	3.3, 3.3	152, 152	73
SA-2405D01/DD1		5, 5	100, 100	75
SA-247R2D01/DD1		7.2, 7.2	69, 69	75
SA-2409D01/DD1		9, 9	56, 56	75
SA-2412D01/DD1		12, 12	50, 50	78
SA-2415D01/DD1		15, 15	33, 33	78
SA-2418D01/DD1		18, 18	28, 28	78
SA-2424D01/DD1		24, 24	25, 25	79

Input specifications:	
Input Reflected Ripple Current	20mA pk-pk, typ
Filter:	Capacitors
Voltage Range	±10%
Output specifications:	
Voltage accuracy	±3%
Ripple & noise (at 20MHz BW)	100mV pk-pk
Line regulation	±1.2%/Per 1% Vin change
Load regulation	±10%, load=20~100%
	3.3V models ±20%
Temperature coefficient	±0.02%/°C
General Specifications:	
Switching Frequency	80 kHz, variable
I/O isolation voltage (3 sec)	1000~3000Vdc
Safety standard	IEC 60950-1
EMC characteristics	
Radiated Emissions	EN55022 CLASS B FCC 47 CFR Part 15 Subp.B CLASS B
ESD	IEC61000-4-2 Perf. Criteria B
RS	IEC61000-4-3 Perf. Criteria A

Notes:
Suffix H means 3KVdc isolation

MECHANICAL DIMENSIONS & PIN CONNECTIONS

8 Pin DIL Package



Pin Size is 0.5 mm (0.02") DIA
or 0.50x0.30 mm (0.02x0.01")

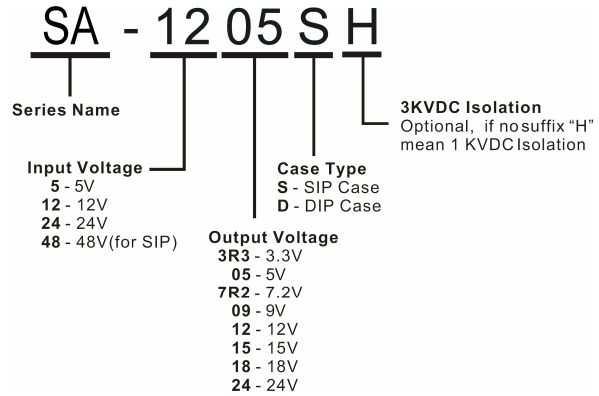
PIN #	Dual
1	-Vin
4	+Vin
5	+Vout
7	Common
8	-Vout

DC/DC Converters – SA-S/D1 series

1 WATT (available also 0.25, 0.5 and 1.5 WATT series)
Single Output

FEATURES

- 4 PIN SIL / 8 Pin DIL Package
- Up to 3000 VDC Isolation
- 1000 VDC Isolation
- Low Ripple and Noise
- Efficiency up to 78 %
- Operating Temperature Range - 40°C ~ 85°C
- Non-Conductive Black Plastic Case
- EMI Complies With EN55022 Class B

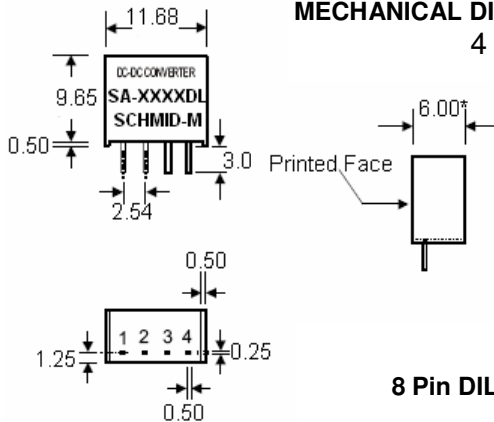


Model Number	Input Vdc	Output Vdc	Output Current (mA)	Eff. @FL (%)
SA-053R3S1/D1	5	3.3	303	72
SA-0505S1/D1		5	200	75
SA-057R2S1/D1		7.2	138.8	76
SA-0509S1/D1		9	111.1	77
SA-0512S1/D1		12	83.3	78
SA-0515S1/D1		15	66.67	78
SA-0518S1/D1		18	55.5	78
SA-0524S1/D1		24	41.67	78
SA-123R3S1/D1	12	3.3	303	72
SA-1205S1/D1		5	200	75
SA-127R2S1/D1		7.2	138.8	76
SA-1209S1/D1		9	111.1	77
SA-1212S1/D1		12	83.3	78
SA-1215S1/D1		15	66.67	78
SA-1218S1/D1		18	55.5	78
SA-1224S1/D1		24	41.67	78
SA-243R3S1/D1	24	3.3	303	72
SA-2405S1/D1		5	200	75
SA-247R2S1/D1		7.2	138.8	76
SA-2409S1/D1		9	111.1	77
SA-2412S1/D1		12	83.3	78
SA-2415S1/D1		15	66.67	78
SA-2418S1/D1		18	55.5	78
SA-2424S1/D1		24	41.67	78
SA-483R3S1/D1	48	3.3	303	72
SA-4805S1/D1		5	200	75
SA-487R2S1/D1		7.2	138.8	76
SA-4809S1/D1		9	111.1	76
SA-4812S1/D1		12	83.3	76
SA-4815S1/D1		15	66.67	76
SA-4818S1/D1		18	55.5	76
SA-4824S1/D1		24	41.67	76

Input specifications:	
Input Reflected Ripple Current	20mA pk-pk, typ
Filter:	Capacitors
Voltage Range	±10%
Output specifications:	
Voltage accuracy	±3%
Ripple & noise (at 20MHz BW)	100mV pk-pk
Line regulation	±1.2%/Per 1% Vin change
Load regulation	±10%,load=20~100%
	3.3V models ±20%
Temperature coefficient	±0.02%/°C
General Specifications:	
Switching Frequency	80 kHz, variable
I/O isolation voltage (3 sec)	1000~3000Vdc
Safety standard	IEC 60950-1
EMC characteristics	
Radiated Emissions	EN55022 CLASS B FCC 47 CFR Part 15 Subp.B CLASS B
ESD	IEC61000-4-2 Perf. Criteria B
RS	IEC61000-4-3 Perf. Criteria A
Environmental specifications:	
Operating Temperature	-40°C ~ +85°C
Case temperature	100°C Max.
Storage Temperature	-40°C ~ +125°C
Cooling	Nature Convection

Notes:
Suffix H means 3KVdc isolation

MECHANICAL DIMENSIONS & PIN CONNECTIONS 4 Pin SIL Package



- Notes : All dimensions are typical in millimeters (inches).
1. Pin diameter: 0.5±0.05 (0.02±0.002)
 2. Pin pitch tolerance: ±0.35 (±0.014)
 3. Case Tolerance: ±0.5 (±0.02)

PIN #	Single
1	-V Input
2	+V Input
3	-V Output
4	+V Output

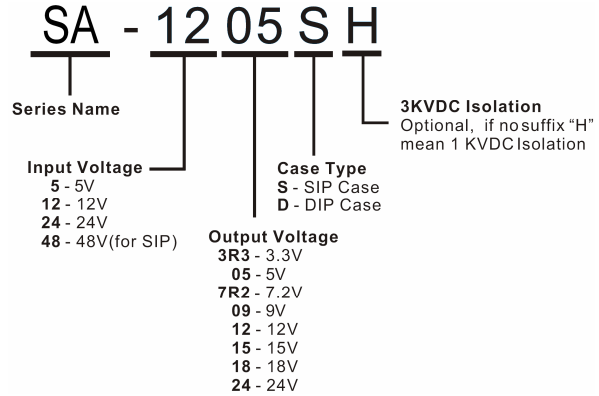
8 Pin DIL Package is on next page

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1 WATT (available also 0.25, 0.5 and 1 WATT series)
Single Output

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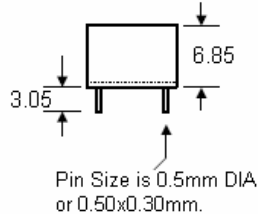
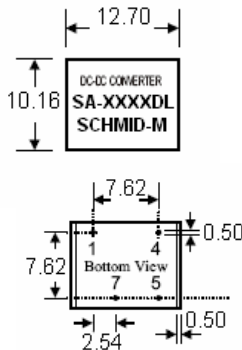


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SA-053R3S/D1.5	5	3.3	400	73
SA-0505S/D1.5		5	300	75
SA-057R2S/D1.5		7.2	208	75
SA-0509S/D1.5		9	167	75
SA-0512S/D1.5		12	125	78
SA-0515S/D1.5		15	100	78
SA-0518S/D1.5		18	83	78
SA-0524S/D1.5		24	62.5	79
SA-123R3S/D1.5	12	3.3	400	74
SA-1205S/D1.5		5	300	74
SA-127R2S/D1.5		7.2	208	75
SA-1209S/D1.5		9	167	75
SA-1212S/D1.5		12	125	75
SA-1215S/D1.5		15	100	77
SA-1218S/D1.5		18	83	77
SA-1224S/D1.5		24	62.5	77
SA-243R3S/D1.5	24	3.3	400	75
SA-2405S/D1.5		5	300	75
SA-247R2S/D1.5		7.2	208	75
SA-2409S/D1.5		9	167	75
SA-2412S/D1.5		12	125	76
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2	+V Input
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4 Pin SIL Package is on previous page