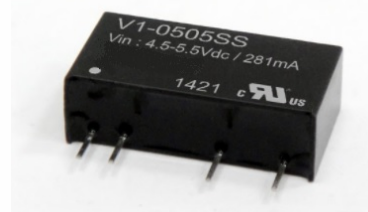


V1-1W Series

1W Unregulated Single & Dual output

Features

- 7 Pin SIL / 14 Pin DIL Package
- 1000 VDC Isolation
- Up to 6000 VDC Isolation
- Low Ripple and Noise
- Efficiency up to 86%
- -40 ~ 85°C Operation Temperature Range
- Non-Conductive Black Plastic Case
- EMI Complies With EN55032 Class B



FC CE cRU[®] US CB

The V1 series is a family of cost effective 1W single & dual output DC-DC converters. These converters achieve low cost and ultra-miniature SIP 7 pin or DIP 14 pin size. Devices are encapsulated using flame retardant resin. The models operate from input voltage of 3.3, 5, 12, 15, 24 Vdc with output voltage of 3.3, 5, 7.2, 9, 12, 15, 18, 24, ±3.3, ±5, ±7.2, ±9, ±12, ±15, ±18, ±24 Vdc. High performance features include 1000Vdc~6000Vdc input/output isolation, high efficiency operation and output voltage accuracy of ±3% maximum. Standard features include an input range of ±10% tolerance and low output noise and ripple.

All specifications typical at Ta=25°C, nominal input voltage and full load unless otherwise specified

| OUTPUT SPECIFICATIONS | |
|--------------------------------------|--|
| Output Voltage accuracy | ±3% , max. |
| Line regulation | ±1.2% / Per 1% Vin Change |
| Load regulation | (From 20% to 100% Load) ±10% , max. (Output 3.3V Model) ±20% , max. |
| Ripple & noise (20 MHz bandwidth)(1) | 75mVpk-pk , max. |
| Temperature coefficient | ±0.02%/°C |
| Capacitor load(2) | See table , max. |

| INPUT SPECIFICATIONS | |
|-----------------------------------|------------------|
| Input Voltage Range | ±10% |
| Input Current (Full Load) | See table , max. |
| Input Current (No Load) | See table , typ. |
| Input Filter | Capacitors |
| Input Reflected Ripple Current(3) | 20mApk-pk , typ. |

| ENVIRONMENT SPECIFICATIONS | |
|----------------------------|-------------------|
| Operating Temperature | -40°C~85°C |
| Maximum Case Temperature | 100°C |
| Storage Temperature | -40°C~125°C |
| Cooling | Nature Convection |

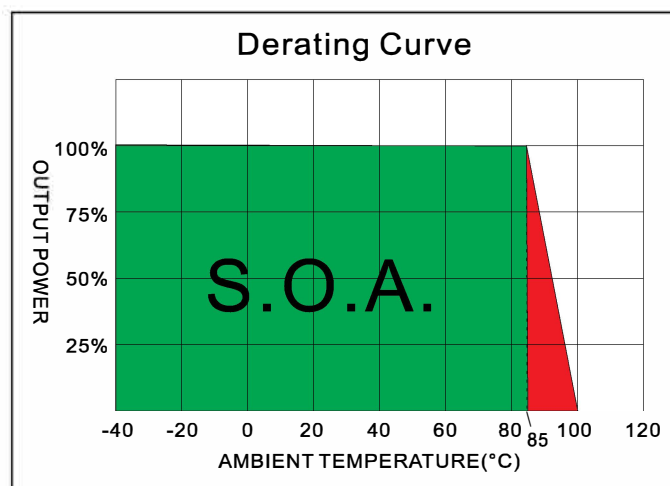
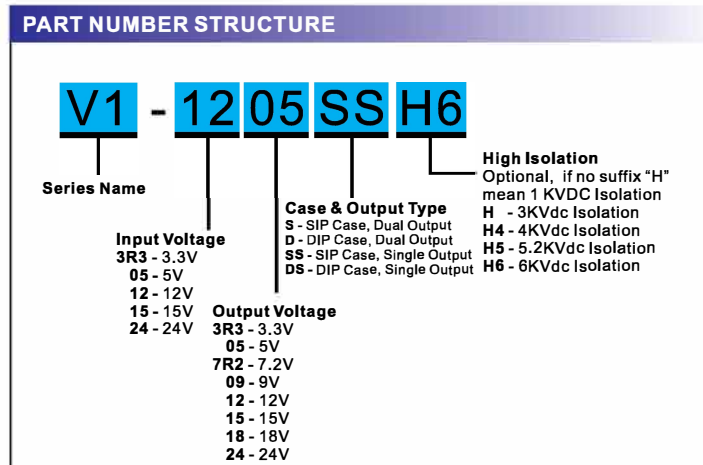
| GENERAL SPECIFICATIONS | |
|---|--|
| Efficiency | See table , typ. |
| I/O Isolation Voltage(60sec) | |
| Input/Output | 1000~6000Vdc |
| I/O Isolation Capacitance | 60 pF Typ. |
| I/O Isolation Resistance | 1000MΩ , min. |
| Switching Frequency | Variable 80kHz , typ. |
| Humidity | 95% rel H |
| Reliability Calculated MTBF(MIL-HDBK-217 F) | >1.121 Mhrs |
| Safety Standard | IEC/EN 60950-1 , 62368-1 UL/cUL 60950-1 , 62368-1 |
| Safety Approvals | IEC/EN 60950-1 , 62368-1 UL/cUL 60950-1 , 62368-1 |

| EMC SPECIFICATIONS | | |
|-------------------------|---------------|------------------|
| Radiated Emissions | EN55032 | CLASS B |
| Conducted Emissions (4) | EN55032 | CLASS B |
| ESD | IEC 61000-4-2 | Perf. Criteria A |
| RS | IEC 61000-4-3 | Perf. Criteria A |
| EFT (5) | IEC 61000-4-4 | Perf. Criteria A |
| Surge (5) | IEC 61000-4-5 | Perf. Criteria A |
| CS | IEC 61000-4-6 | Perf. Criteria A |
| PFMF | IEC 61000-4-8 | Perf. Criteria A |

| PHYSICAL SPECIFICATIONS | |
|-------------------------|--|
| Case Material | Non-conductive Black Plastic(UL94V-0 rated) |
| Pin Material | 0.5mm Alloy42 Solder-coated |
| Potting Material | Epoxy (UL94V-0 rated) |
| Weight | (SIP/2.3g)(DIP/2.7g) |
| Dimensions | SIP Case 0.76"x0.24"x0.39" DIP Case 0.80"x0.40"x0.27" |

| ABSOLUTE MAXIMUM RATINGS(6) | |
|--|---------------|
| These are stress ratings. Exposure of devices to any of these conditions may adversely affect long-term reliability. | |
| Input Surge Voltage(100mS) | |
| 3.3 Models | 6 Vdc , max. |
| 5 Models | 7 Vdc , max. |
| 12 Models | 15 Vdc , max. |
| 15 Models | 18 Vdc , max. |
| 24 Models | 28 Vdc , max. |
| Soldering Temperature (1.5mm from case 10sec max.) | 260°C , max. |

V1 - 1W Unregulated Single & Dual output



MODEL SELECTION GUIDE

| MODEL NUMBER | INPUT Voltage Range (Vdc) | INPUT Current | | OUTPUT Voltage (Vdc) | OUTPUT Current Full load (mA) | EFFICIENCY @FL (% ,typ.) | Capacitor Load @FL (µF ,max.) |
|--------------|---------------------------|--------------------|----------------------|----------------------|-------------------------------|--------------------------|-------------------------------|
| | | No-Load (mA ,max.) | Full Load (mA ,typ.) | | | | |
| V1-3R3R3SS | 2.97-3.3-3.63 | 28 | 399 | 3.3 | 303 | 76 | 220 |
| V1-3R305SS | 2.97-3.3-3.63 | 22 | 389 | 5 | 200 | 78 | 220 |
| V1-3R37R2SS | 2.97-3.3-3.63 | 25 | 388.50 | 7.2 | 139 | 78 | 220 |
| V1-3R309SS | 2.97-3.3-3.63 | 35 | 379 | 9 | 111 | 80 | 220 |
| V1-3R312SS | 2.97-3.3-3.63 | 30 | 393.55 | 12 | 83 | 77 | 220 |
| V1-3R315SS | 2.97-3.3-3.63 | 30 | 389 | 15 | 67 | 78 | 220 |
| V1-3R318SS | 2.97-3.3-3.63 | 30 | 415 | 18 | 56 | 73 | 220 |
| V1-3R324SS | 2.97-3.3-3.63 | 30 | 415 | 24 | 42 | 73 | 220 |
| V1-053R3SS | 4.5-5-5.5 | 15 | 256 | 3.3 | 303 | 78 | 220 |
| V1-0505SS | 4.5-5-5.5 | 17 | 247 | 5 | 200 | 81 | 220 |
| V1-057R2SS | 4.5-5-5.5 | 16 | 247 | 7.2 | 139 | 81 | 220 |
| V1-0509SS | 4.5-5-5.5 | 15 | 244 | 9 | 111 | 82 | 220 |
| V1-0512SS | 4.5-5-5.5 | 17 | 253 | 12 | 83 | 79 | 220 |
| V1-0515SS | 4.5-5-5.5 | 17 | 233 | 15 | 67 | 86 | 220 |
| V1-0518SS | 4.5-5-5.5 | 16 | 241 | 18 | 56 | 83 | 220 |
| V1-0524SS | 4.5-5-5.5 | 20 | 244 | 24 | 42 | 82 | 220 |
| V1-123R3SS | 10.8-12-13.2 | 12 | 111 | 3.3 | 303 | 75 | 220 |
| V1-1205SS | 10.8-12-13.2 | 14 | 105 | 5 | 200 | 79 | 220 |
| V1-127R2SS | 10.8-12-13.2 | 14 | 111 | 7.2 | 139 | 75 | 220 |
| V1-1209SS | 10.8-12-13.2 | 9 | 104 | 9 | 111 | 80 | 220 |
| V1-1212SS | 10.8-12-13.2 | 13 | 105 | 12 | 83 | 79 | 220 |
| V1-1215SS | 10.8-12-13.2 | 10 | 102 | 15 | 67 | 82 | 220 |
| V1-1218SS | 10.8-12-13.2 | 11 | 103 | 18 | 56 | 81 | 220 |
| V1-1224SS | 10.8-12-13.2 | 20 | 110 | 24 | 42 | 76 | 220 |
| V1-153R3SS | 13.5-15-16.5 | 10 | 83 | 3.3 | 303 | 80 | 220 |
| V1-1505SS | 13.5-15-16.5 | 7 | 82 | 5 | 200 | 81 | 220 |
| V1-157R2SS | 13.5-15-16.5 | 10 | 85 | 7.2 | 139 | 78 | 220 |
| V1-1509SS | 13.5-15-16.5 | 10 | 85 | 9 | 111 | 78 | 220 |
| V1-1512SS | 13.5-15-16.5 | 8 | 83 | 12 | 83 | 80 | 220 |
| V1-1515SS | 13.5-15-16.5 | 12 | 84 | 15 | 67 | 79 | 220 |
| V1-1518SS | 13.5-15-16.5 | 10 | 83 | 18 | 56 | 80 | 220 |
| V1-1524SS | 13.5-15-16.5 | 5 | 80 | 24 | 42 | 83 | 220 |

Suffix "H" means 3 KVdc isolation
Suffix "H5" means 5.2 KVdc isolation

Suffix "H4" means 4 KVdc isolation
Suffix "H6" means 6 KVdc isolation

V1 - 1W Unregulated Single & Dual output

| MODEL NUMBER | INPUT Voltage Range (Vdc) | INPUT Current | | OUTPUT Voltage (Vdc) | OUTPUT Current Full load (mA) | EFFICIENCY @FL (% ,typ.) | Capacitor Load @FL (µF ,max.) |
|--------------|---------------------------|--------------------|----------------------|----------------------|-------------------------------|--------------------------|-------------------------------|
| | | No-Load (mA ,max.) | Full Load (mA ,typ.) | | | | |
| V1-243R3SS | 21.6-24-26.4 | 8 | 56 | 3.3 | 303 | 74 | 220 |
| V1-2405SS | 21.6-24-26.4 | 6 | 54 | 5 | 200 | 77 | 220 |
| V1-247R2SS | 21.6-24-26.4 | 6 | 57 | 7.2 | 139 | 73 | 220 |
| V1-2409SS | 21.6-24-26.4 | 6 | 55 | 9 | 111 | 76 | 220 |
| V1-2412SS | 21.6-24-26.4 | 6 | 53 | 12 | 83 | 78 | 220 |
| V1-2415SS | 21.6-24-26.4 | 5 | 52 | 15 | 67 | 80 | 220 |
| V1-2418SS | 21.6-24-26.4 | 5 | 51 | 18 | 56 | 82 | 220 |
| V1-2424SS | 21.6-24-26.4 | 8 | 52 | 24 | 42 | 80 | 220 |
| V1-3R33R3S | 2.97-3.3-3.63 | 30 | 459 | ±3.3 | ±152 | 66 | ±100 |
| V1-3R305S | 2.97-3.3-3.63 | 30 | 433 | ±5.0 | ±100 | 70 | ±100 |
| V1-3R37R2S | 2.97-3.3-3.63 | 30 | 421 | ±7.2 | ±69 | 72 | ±100 |
| V1-3R309S | 2.97-3.3-3.63 | 26 | 404 | ±9.0 | ±56 | 75 | ±100 |
| V1-3R312S | 2.97-3.3-3.63 | 30 | 394 | ±12 | ±42 | 77 | ±100 |
| V1-3R315S | 2.97-3.3-3.63 | 25 | 389 | ±15 | ±33 | 78 | ±100 |
| V1-3R318S | 2.97-3.3-3.63 | 25 | 404 | ±18 | ±28 | 75 | ±100 |
| V1-3R324S | 2.97-3.3-3.63 | 25 | 404 | ±24 | ±21 | 75 | ±100 |
| V1-053R3S | 4.5-5-5.5 | 20 | 299 | ±3.3 | ±152 | 67 | ±100 |
| V1-0505S | 4.5-5-5.5 | 20 | 270 | ±5.0 | ±100 | 74 | ±100 |
| V1-057R2S | 4.5-5-5.5 | 15 | 253 | ±7.2 | ±69 | 79 | ±100 |
| V1-0509S | 4.5-5-5.5 | 15 | 247 | ±9.0 | ±56 | 81 | ±100 |
| V1-0512S | 4.5-5-5.5 | 20 | 250 | ±12 | ±42 | 80 | ±100 |
| V1-0515S | 4.5-5-5.5 | 20 | 244 | ±15 | ±33 | 82 | ±100 |
| V1-0518S | 4.5-5-5.5 | 22 | 247 | ±18 | ±28 | 81 | ±100 |
| V1-0524S | 4.5-5-5.5 | 22 | 247 | ±24 | ±21 | 81 | ±100 |
| V1-123R3S | 10.8-12-13.2 | 13 | 123 | ±3.3 | ±152 | 68 | ±100 |
| V1-1205S | 10.8-12-13.2 | 10 | 123 | ±5.0 | ±100 | 74 | ±100 |
| V1-127R2S | 10.8-12-13.2 | 10 | 110 | ±7.2 | ±69 | 76 | ±100 |
| V1-1209S | 10.8-12-13.2 | 13 | 110 | ±9.0 | ±56 | 78 | ±100 |
| V1-1212S | 10.8-12-13.2 | 10 | 102 | ±12 | ±42 | 82 | ±100 |
| V1-1215S | 10.8-12-13.2 | 10 | 102 | ±15 | ±33 | 82 | ±100 |
| V1-1218S | 10.8-12-13.2 | 20 | 103 | ±18 | ±28 | 81 | ±100 |
| V1-1224S | 10.8-12-13.2 | 20 | 111 | ±24 | ±21 | 75 | ±100 |
| V1-153R3S | 13.5-15-16.5 | 20 | 89 | ±3.3 | ±152 | 75 | ±100 |
| V1-1505S | 13.5-15-16.5 | 20 | 89 | ±5.0 | ±100 | 75 | ±100 |
| V1-157R2S | 13.5-15-16.5 | 18 | 89 | ±7.2 | ±69 | 75 | ±100 |
| V1-1509S | 13.5-15-16.5 | 18 | 87 | ±9.0 | ±56 | 77 | ±100 |
| V1-1512S | 13.5-15-16.5 | 20 | 87 | ±12 | ±42 | 77 | ±100 |
| V1-1515S | 13.5-15-16.5 | 20 | 87 | ±15 | ±33 | 77 | ±100 |
| V1-1518S | 13.5-15-16.5 | 15 | 89 | ±18 | ±28 | 75 | ±100 |
| V1-1524S | 13.5-15-16.5 | 15 | 89 | ±24 | ±21 | 75 | ±100 |
| V1-243R3S | 21.6-24-26.4 | 7 | 62 | ±3.3 | ±152 | 67 | ±100 |
| V1-2405S | 21.6-24-26.4 | 6 | 56 | ±5.0 | ±100 | 74 | ±100 |
| V1-247R2S | 21.6-24-26.4 | 7 | 56 | ±7.2 | ±69 | 78 | ±100 |
| V1-2409S | 21.6-24-26.4 | 7 | 56 | ±9.0 | ±56 | 78 | ±100 |
| V1-2412S | 21.6-24-26.4 | 6 | 52 | ±12 | ±42 | 80 | ±100 |
| V1-2415S | 21.6-24-26.4 | 8 | 52 | ±15 | ±33 | 80 | ±100 |
| V1-2418S | 21.6-24-26.4 | 6 | 51 | ±18 | ±28 | 81 | ±100 |
| V1-2424S | 21.6-24-26.4 | 8 | 51 | ±24 | ±21 | 82 | ±100 |

Suffix "H" means 3 KVdc isolation
 Suffix "H5" means 5.2 KVdc isolation

Suffix "H4" means 4 KVdc isolation
 Suffix "H6" means 6 KVdc isolation

V1 - 1W Unregulated Single & Dual output

| MODEL NUMBER | INPUT Voltage Range (Vdc) | INPUT Current | | OUTPUT Voltage (Vdc) | OUTPUT Current Full load (mA) | EFFICIENCY @FL (% ,typ.) | Capacitor Load @FL (µF ,max.) |
|--------------|---------------------------|--------------------|----------------------|----------------------|-------------------------------|--------------------------|-------------------------------|
| | | No-Load (mA ,max.) | Full Load (mA ,typ.) | | | | |
| V1-3R33R3DS | 2.97-3.3-3.63 | 35 | 427 | 3.3 | 303 | 71 | 220 |
| V1-3R305DS | 2.97-3.3-3.63 | 35 | 404 | 5 | 200 | 75 | 220 |
| V1-3R37R2DS | 2.97-3.3-3.63 | 35 | 404.04 | 7.2 | 139 | 75 | 220 |
| V1-3R309DS | 2.97-3.3-3.63 | 30 | 394 | 9 | 111 | 77 | 220 |
| V1-3R312DS | 2.97-3.3-3.63 | 30 | 398.72 | 12 | 83 | 76 | 220 |
| V1-3R315DS | 2.97-3.3-3.63 | 30 | 399 | 15 | 67 | 76 | 220 |
| V1-3R318DS | 2.97-3.3-3.63 | 35 | 415 | 18 | 56 | 73 | 220 |
| V1-3R324DS | 2.97-3.3-3.63 | 35 | 415 | 24 | 42 | 73 | 220 |
| V1-053R3DS | 4.5-5-5.5 | 20 | 260 | 3.3 | 303 | 77 | 220 |
| V1-0505DS | 4.5-5-5.5 | 20 | 244 | 5 | 200 | 82 | 220 |
| V1-057R2DS | 4.5-5-5.5 | 20 | 244 | 7.2 | 139 | 82 | 220 |
| V1-0509DS | 4.5-5-5.5 | 20 | 250 | 9 | 111 | 80 | 220 |
| V1-0512DS | 4.5-5-5.5 | 16 | 247 | 12 | 83 | 81 | 220 |
| V1-0515DS | 4.5-5-5.5 | 20 | 250 | 15 | 67 | 80 | 220 |
| V1-0518DS | 4.5-5-5.5 | 25 | 250 | 18 | 56 | 80 | 220 |
| V1-0524DS | 4.5-5-5.5 | 22 | 244 | 24 | 42 | 82 | 220 |
| V1-123R3DS | 10.8-12-13.2 | 20 | 111 | 3.3 | 303 | 75 | 220 |
| V1-1205DS | 10.8-12-13.2 | 14 | 104 | 5 | 200 | 80 | 220 |
| V1-127R2DS | 10.8-12-13.2 | 15 | 110 | 7.2 | 139 | 76 | 220 |
| V1-1209DS | 10.8-12-13.2 | 10 | 104 | 9 | 111 | 80 | 220 |
| V1-1212DS | 10.8-12-13.2 | 13 | 108 | 12 | 83 | 77 | 220 |
| V1-1215DS | 10.8-12-13.2 | 15 | 110 | 15 | 67 | 76 | 220 |
| V1-1218DS | 10.8-12-13.2 | 20 | 114 | 18 | 56 | 73 | 220 |
| V1-1224DS | 10.8-12-13.2 | 25 | 114 | 24 | 42 | 73 | 220 |
| V1-153R3DS | 13.5-15-16.5 | 10 | 89 | 3.3 | 303 | 75 | 220 |
| V1-1505DS | 13.5-15-16.5 | 7 | 82 | 5 | 200 | 81 | 220 |
| V1-157R2DS | 13.5-15-16.5 | 10 | 89 | 7.2 | 139 | 75 | 220 |
| V1-1509DS | 13.5-15-16.5 | 10 | 89 | 9 | 111 | 75 | 220 |
| V1-1512DS | 13.5-15-16.5 | 10 | 83 | 12 | 83 | 80 | 220 |
| V1-1515DS | 13.5-15-16.5 | 10 | 84 | 15 | 67 | 79 | 220 |
| V1-1518DS | 13.5-15-16.5 | 10 | 83 | 18 | 56 | 80 | 220 |
| V1-1524DS | 13.5-15-16.5 | 10 | 83 | 24 | 42 | 80 | 220 |
| V1-243R3DS | 21.6-24-26.4 | 7 | 55 | 3.3 | 303 | 76 | 220 |
| V1-2405DS | 21.6-24-26.4 | 7 | 52 | 5 | 200 | 80 | 220 |
| V1-247R2DS | 21.6-24-26.4 | 8 | 57 | 7.2 | 139 | 73 | 220 |
| V1-2409DS | 21.6-24-26.4 | 7 | 56 | 9 | 111 | 75 | 220 |
| V1-2412DS | 21.6-24-26.4 | 6 | 53 | 12 | 83 | 78 | 220 |
| V1-2415DS | 21.6-24-26.4 | 6 | 52 | 15 | 67 | 80 | 220 |
| V1-2418DS | 21.6-24-26.4 | 5 | 52 | 18 | 56 | 80 | 220 |
| V1-2424DS | 21.6-24-26.4 | 5 | 51 | 24 | 42 | 81 | 220 |
| V1-3R33R3D | 2.97-3.3-3.63 | 35 | 481 | ±3.3 | ±152 | 63 | ±100 |
| V1-3R305D | 2.97-3.3-3.63 | 25 | 452 | ±5.0 | ±100 | 67 | ±100 |
| V1-3R37R2D | 2.97-3.3-3.63 | 30 | 432 | ±7.2 | ±69 | 70 | ±100 |
| V1-3R309D | 2.97-3.3-3.63 | 30 | 415 | ±9.0 | ±56 | 73 | ±100 |
| V1-3R312D | 2.97-3.3-3.63 | 30 | 415 | ±12 | ±42 | 73 | ±100 |
| V1-3R315D | 2.97-3.3-3.63 | 30 | 399 | ±15 | ±33 | 76 | ±100 |
| V1-3R318D | 2.97-3.3-3.63 | 30 | 404 | ±18 | ±28 | 75 | ±100 |
| V1-3R324D | 2.97-3.3-3.63 | 30 | 404 | ±24 | ±21 | 75 | ±100 |

Suffix "H" means 3 KVdc isolation
 Suffix "H5" means 5.2 KVdc isolation

Suffix "H4" means 4 KVdc isolation
 Suffix "H6" means 6 KVdc isolation

V1 - 1W Unregulated Single & Dual output

| MODEL NUMBER | INPUT Voltage Range (Vdc) | INPUT Current | | OUTPUT Voltage (Vdc) | OUTPUT Current Full load (mA) | EFFICIENCY @FL (% ,typ.) | Capacitor Load @FL (µF ,max.) |
|--------------|---------------------------|--------------------|----------------------|----------------------|-------------------------------|--------------------------|-------------------------------|
| | | No-Load (mA ,max.) | Full Load (mA ,typ.) | | | | |
| V1-053R3D | 4.5-5-5.5 | 20 | 308 | ±3.3 | ±152 | 65 | ±100 |
| V1-0505D | 4.5-5-5.5 | 20 | 259 | ±5.0 | ±100 | 70 | ±100 |
| V1-057R2D | 4.5-5-5.5 | 20 | 274 | ±7.2 | ±69 | 73 | ±100 |
| V1-0509D | 4.5-5-5.5 | 16 | 253 | ±9.0 | ±56 | 79 | ±100 |
| V1-0512D | 4.5-5-5.5 | 20 | 250 | ±12 | ±42 | 80 | ±100 |
| V1-0515D | 4.5-5-5.5 | 20 | 247 | ±15 | ±33 | 81 | ±100 |
| V1-0518D | 4.5-5-5.5 | 18 | 244 | ±18 | ±28 | 82 | ±100 |
| V1-0524D | 4.5-5-5.5 | 20 | 244 | ±24 | ±21 | 82 | ±100 |
| V1-123R3D | 10.8-12-13.2 | 15 | 128 | ±3.3 | ±152 | 65 | ±100 |
| V1-1205D | 10.8-12-13.2 | 7 | 113 | ±5.0 | ±100 | 74 | ±100 |
| V1-127R2D | 10.8-12-13.2 | 13 | 111 | ±7.2 | ±69 | 75 | ±100 |
| V1-1209D | 10.8-12-13.2 | 15 | 104 | ±9.0 | ±56 | 80 | ±100 |
| V1-1212D | 10.8-12-13.2 | 14 | 103 | ±12 | ±42 | 81 | ±100 |
| V1-1215D | 10.8-12-13.2 | 11 | 102 | ±15 | ±33 | 82 | ±100 |
| V1-1218D | 10.8-12-13.2 | 15 | 111 | ±18 | ±28 | 75 | ±100 |
| V1-1224D | 10.8-12-13.2 | 20 | 110 | ±24 | ±21 | 76 | ±100 |
| V1-153R3D | 13.5-15-16.5 | 20 | 89 | ±3.3 | ±152 | 75 | ±100 |
| V1-1505D | 13.5-15-16.5 | 20 | 89 | ±5.0 | ±100 | 75 | ±100 |
| V1-157R2D | 13.5-15-16.5 | 18 | 89 | ±7.2 | ±69 | 75 | ±100 |
| V1-1509D | 13.5-15-16.5 | 18 | 87 | ±9.0 | ±56 | 77 | ±100 |
| V1-1512D | 13.5-15-16.5 | 20 | 87 | ±12 | ±42 | 77 | ±100 |
| V1-1515D | 13.5-15-16.5 | 20 | 87 | ±15 | ±33 | 77 | ±100 |
| V1-1518D | 13.5-15-16.5 | 15 | 89 | ±18 | ±28 | 75 | ±100 |
| V1-1524D | 13.5-15-16.5 | 15 | 89 | ±24 | ±21 | 75 | ±100 |
| V1-243R3D | 21.6-24-26.4 | 10 | 65 | ±3.3 | ±152 | 64 | ±100 |
| V1-2405D | 21.6-24-26.4 | 5 | 56 | ±5.0 | ±100 | 75 | ±100 |
| V1-247R2D | 21.6-24-26.4 | 7 | 56 | ±7.2 | ±69 | 75 | ±100 |
| V1-2409D | 21.6-24-26.4 | 5 | 52 | ±9.0 | ±56 | 80 | ±100 |
| V1-2412D | 21.6-24-26.4 | 6 | 53 | ±12 | ±42 | 79 | ±100 |
| V1-2415D | 21.6-24-26.4 | 8 | 51 | ±15 | ±33 | 81 | ±100 |
| V1-2418D | 21.6-24-26.4 | 10 | 53 | ±18 | ±28 | 78 | ±100 |
| V1-2424D | 21.6-24-26.4 | 9 | 53 | ±24 | ±21 | 78 | ±100 |

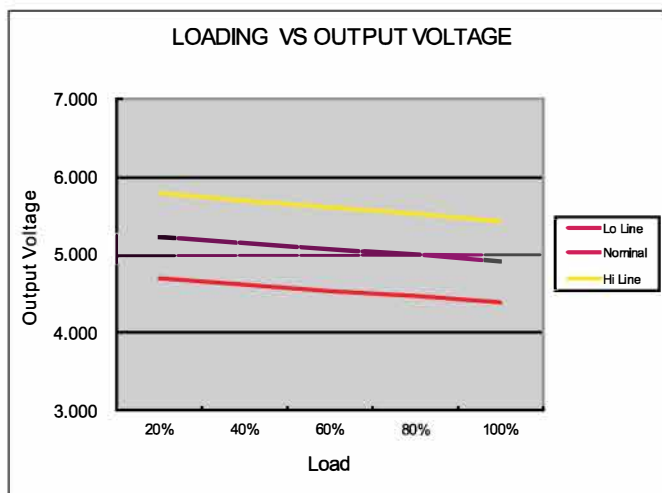
Suffix "H" means 3 KVdc isolation

Suffix "H5" means 5.2 KVdc isolation

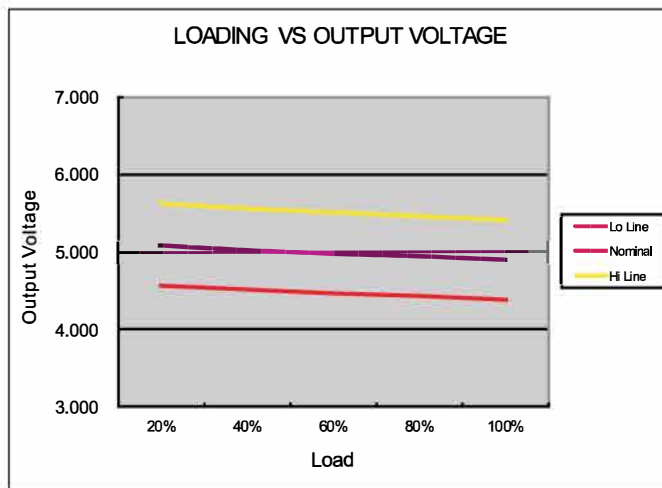
Suffix "H4" means 4 KVdc isolation

Suffix "H6" means 6 KVdc isolation

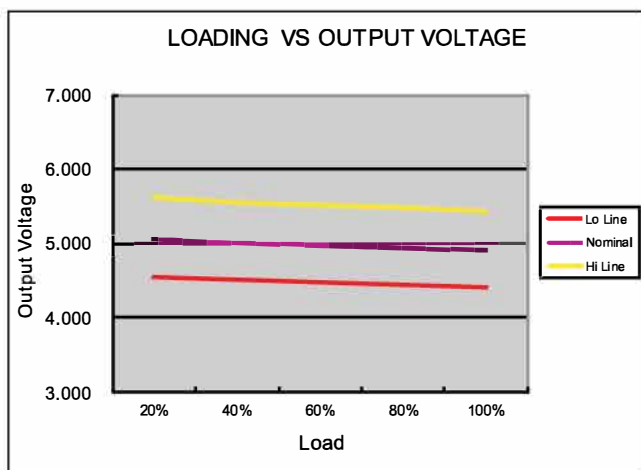
V1 - 1W Unregulated Single & Dual output



5 Models



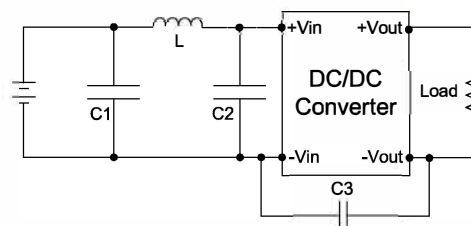
12 Models



24 Models

TEST CONFIGURATIONS
EMI Filter

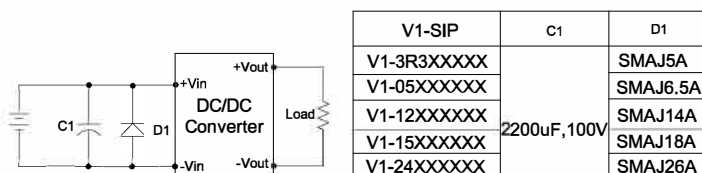
Input filter components (C1, L, C2, C3) are used to help meet conducted emissions requirement for the module. These components should be mounted as close as possible to the module; and all leads should be minimized to decrease radiated noise.



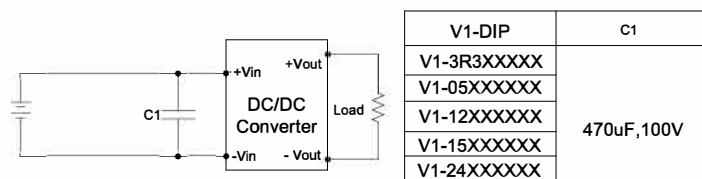
| | C1 | L | C2 | C3 |
|-------------|------------------|------|------------------|-----------------|
| V1-3R3XXXXX | 1210, 2.2μF/100V | 18μH | | |
| V1-05XXXXXX | 1210, 2.2μF/100V | 18μH | | |
| V1-12XXXXXX | 1210, 2.2μF/100V | 18μH | | |
| V1-15XXXXXX | 1210, 2.2μF/100V | 18μH | | |
| V1-24XXXXXX | 1210, 2.2μF/100V | 18μH | 1210, 2.2μF/100V | 1206, 470pF/2KV |

EFT/Surge Filter

Input filter components (C1, D1) are used to help meet IEC 61000-4-4 and IEC 61000-4-5.



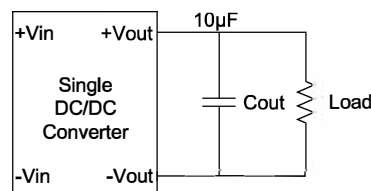
| V1-SIP | C1 | D1 |
|-------------|--------------|----------|
| V1-3R3XXXXX | 2200uF, 100V | SMAJ5A |
| V1-05XXXXXX | | SMAJ6.5A |
| V1-12XXXXXX | | SMAJ14A |
| V1-15XXXXXX | | SMAJ18A |
| V1-24XXXXXX | | SMAJ26A |

V1-SIP Models


| V1-DIP | C1 |
|-------------|-------------|
| V1-3R3XXXXX | 470uF, 100V |
| V1-05XXXXXX | |
| V1-12XXXXXX | |
| V1-15XXXXXX | |
| V1-24XXXXXX | |

V1-DIP Models
Output Ripple & Noise Reduction

To reduce ripple and noise, it is recommended to use a 10μF electrolytic capacitor to at the output.


NOTE

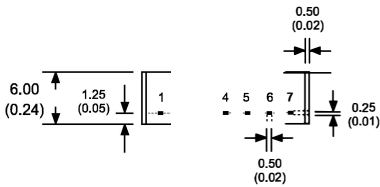
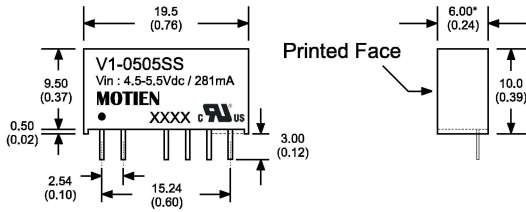
1. Ripple/Noise measured with 20MHz bandwidth.
2. Tested by minimal Vin and constant resistive load.
3. Measured Input reflected ripple current with a simulated source inductance of 12μH and a source capacitor Cin(47μF, ESR<1.0Ω at 100KHz).
4. Input filter components are required to help meet conducted emission class B, which application refer to the EMI Filter of design & feature configuration.
5. An external filter capacitor is required if the module has to meet IEC61000-4-4/IEC61000-4-5. The V1-SIP recommended an aluminum electrolytic capacitor and TVS to connect in parallel. The V1-DIP recommended an aluminum electrolytic capacitor to connect in parallel. Which application refer to the EFT/Surge Filter of design & feature configuration.
6. Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
7. Operation under no-load conditions will not damage these devices, however they may not meet all listed specifications.
8. All Models should be externally fused at the front end for protection.

| Input Voltage | Slow Burning Fuses |
|----------------|--------------------|
| 3.3 Vin | 800mA |
| 5 Vin | 500mA |
| 12, 15, 24 Vin | 300mA |

V1 - 1W Unregulated Single & Dual output



MECHANICAL SPECIFICATIONS



7 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 and length tolerance: ± 0.35 (± 0.014)
 3. Case Tolerance: ± 0.5 (± 0.02)

PIN CONNECTIONS

| PIN NUMBER | SINGLE | DUAL | SINGLE-H | DUAL-H |
|------------|-----------|-----------|-----------|-----------|
| 1 | +V Input | +V Input | +V Input | +V Input |
| 2 | -V Input | -V Input | -V Input | -V Input |
| 4 | -V Output | -V Output | N.P. | N.P. |
| 5 | N.P. | Common | -V Output | -V Output |
| 6 | +V Output | +V Output | N.P. | Common |
| 7 | N.P. | N.P. | +V Output | +V Output |

PIN CONNECTIONS

| PIN NUMBER | SINGLE | DUAL | SINGLE-H | DUAL-H |
|------------|-----------|-----------|-----------|-----------|
| 1 | -V Input | -V Input | -V Input | -V Input |
| 7 | N.C. | N.C. | N.C. | N.C. |
| 8 | N.P. | Common | +V Output | +V Output |
| 9 | +V Output | +V Output | N.P. | Common |
| 10 | N.P. | N.P. | -V Output | -V Output |
| 11 | -V Output | -V Output | N.P. | N.P. |
| 14 | +V Input | +V Input | +V Input | +V Input |

14 Pin DIL Package

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

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