



FEATURES:

- RoHS compliant
- High efficiency up to 76%
- Remote On/Off Control
- 8 pin SIP package
- Operating temperature -40°C to + 85°C
- Continuous Short Circuit Protection
- Wide 2:1 input range
- Input / Output Isolation 1000 & 3000VDC



Models

Single output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Isolation (VDC) | Capacitor Load (µF) | Input Current Full Load No Load (mA) | | Efficiency (%) |
|----------------|-------------------|--------------------|-------------------------|-----------------|---------------------|--|----|----------------|
| AM1G-0503SZ | 4.5-9 | 3.3 | 303 | 1000 | 3300 | 303 | 76 | 65 |
| AM1G-0505SZ | 4.5-9 | 5 | 200 | 1000 | 3300 | 200 | 50 | 65 |
| AM1G-0507SZ | 4.5-9 | 7.2 | 139 | 1000 | 470 | 180 | 43 | 65 |
| AM1G-0509SZ | 4.5-9 | 9 | 111 | 1000 | 470 | 111 | 28 | 66 |
| AM1G-0512SZ | 4.5-9 | 12 | 83 | 1000 | 470 | 83 | 21 | 66 |
| AM1G-0515SZ | 4.5-9 | 15 | 67 | 1000 | 470 | 67 | 17 | 66 |
| AM1G-0518SZ | 4.5-9 | 18 | 56 | 1000 | 220 | 52 | 15 | 66 |
| AM1G-0524SZ | 4.5-9 | 24 | 41 | 1000 | 220 | 42 | 10 | 66 |
| AM1G-1203SZ | 9-18 | 3.3 | 303 | 1000 | 3300 | 303 | 76 | 66 |
| AM1G-1205SZ | 9-18 | 5 | 200 | 1000 | 3300 | 200 | 50 | 68 |
| AM1G-1207SZ | 9-18 | 7.2 | 139 | 1000 | 470 | 180 | 43 | 68 |
| AM1G-1209SZ | 9-18 | 9 | 111 | 1000 | 470 | 111 | 28 | 72 |
| AM1G-1212SZ | 9-18 | 12 | 83 | 1000 | 470 | 83 | 21 | 72 |
| AM1G-1215SZ | 9-18 | 15 | 67 | 1000 | 470 | 67 | 17 | 72 |
| AM1G-1218SZ | 9-18 | 18 | 56 | 1000 | 220 | 52 | 15 | 70 |
| AM1G-1224SZ | 9-18 | 24 | 41 | 1000 | 220 | 42 | 10 | 70 |
| AM1G-2403SZ | 18-36 | 3.3 | 303 | 1000 | 3300 | 303 | 76 | 65 |
| AM1G-2405SZ | 18-36 | 5 | 200 | 1000 | 3300 | 200 | 50 | 68 |
| AM1G-2407SZ | 18-36 | 7.2 | 139 | 1000 | 470 | 180 | 43 | 68 |
| AM1G-2409SZ | 18-36 | 9 | 111 | 1000 | 470 | 111 | 28 | 70 |
| AM1G-2412SZ | 18-36 | 12 | 83 | 1000 | 470 | 83 | 21 | 72 |
| AM1G-2415SZ | 18-36 | 15 | 67 | 1000 | 470 | 67 | 17 | 72 |
| AM1G-2418SZ | 18-36 | 18 | 56 | 1000 | 220 | 52 | 15 | 70 |
| AM1G-2424SZ | 18-36 | 24 | 41 | 1000 | 220 | 42 | 10 | 70 |
| AM1G-4803SZ | 36-72 | 3.3 | 303 | 1000 | 3300 | 303 | 76 | 64 |
| AM1G-4805SZ | 36-72 | 5 | 200 | 1000 | 3300 | 200 | 50 | 65 |
| AM1G-4807SZ | 36-72 | 7.2 | 139 | 1000 | 470 | 180 | 43 | 65 |
| AM1G-4809SZ | 36-72 | 9 | 111 | 1000 | 470 | 111 | 28 | 67 |
| AM1G-4812SZ | 36-72 | 12 | 83 | 1000 | 470 | 83 | 21 | 70 |
| AM1G-4815SZ | 36-72 | 15 | 67 | 1000 | 470 | 67 | 17 | 70 |
| AM1G-4818SZ | 36-72 | 18 | 56 | 1000 | 220 | 52 | 15 | 68 |
| AM1G-4824SZ | 36-72 | 24 | 41 | 1000 | 220 | 42 | 10 | 68 |
| AM1G-0503SH30Z | 4.5-9 | 3.3 | 303 | 3000 | 3300 | 303 | 76 | 65 |
| AM1G-0505SH30Z | 4.5-9 | 5 | 200 | 3000 | 3300 | 200 | 50 | 65 |
| AM1G-0507SH30Z | 4.5-9 | 7.2 | 139 | 3000 | 470 | 180 | 43 | 65 |
| AM1G-0509SH30Z | 4.5-9 | 9 | 111 | 3000 | 470 | 111 | 28 | 66 |
| AM1G-0512SH30Z | 4.5-9 | 12 | 83 | 3000 | 470 | 83 | 21 | 66 |
| AM1G-0515SH30Z | 4.5-9 | 15 | 67 | 3000 | 470 | 67 | 17 | 66 |
| AM1G-0518SH30Z | 4.5-9 | 18 | 56 | 3000 | 220 | 52 | 15 | 66 |
| AM1G-0524SH30Z | 4.5-9 | 24 | 41 | 3000 | 220 | 42 | 10 | 66 |
| AM1G-1203SH30Z | 9-18 | 3.3 | 303 | 3000 | 3300 | 303 | 76 | 66 |
| AM1G-1205SH30Z | 9-18 | 5 | 200 | 3000 | 3300 | 200 | 50 | 68 |
| AM1G-1207SH30Z | 9-18 | 7.2 | 139 | 3000 | 470 | 180 | 43 | 68 |
| AM1G-1209SH30Z | 9-18 | 9 | 111 | 3000 | 470 | 111 | 28 | 72 |
| AM1G-1212SH30Z | 9-18 | 12 | 83 | 3000 | 470 | 83 | 21 | 72 |

Models

Single output (continued)

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Capacitor Load (μF) | Input Current Full Load No Load (mA) | | Efficiency (%) |
|----------------|-------------------|--------------------|-------------------------|-----------------|---------------------|--|----|----------------|
| AM1G-1215SH30Z | 9-18 | 15 | 67 | 3000 | 470 | 67 | 17 | 72 |
| AM1G-1218SH30Z | 9-18 | 18 | 56 | 3000 | 220 | 52 | 15 | 70 |
| AM1G-1224SH30Z | 9-18 | 24 | 41 | 3000 | 220 | 42 | 10 | 70 |
| AM1G-2403SH30Z | 18-36 | 3.3 | 303 | 3000 | 3300 | 303 | 76 | 65 |
| AM1G-2405SH30Z | 18-36 | 5 | 200 | 3000 | 3300 | 200 | 50 | 68 |
| AM1G-2407SH30Z | 18-36 | 7.2 | 139 | 3000 | 470 | 180 | 43 | 68 |
| AM1G-2409SH30Z | 18-36 | 9 | 111 | 3000 | 470 | 111 | 28 | 70 |
| AM1G-2412SH30Z | 18-36 | 12 | 83 | 3000 | 470 | 83 | 21 | 72 |
| AM1G-2415SH30Z | 18-36 | 15 | 67 | 3000 | 470 | 67 | 17 | 72 |
| AM1G-2418SH30Z | 18-36 | 18 | 56 | 3000 | 220 | 52 | 15 | 70 |
| AM1G-2424SH30Z | 18-36 | 24 | 41 | 3000 | 220 | 42 | 10 | 70 |
| AM1G-4803SH30Z | 36-72 | 3.3 | 303 | 3000 | 3300 | 303 | 76 | 64 |
| AM1G-4805SH30Z | 36-72 | 5 | 200 | 3000 | 3300 | 200 | 50 | 65 |
| AM1G-4807SH30Z | 36-72 | 7.2 | 139 | 3000 | 470 | 180 | 43 | 65 |
| AM1G-4809SH30Z | 36-72 | 9 | 111 | 3000 | 470 | 111 | 28 | 67 |
| AM1G-4812SH30Z | 36-72 | 12 | 83 | 3000 | 470 | 83 | 21 | 70 |
| AM1G-4815SH30Z | 36-72 | 15 | 67 | 3000 | 470 | 67 | 17 | 70 |
| AM1G-4818SH30Z | 36-72 | 18 | 56 | 3000 | 220 | 52 | 15 | 68 |
| AM1G-4824SH30Z | 36-72 | 24 | 41 | 3000 | 220 | 42 | 10 | 68 |

Models

Dual output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Capacitor Load (μF) | Input Current Full Load No Load (mA) | | Efficiency (%) |
|-------------|-------------------|--------------------|-------------------------|-----------------|---------------------|--|-----|----------------|
| AM1G-0503DZ | 4.5-9 | ±3.3 | ±151 | 1000 | ±1000 | ±152 | ±38 | 68 |
| AM1G-0505DZ | 4.5-9 | ±5 | ±100 | 1000 | ±1000 | ±100 | ±25 | 70 |
| AM1G-0507DZ | 4.5-9 | ±7.2 | ±69 | 1000 | ±470 | ±68 | ±20 | 70 |
| AM1G-0509DZ | 4.5-9 | ±9 | ±55 | 1000 | ±470 | ±56 | ±14 | 71 |
| AM1G-0512DZ | 4.5-9 | ±12 | ±42 | 1000 | ±470 | ±42 | ±10 | 72 |
| AM1G-0515DZ | 4.5-9 | ±15 | ±35 | 1000 | ±470 | ±33 | ±8 | 72 |
| AM1G-0518DZ | 4.5-9 | ±18 | ±28 | 1000 | ±220 | ±28 | ±7 | 72 |
| AM1G-0524DZ | 4.5-9 | ±24 | ±20 | 1000 | ±220 | ±21 | ±5 | 72 |
| AM1G-1203DZ | 9-18 | ±3.3 | ±151 | 1000 | ±1000 | ±152 | ±38 | 70 |
| AM1G-1205DZ | 9-18 | ±5 | ±100 | 1000 | ±1000 | ±100 | ±25 | 73 |
| AM1G-1207DZ | 9-18 | ±7.2 | ±69 | 1000 | ±470 | ±68 | ±20 | 74 |
| AM1G-1209DZ | 9-18 | ±9 | ±55 | 1000 | ±470 | ±56 | ±14 | 74 |
| AM1G-1212DZ | 9-18 | ±12 | ±42 | 1000 | ±470 | ±42 | ±10 | 75 |
| AM1G-1215DZ | 9-18 | ±15 | ±35 | 1000 | ±470 | ±33 | ±8 | 76 |
| AM1G-1218DZ | 9-18 | ±18 | ±28 | 1000 | ±220 | ±28 | ±7 | 75 |
| AM1G-1224DZ | 9-18 | ±24 | ±20 | 1000 | ±220 | ±21 | ±5 | 75 |
| AM1G-2403DZ | 18-36 | ±3.3 | ±151 | 1000 | ±1000 | ±152 | ±38 | 71 |
| AM1G-2405DZ | 18-36 | ±5 | ±100 | 1000 | ±1000 | ±100 | ±25 | 72 |
| AM1G-2407DZ | 18-36 | ±7.2 | ±69 | 1000 | ±470 | ±68 | ±20 | 73 |
| AM1G-2409DZ | 18-36 | ±9 | ±55 | 1000 | ±470 | ±56 | ±14 | 74 |
| AM1G-2412DZ | 18-36 | ±12 | ±42 | 1000 | ±470 | ±42 | ±10 | 75 |
| AM1G-2415DZ | 18-36 | ±15 | ±35 | 1000 | ±470 | ±33 | ±8 | 75 |
| AM1G-2418DZ | 18-36 | ±18 | ±28 | 1000 | ±220 | ±28 | ±7 | 74 |
| AM1G-2424DZ | 18-36 | ±24 | ±20 | 1000 | ±220 | ±21 | ±5 | 73 |
| AM1G-4803DZ | 36-72 | ±3.3 | ±151 | 1000 | ±1000 | ±152 | ±38 | 68 |
| AM1G-4805DZ | 36-72 | ±5 | ±100 | 1000 | ±1000 | ±100 | ±25 | 70 |

Models

Dual output (continued)

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Capacitor Load (μF) | Input Current Full Load No Load (mA) | | Efficiency (%) |
|----------------|-------------------|--------------------|-------------------------|-----------------|---------------------|--|-----|----------------|
| AM1G-4807DZ | 36-72 | ±7.2 | ±69 | 1000 | ±470 | ±68 | ±20 | 70 |
| AM1G-4809DZ | 36-72 | ±9 | ±55 | 1000 | ±470 | ±56 | ±14 | 71 |
| AM1G-4812DZ | 36-72 | ±12 | ±42 | 1000 | ±470 | ±42 | ±10 | 72 |
| AM1G-4815DZ | 36-72 | ±15 | ±35 | 1000 | ±470 | ±33 | ±8 | 72 |
| AM1G-4818DZ | 36-72 | ±18 | ±28 | 1000 | ±220 | ±28 | ±7 | 72 |
| AM1G-4824DZ | 36-72 | ±24 | ±20 | 1000 | ±220 | ±21 | ±5 | 72 |
| AM1G-0503DH30Z | 4.5-9 | ±3.3 | ±151 | 3000 | ±1000 | ±152 | ±38 | 66 |
| AM1G-0505DH30Z | 4.5-9 | ±5 | ±100 | 3000 | ±1000 | ±100 | ±25 | 70 |
| AM1G-0507DH30Z | 4.5-9 | ±7.2 | ±69 | 3000 | ±470 | ±68 | ±20 | 70 |
| AM1G-0509DH30Z | 4.5-9 | ±9 | ±55 | 3000 | ±470 | ±56 | ±14 | 71 |
| AM1G-0512DH30Z | 4.5-9 | ±12 | ±42 | 3000 | ±470 | ±42 | ±10 | 72 |
| AM1G-0515DH30Z | 4.5-9 | ±15 | ±35 | 3000 | ±470 | ±33 | ±8 | 72 |
| AM1G-0518DH30Z | 4.5-9 | ±18 | ±28 | 3000 | ±220 | ±28 | ±7 | 72 |
| AM1G-0524DH30Z | 4.5-9 | ±24 | ±20 | 3000 | ±220 | ±21 | ±5 | 72 |
| AM1G-1203DH30Z | 9-18 | ±3.3 | ±151 | 3000 | ±1000 | ±152 | ±38 | 66 |
| AM1G-1205DH30Z | 9-18 | ±5 | ±100 | 3000 | ±1000 | ±100 | ±25 | 73 |
| AM1G-1207DH30Z | 9-18 | ±7.2 | ±69 | 3000 | ±470 | ±68 | ±20 | 74 |
| AM1G-1209DH30Z | 9-18 | ±9 | ±55 | 3000 | ±470 | ±56 | ±14 | 74 |
| AM1G-1212DH30Z | 9-18 | ±12 | ±42 | 3000 | ±470 | ±42 | ±10 | 75 |
| AM1G-1215DH30Z | 9-18 | ±15 | ±35 | 3000 | ±470 | ±33 | ±8 | 76 |
| AM1G-1218DH30Z | 9-18 | ±18 | ±28 | 3000 | ±220 | ±28 | ±7 | 75 |
| AM1G-1224DH30Z | 9-18 | ±24 | ±20 | 3000 | ±220 | ±21 | ±5 | 75 |
| AM1G-2403DH30Z | 18-36 | ±3.3 | ±151 | 3000 | ±1000 | ±152 | ±38 | 65 |
| AM1G-2405DH30Z | 18-36 | ±5 | ±100 | 3000 | ±1000 | ±100 | ±25 | 72 |
| AM1G-2407DH30Z | 18-36 | ±7.2 | ±69 | 3000 | ±470 | ±68 | ±20 | 73 |
| AM1G-2409DH30Z | 18-36 | ±9 | ±55 | 3000 | ±470 | ±56 | ±14 | 74 |
| AM1G-2412DH30Z | 18-36 | ±12 | ±42 | 3000 | ±470 | ±42 | ±10 | 75 |
| AM1G-2415DH30Z | 18-36 | ±15 | ±35 | 3000 | ±470 | ±33 | ±8 | 75 |
| AM1G-2418DH30Z | 18-36 | ±18 | ±28 | 3000 | ±220 | ±28 | ±7 | 74 |
| AM1G-2424DH30Z | 18-36 | ±24 | ±20 | 3000 | ±220 | ±21 | ±5 | 73 |
| AM1G-4803DH30Z | 36-72 | ±3.3 | ±151 | 3000 | ±1000 | ±152 | ±38 | 64 |
| AM1G-4805DH30Z | 36-72 | ±5 | ±100 | 3000 | ±1000 | ±100 | ±25 | 70 |
| AM1G-4807DH30Z | 36-72 | ±7.2 | ±69 | 3000 | ±470 | ±68 | ±20 | 70 |
| AM1G-4809DH30Z | 36-72 | ±9 | ±55 | 3000 | ±470 | ±56 | ±14 | 71 |
| AM1G-4812DH30Z | 36-72 | ±12 | ±42 | 3000 | ±470 | ±42 | ±10 | 72 |
| AM1G-4815DH30Z | 36-72 | ±15 | ±35 | 3000 | ±470 | ±33 | ±8 | 72 |
| AM1G-4818DH30Z | 36-72 | ±18 | ±28 | 3000 | ±220 | ±28 | ±7 | 72 |
| AM1G-4824DH30Z | 36-72 | ±24 | ±20 | 3000 | ±220 | ±21 | ±5 | 72 |

Input Specifications

| Parameters | Nominal | Typical | Maximum | Units |
|--------------------------------|-----------|---------|---------|-------|
| Voltage range | 5 | 4.5-9 | | VDC |
| | 12 | 9-18 | | |
| | 24 | 18-36 | | |
| | 48 | 36-72 | | |
| Filter | Capacitor | | | |
| Turn on Transient process time | | | 350 | ms |
| Start up time | | 200 | | ms |
| Absolute Maximum Rating | 5 Vin | -0.7-12 | | VDC |
| | 12 Vin | -0.7-24 | | |
| | 24 Vin | -0.7-40 | | |
| | 48 Vin | -0.7-80 | | |

Input Specifications (continued)

| Parameters | Nominal | Typical | Maximum | Units |
|-------------------------|---|---------|---------|-------|
| Peak Input Voltage time | | 100 | | ms |
| On/Off Control | ON – low or open (0Vdc to 0.8Vdc) | | | |
| | OFF – high (4.5Vdc to 15Vdc, OFF idle current:3.5mA to 15mA Max.) | | | |

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------------|-------|
| Tested I/O voltage | 60 sec | | 1000 & 3000 | VDC |
| Resistance | | > 1000 | | MOhm |
| Capacitance | | 60 | | pF |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|--------------------|---------------|---------|--------|
| Voltage accuracy | | ±2 | | % |
| Voltage balance | Dual Output | ±1 | | % |
| Short Circuit protection | | Continuous | | |
| Short Circuit restart | | Auto recovery | | |
| Line voltage regulation | LL ~ HL | ±0.5 | | % |
| Load voltage regulation | load 25~100% | ±1 | | % |
| Temperature coefficient | | ±0.02 | | %/°C |
| Ripple & Noise* | At 20MHz Bandwidth | 50 | | mV p-p |
| Rising time | | 80 | | ms |

* The ripple and noise should be measured with connected 47µF capacitor and 0.1µF ceramic capacitor on the output of the converter. In order to achieve ripple and noise specification, a 100µF capacitor is required to be connected to the output of the converter

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|--|---|-------------------------|-------|
| Switching frequency | 100% load | >100 | 650 | KHz |
| Operating temperature | Full Load without Derating | -40 to +85 | | °C |
| Storage temperature | | -40 to +125 | | °C |
| Maximum Case temperature | | | +100 | °C |
| Cooling | Free air convection | | | |
| Humidity | | | 95 | % |
| Case material | Non-conductive black plastic (UL94V-0 rated) | | | |
| Weight | | 3.96 | | g |
| Dimensions (L x W x H) | | 0.86 x 0.36 x 0.42 inch | 21.85 x 9.20 x 10.60 mm | |
| MTBF | | >2 732 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) | | |

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

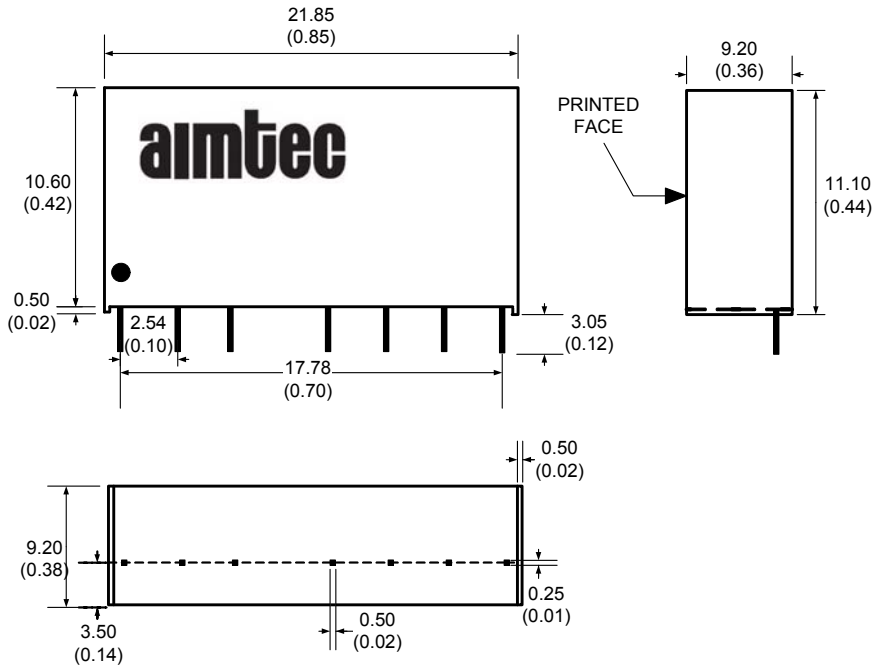
Safety Specifications

| Parameters | |
|-----------------|---|
| Agency Approval | CE |
| Standards | EN55022 Class A, EN55024 |
| | IEC61000-4-2, Perf. Criteria B |
| | IEC61000-4-3, Perf. Criteria A |
| | IEC61000-4-4, Perf. Criteria B (external 220uF/100V cap required) |
| | IEC61000-4-5, Perf. Criteria B (external 220uF/100V cap required) |
| | IEC61000-4-6, Perf. Criteria A |
| | IEC61000-4-8, Perf. Criteria A |

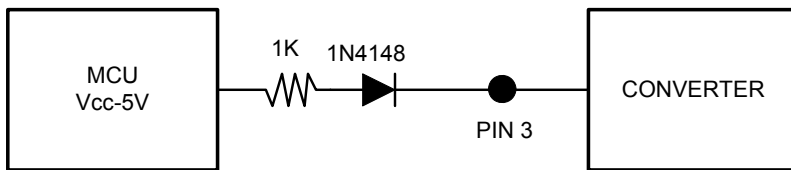
Pin Out Specifications

| Pin | 1000 & 3000VDC | |
|-----|----------------|----------------|
| | Single | Dual |
| 1 | - V Input | - V Input |
| 2 | + V Input | + V Input |
| 3 | On/Off Control | On/Off Control |
| 5 | N.C. | N.C. |
| 6 | + V Output | + V Output |
| 7 | - V Output | Common |
| 8 | N.C. | - V Output |

Dimensions

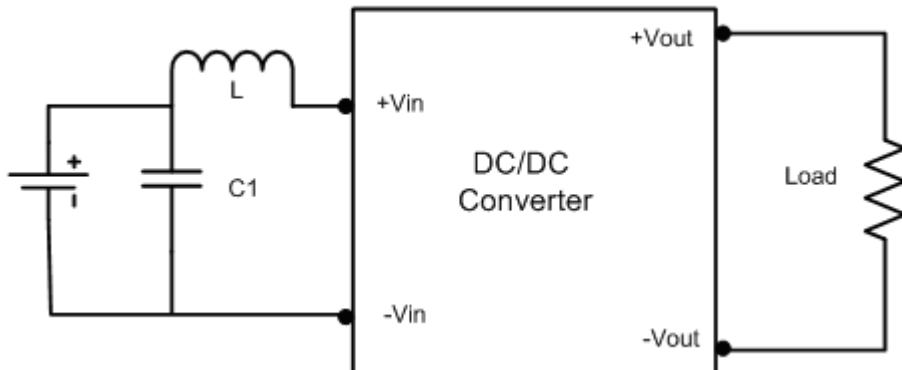


Control ON/OFF pin connection example:



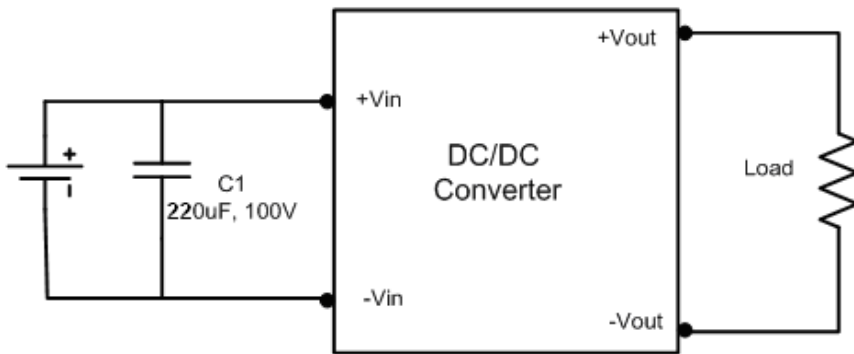
The voltage could be applied through a limiting resistor and a switching diode. The converter is in a low power mode during high level phase.

Conducted Emissions:

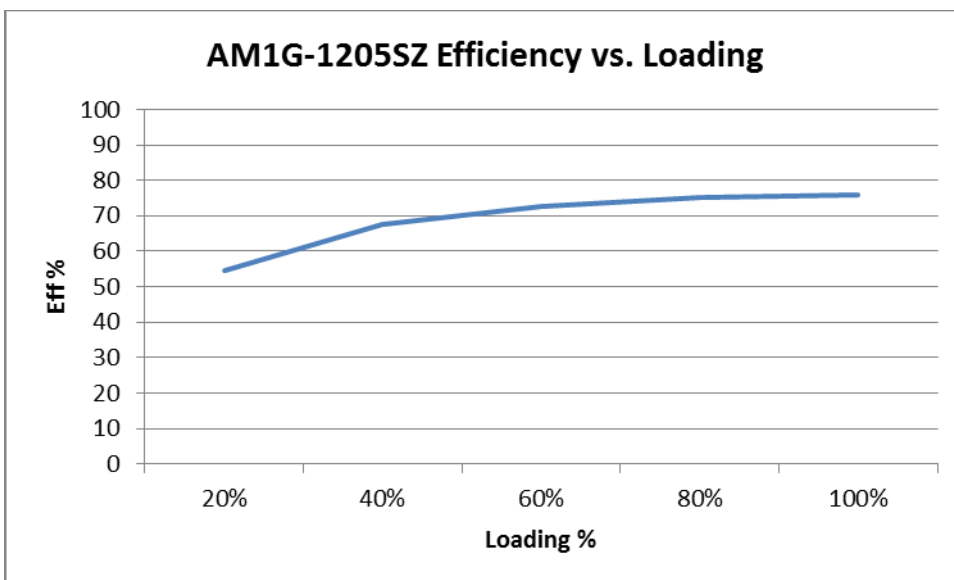
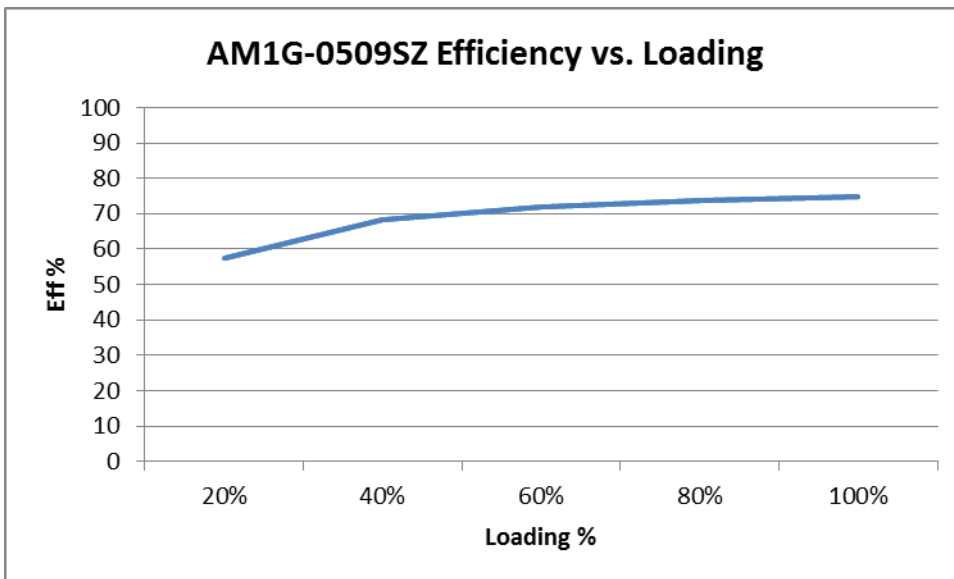


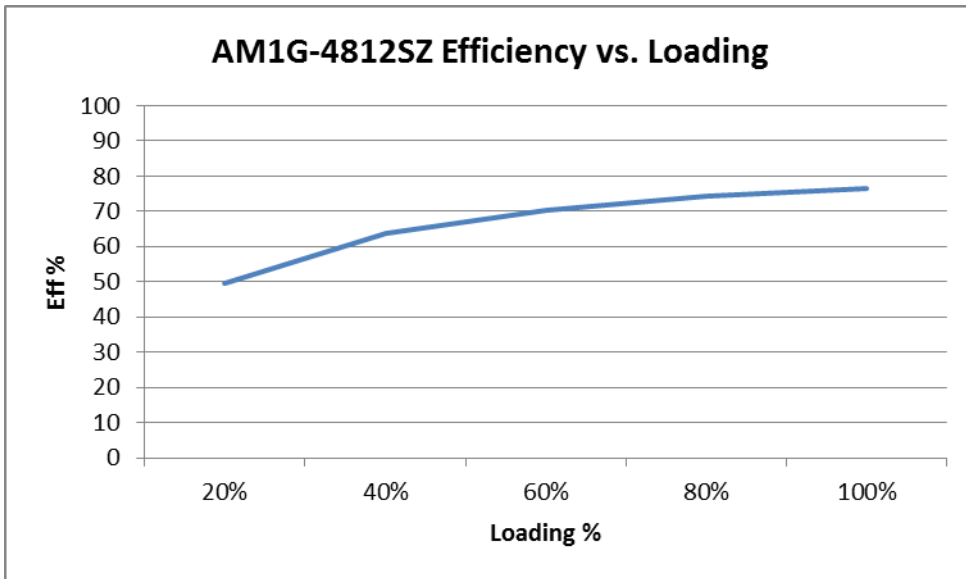
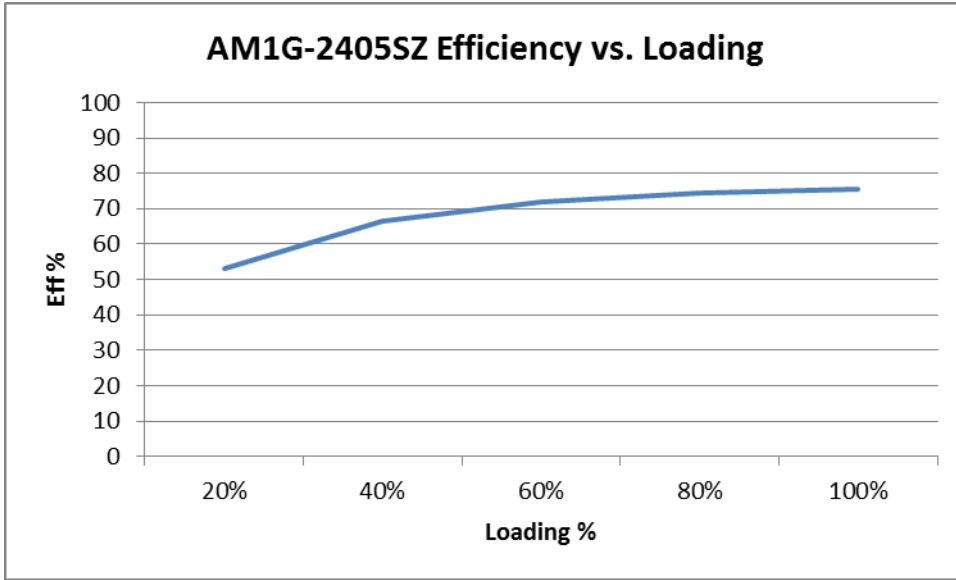
| C1 | L1 |
|------------|-------|
| 100µF/100V | 12 µH |

Surge:



Typical Efficiency Example Charts





NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.

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