

FEATURES:

- Continuous short-circuit protection
- Operating temperature: -40°C to +85°C
- High efficiency up to 85%
- DIP 14 package
- Isolation Voltage 1500 and 3000VDC
- Low Isolation Capacitance

Models
Single output



| Model | Input Voltage (V) | Max Input Current Full/No Load (mA) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Max Capacitive Load(uF) | Efficiency (%) |
|------------------|-------------------|-------------------------------------|--------------------|-------------------------|-----------------|-------------------------|----------------|
| AM2M-0303S-NZ | 2.97-3.63 | 777/40 | 3.3 | 400 | 1500 | 220 | 70 |
| AM2M-0305S-NZ | 2.97-3.63 | 777/40 | 5 | 400 | 1500 | 220 | 74 |
| AM2M-0503S-NZ | 4.5-5.5 | 500/35 | 3.3 | 400 | 1500 | 220 | 74 |
| AM2M-0505S-NZ | 4.5-5.5 | 500/35 | 5 | 400 | 1500 | 220 | 80 |
| AM2M-0509S-NZ | 4.5-5.5 | 500/35 | 9 | 222 | 1500 | 220 | 84 |
| AM2M-0512S-NZ | 4.5-5.5 | 500/35 | 12 | 167 | 1500 | 220 | 84 |
| AM2M-0515S-NZ | 4.5-5.5 | 500/35 | 15 | 133 | 1500 | 220 | 84 |
| AM2M-0524S-NZ | 4.5-5.5 | 500/35 | 24 | 83 | 1500 | 220 | 84 |
| AM2M-0915S-NZ | 8.1-9.9 | 278/25 | 15 | 133 | 1500 | 220 | 83 |
| AM2M-1205S-NZ | 10.8-13.2 | 208/20 | 5 | 400 | 1500 | 220 | 80 |
| AM2M-1209S-NZ | 10.8-13.2 | 208/20 | 9 | 222 | 1500 | 220 | 83 |
| AM2M-1212S-NZ | 10.8-13.2 | 208/20 | 12 | 167 | 1500 | 220 | 82 |
| AM2M-1215S-NZ | 10.8-13.2 | 208/20 | 15 | 133 | 1500 | 220 | 84 |
| AM2M-1224S-NZ | 10.8-13.2 | 208/20 | 24 | 83 | 1500 | 220 | 84 |
| AM2M-2405S-NZ | 21.6-26.4 | 105/10 | 5 | 400 | 1500 | 220 | 79 |
| AM2M-2409S-NZ | 21.6-26.4 | 105/10 | 9 | 222 | 1500 | 220 | 85 |
| AM2M-2412S-NZ | 21.6-26.4 | 105/10 | 12 | 167 | 1500 | 220 | 83 |
| AM2M-2415S-NZ | 21.6-26.4 | 105/10 | 15 | 133 | 1500 | 220 | 84 |
| AM2M-2424S-NZ | 21.6-26.4 | 105/10 | 24 | 83 | 1500 | 220 | 84 |
| AM2M-0505SH30-NZ | 4.5-5.5 | 500/35 | 5 | 400 | 3000 | 220 | 80 |
| AM2M-0509SH30-NZ | 4.5-5.5 | 500/35 | 9 | 222 | 3000 | 220 | 84 |
| AM2M-0512SH30-NZ | 4.5-5.5 | 500/35 | 12 | 167 | 3000 | 220 | 84 |
| AM2M-0515SH30-NZ | 4.5-5.5 | 500/35 | 15 | 133 | 3000 | 220 | 84 |
| AM2M-0524SH30-NZ | 4.5-5.5 | 500/35 | 24 | 83 | 3000 | 220 | 84 |
| AM2M-1205SH30-NZ | 10.8-13.2 | 208/20 | 5 | 400 | 3000 | 220 | 80 |
| AM2M-1212SH30-NZ | 10.8-13.2 | 208/20 | 12 | 167 | 3000 | 220 | 82 |
| AM2M-1215SH30-NZ | 10.8-13.2 | 208/20 | 15 | 133 | 3000 | 220 | 84 |
| AM2M-1224SH30-NZ | 10.8-13.2 | 208/20 | 24 | 83 | 3000 | 220 | 85 |
| AM2M-1505SH30-NZ | 13.5-16.5 | 159/15 | 5 | 400 | 3000 | 220 | 80 |
| AM2M-1509SH30-NZ | 13.5-16.5 | 159/15 | 9 | 222 | 3000 | 220 | 84 |
| AM2M-1515SH30-NZ | 13.5-16.5 | 159/15 | 15 | 133 | 3000 | 220 | 82 |
| AM2M-2405SH30-NZ | 21.6-26.4 | 105/10 | 5 | 400 | 3000 | 220 | 80 |
| AM2M-2409SH30-NZ | 21.6-26.4 | 105/10 | 9 | 222 | 3000 | 220 | 85 |
| AM2M-2412SH30-NZ | 21.6-26.4 | 105/10 | 12 | 167 | 3000 | 220 | 83 |
| AM2M-2415SH30-NZ | 21.6-26.4 | 105/10 | 15 | 133 | 3000 | 220 | 84 |
| AM2M-2424SH30-NZ | 21.6-26.4 | 105/10 | 24 | 83 | 3000 | 220 | 85 |

Models
Dual output

| Model | Input Voltage (V) | Max Input Current Full/No Load (mA) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Max Capacitive Load(uF) | Efficiency (%) |
|---------------|-------------------|-------------------------------------|--------------------|-------------------------|-----------------|-------------------------|----------------|
| AM2M-0505D-NZ | 4.5-5.5 | 500/35 | ±5 | ±200 | 1500 | 100 | 80 |
| AM2M-0509D-NZ | 4.5-5.5 | 500/35 | ±9 | ±111 | 1500 | 100 | 84 |
| AM2M-0512D-NZ | 4.5-5.5 | 500/35 | ±12 | ±83 | 1500 | 100 | 84 |
| AM2M-0515D-NZ | 4.5-5.5 | 500/35 | ±15 | ±67 | 1500 | 100 | 84 |

| | | | | | | | |
|-------------------------|-----------|--------|-----|------|------|-----|----|
| AM2M-0524D-NZ | 4.5-5.5 | 500/35 | ±24 | ±42 | 1500 | 100 | 84 |
| AM2M-1205D-NZ | 10.8-13.2 | 208/20 | ±5 | ±200 | 1500 | 100 | 80 |
| AM2M-1209D-NZ | 10.8-13.2 | 208/20 | ±9 | ±111 | 1500 | 100 | 84 |
| AM2M-1212D-NZ | 10.8-13.2 | 208/20 | ±12 | ±83 | 1500 | 100 | 83 |
| AM2M-1215D-NZ | 10.8-13.2 | 208/20 | ±15 | ±67 | 1500 | 100 | 84 |
| AM2M-1224D-NZ | 10.8-13.2 | 208/20 | ±24 | ±42 | 1500 | 100 | 84 |
| AM2M-1515D-NZ | 13.5-16.5 | 159/15 | ±15 | ±67 | 1500 | 100 | 84 |
| AM2M-2405D-NZ | 21.6-26.4 | 105/10 | ±5 | ±200 | 1500 | 100 | 79 |
| AM2M-2409D-NZ | 21.6-26.4 | 105/10 | ±9 | ±111 | 1500 | 100 | 84 |
| AM2M-2412D-NZ | 21.6-26.4 | 105/10 | ±12 | ±83 | 1500 | 100 | 83 |
| AM2M-2415D-NZ | 21.6-26.4 | 105/10 | ±15 | ±67 | 1500 | 100 | 84 |
| AM2M-2424D-NZ | 21.6-26.4 | 105/10 | ±24 | ±42 | 1500 | 100 | 84 |
| AM2M-DH30 Series | | | | | | | |
| AM2M-0505DH30-NZ | 4.5-5.5 | 500/35 | ±5 | ±200 | 3000 | 100 | 80 |
| AM2M-0509DH30-NZ | 4.5-5.5 | 500/35 | ±9 | ±111 | 3000 | 100 | 84 |
| AM2M-0512DH30-NZ | 4.5-5.5 | 500/35 | ±12 | ±83 | 3000 | 100 | 84 |
| AM2M-0515DH30-NZ | 4.5-5.5 | 500/35 | ±15 | ±67 | 3000 | 100 | 84 |
| AM2M-0524DH30-NZ | 4.5-5.5 | 500/35 | ±24 | ±42 | 3000 | 100 | 84 |
| AM2M-1205DH30-NZ | 10.8-13.2 | 208/20 | ±5 | ±200 | 3000 | 100 | 80 |
| AM2M-1209DH30-NZ | 10.8-13.2 | 208/20 | ±9 | ±111 | 3000 | 100 | 80 |
| AM2M-1212DH30-NZ | 10.8-13.2 | 208/20 | ±12 | ±83 | 3000 | 100 | 83 |
| AM2M-1215DH30-NZ | 10.8-13.2 | 208/20 | ±15 | ±67 | 3000 | 100 | 85 |
| AM2M-1224DH30-NZ | 10.8-13.2 | 208/20 | ±24 | ±42 | 3000 | 100 | 85 |
| AM2M-1509DH30-NZ | 13.5-16.5 | 159/15 | ±9 | ±111 | 3000 | 100 | 84 |
| AM2M-1515DH30-NZ | 13.5-16.5 | 159/15 | ±15 | ±67 | 3000 | 100 | 84 |
| AM2M-2405DH30-NZ | 21.6-26.4 | 105/10 | ±5 | ±200 | 3000 | 100 | 79 |
| AM2M-2412DH30-NZ | 21.6-26.4 | 105/10 | ±12 | ±83 | 3000 | 100 | 83 |
| AM2M-2415DH30-NZ | 21.6-26.4 | 105/10 | ±15 | ±67 | 3000 | 100 | 84 |
| AM2M-2424DH30-NZ | 21.6-26.4 | 105/10 | ±24 | ±42 | 3000 | 100 | 84 |

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.

Input Specifications

| Parameters | Nominal | Typical | Maximum | Units |
|-------------------------|------------------|-----------|-----------|-------|
| Voltage range | 3.3V | 2.97-3.63 | | VDC |
| | 5V | 4.5-5.5 | | |
| | 9V | 8.1-9.9 | | |
| | 12V | 10.8-13.2 | | |
| | 15V | 13.5-16.5 | | |
| | 24V | 21.6-26.4 | | |
| Filter | Filter Capacitor | | | |
| Absolute Maximum Rating | 3.3V | | -0.7 - 5 | VDC |
| | 5V | | -0.7 - 9 | |
| | 9V | | -0.7 - 12 | |
| | 12V | | -0.7 - 18 | |
| | 15V | | -0.7 - 21 | |
| | 24V | | -0.7 - 30 | |
| Peak Input Voltage time | | | 1 | s |
| Input reflected current | | | | mA |

Isolation Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------|---------------------|-------------|---------|-------|
| Tested I/O voltage | 60 Sec, <1mA | 1500 & 3000 | | VDC |
| Resistance | | >1000 | | MOhm |
| Capacitance | 100KHz/0.1V, 24V | 50 | | pF |
| | 100KHZ/0.1V, Others | 20 | | |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|--|---------------------------|---------|----------|
| Voltage accuracy | See tolerance envelope graph | | | |
| Short Circuit protection | 24Vin models, AM2M-0524S-NZ, AM2M-0512D-NZ, AM2M-0515D-NZ, AM2M-0524D-NZ, AM2M-0524SH30-NZ, AM2M-0512DH30-NZ, AM2M-0515DH30-NZ, AM2M-0524DH30-NZ | | 1 | s |
| | Others | Continuous, auto-recovery | | |
| Line voltage regulation | For Vin change of 1% | | ±1.2 | % of Vin |
| | 3.3Vout models, For Vin change of 1% | | ±1.5 | |
| Load voltage regulation | 10% to 100% load | ±15 | | % |
| Temperature coefficient | Nominal input, 100% full load | | ±0.03 | %/°C |
| Ripple & Noise | 20MHz Bandwidth | 70 | 200 | mV p-p |

General Specifications

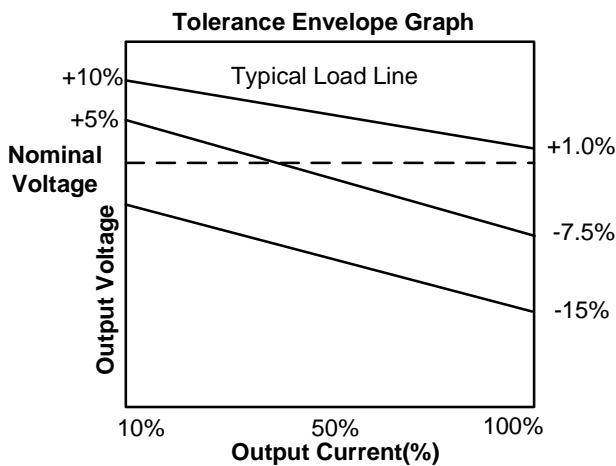
| Parameters | Conditions | Typical | Maximum | Units |
|-------------------------------|--|--------------------------------------|------------------------|-------|
| Switching frequency | 100% load | 100 | | KHz |
| Operating temperature | No Derating | -40 to +85 | | °C |
| Storage temperature | | -55 to +125 | | °C |
| Maximum case temperature | | | 100 | °C |
| Cooling | Free Convection | | | |
| Humidity | | | 95 | % RH |
| Case material | Black flame-retardant heat-proof epoxy resin (UL94-V0) | | | |
| Weight | | 2.8 | | g |
| Dimensions (L x W x H) | | 0.8 x 0.4 x 0.32 inches | 20.32 x 10.16 x 8.2 mm | |
| MTBF | | 3,500,000 hrs (MIL-HDFK-217F @25 °C) | | |
| Maximum soldering temperature | 1.5mm from case for 10 seconds | | 300 | °C |

Safety Specifications

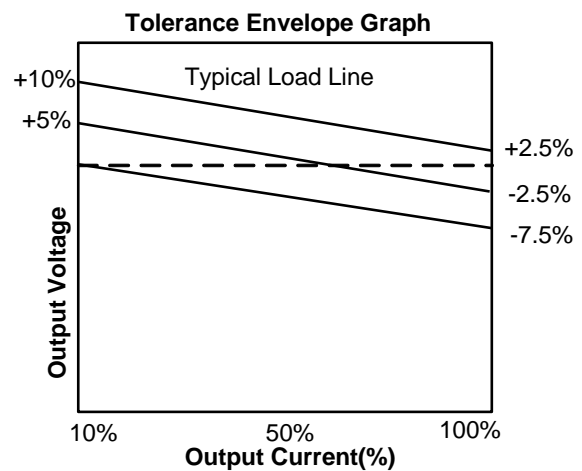
| Parameters | |
|------------|---|
| Approvals | UL (except 3.3V, 9V and 15V input models and AM2M-0503S-NZ) |
| Standards | IEC/EN/UL60950-1 |
| | EN55022 Class B (see recommended circuit) |
| | IEC61000-4-2, Perf. Criteria B (ESD Contact +/- 6KV) |

Typical Characteristics

3.3V output models



Others



Pin Out Specifications

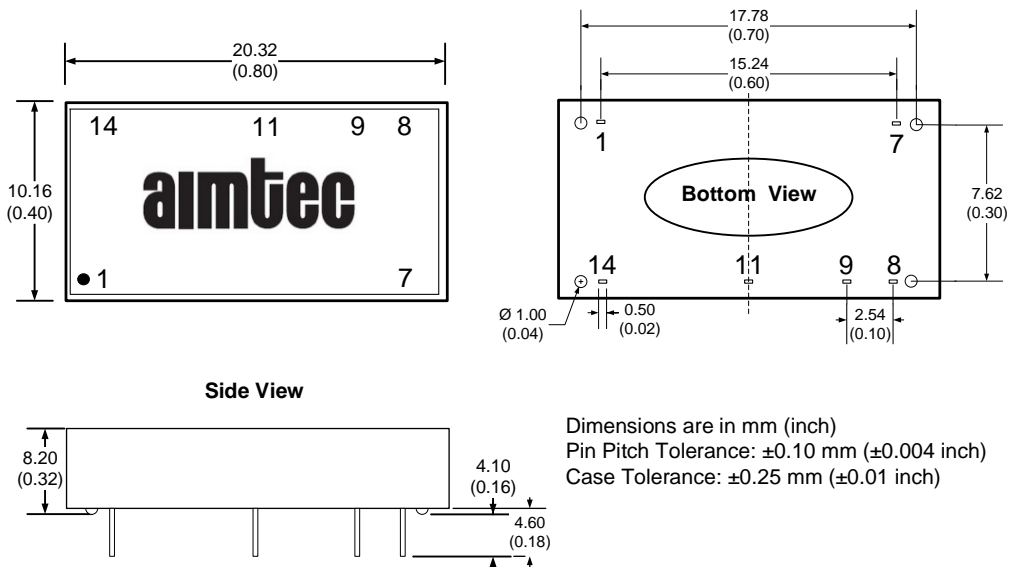
| 1500VDC Isolation | | |
|-------------------|--------|--------|
| Pin | Single | Dual |
| 1 | -Vin | -Vin |
| 7 | NC | NC |
| 8 | -Vout | Common |
| 9 | +Vout | +Vout |
| 11 | No pin | -Vout |
| 14 | +Vin | +Vin |

| 3000VDC Isolation | | |
|-------------------|--------|--------|
| Pin | Single | Dual |
| 1 | -Vin | -Vin |
| 7 | NC | NC |
| 8 | +Vout | +Vout |
| 9 | No Pin | Common |
| 10 | -Vout | -Vout |
| 14 | +Vin | +Vin |

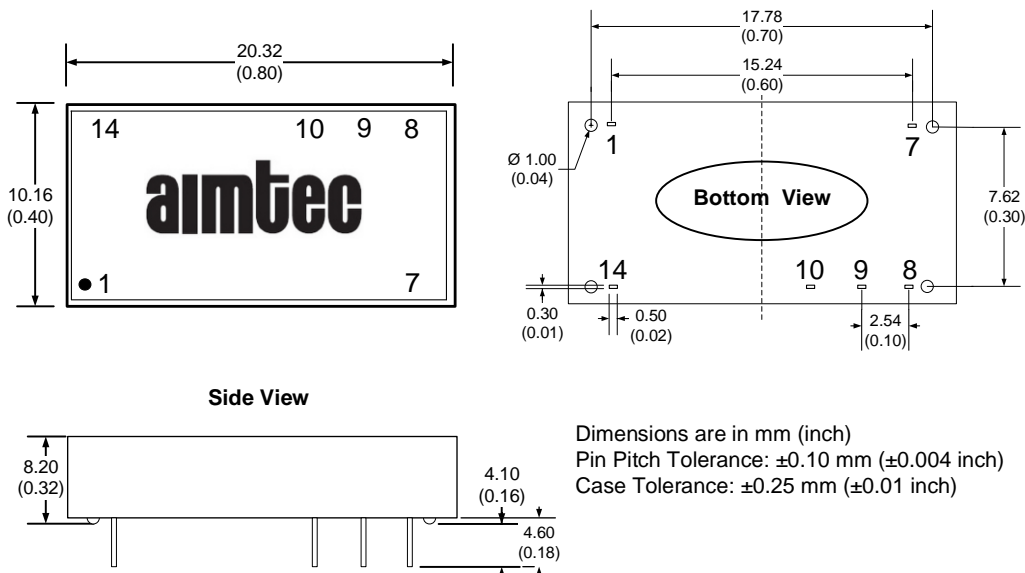
NC: not connected

Dimensions

Dual 1500VDC Isolated models

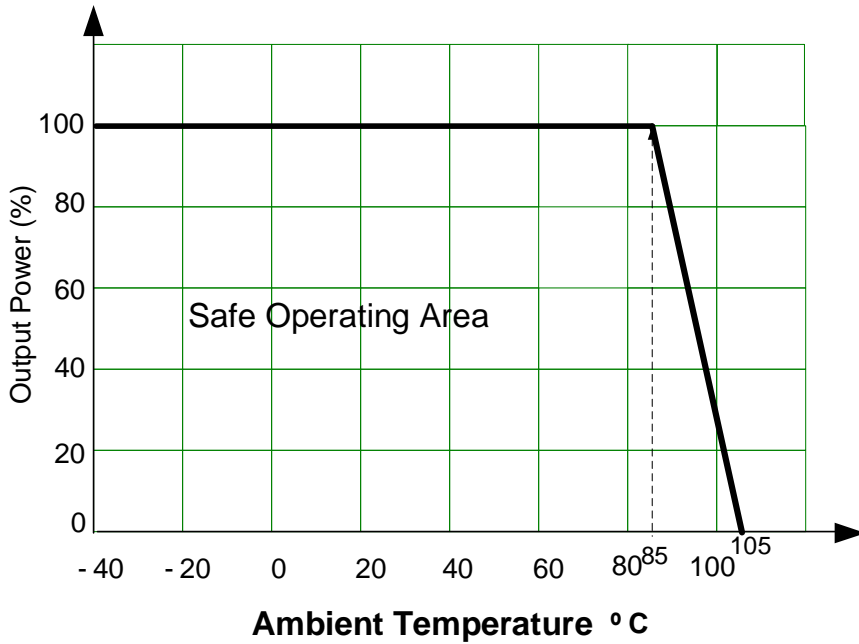


3000VDC Isolated models

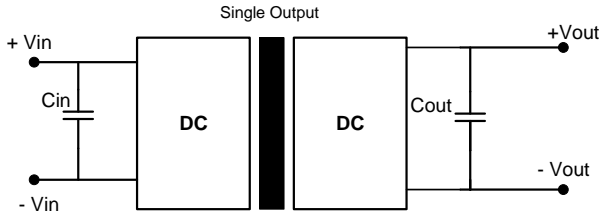


Derating

Free Air Convection



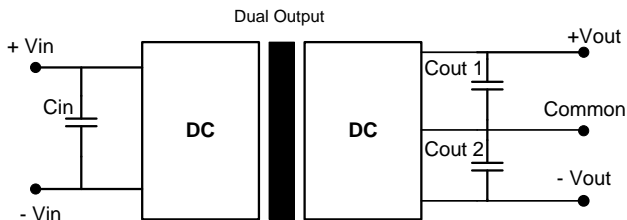
Typical application circuit



| 1500VDC Isolated models | | | |
|-------------------------|----------|------------|-----------|
| Vin (VDC) | Cin (uF) | Vout (VDC) | Cout (uF) |
| 3.3/5 | 4.7 | 3.3/5 | 10 |
| 9/12 | 2.2 | 9 | 4.7 |
| 15/24 | 1 | 12 | 2.2 |
| | | 15/24 | 1 |

| 3000VDC Isolated models | | | |
|-------------------------|----------|------------|-----------|
| Vin (VDC) | Cin (uF) | Vout (VDC) | Cout (uF) |
| 5 | 4.7 | 5 | 10 |
| 12/15 | 2.2 | 9 | 4.7 |
| 24 | 1 | 12 | 2.2 |
| | | 15 | 1 |
| | | 24 | 0.47 |

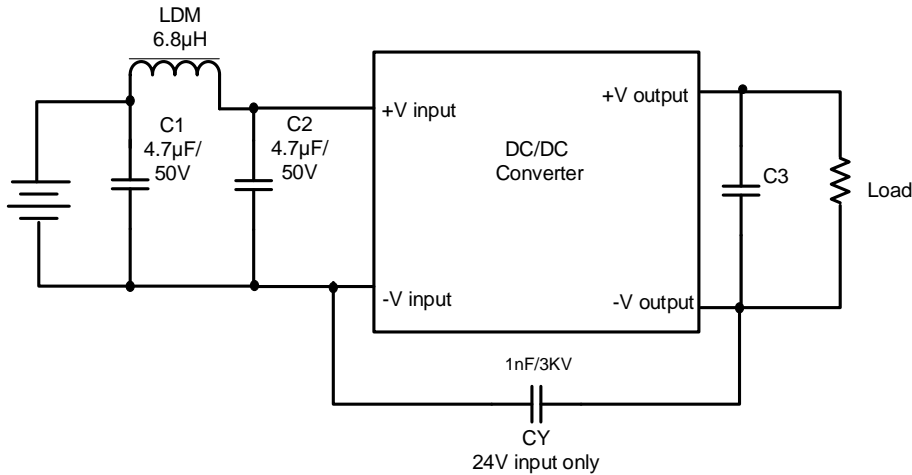
It is not recommended to connect any external capacitor in the application field when output loading is less than 0.5 watt.



| 1500VDC Isolated models | | | |
|-------------------------|----------|------------|-----------|
| Vin (VDC) | Cin (uF) | Vout (VDC) | Cout (uF) |
| 3.3/5 | 4.7 | ±5 | 4.7 |
| 9/12 | 2.2 | ±9 | 2.2 |
| 15/24 | 1 | ±12 | 1 |
| | | ±15/±24 | 0.47 |

| 3000VDC Isolated models | | | |
|-------------------------|----------|------------|-----------|
| Vin (VDC) | Cin (uF) | Vout (VDC) | Cout (uF) |
| 5 | 4.7 | ±5 | 4.7 |
| 12/15 | 2.2 | ±9 | 2.2 |
| 24 | 1 | ±12 | 1 |
| | | ±15/±24 | 0.47 |

EMI Recommended Circuit (Class B)



NOTE: Cout values are the same as referenced in the Application Circuit.

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