

PART NUMBER: VAWQ3 series

DESCRIPTION: DC-DC converter

features

- 3W isolated output
- efficiency to 80%
- 24-pin DIP package
- 4:1 input range
- regulated outputs
- continuous short circuit protection
- Pi input filter
- high isolation voltage



| model number ^{1, 2, 3} | input voltage | output voltage | output current | input current | | efficiency |
|---------------------------------|---------------|----------------|----------------|---------------|-----------|------------|
| | | | | no load | full load | |
| VAWQ3-Q24-S3R3 | 9-36VDC | 3.3VDC | 600mA | 15mA | 117mA | 70% |
| VAWQ3-Q24-S5 | 9-36VDC | 5VDC | 600mA | 15mA | 174mA | 72% |
| VAWQ3-Q24-S12 | 9-36VDC | 12VDC | 250mA | 15mA | 165mA | 76% |
| VAWQ3-Q24-S15 | 9-36VDC | 15VDC | 200mA | 15mA | 165mA | 76% |
| VAWQ3-Q24-D5 | 9-36VDC | ±5VDC | ±300mA | 25mA | 179mA | 70% |
| VAWQ3-Q24-D12 | 9-36VDC | ±12VDC | ±125mA | 25mA | 174mA | 72% |
| VAWQ3-Q24-D15 | 9-36VDC | ±15VDC | ±100mA | 25mA | 174mA | 72% |
| VAWQ3-Q48-S3R3 | 18-72VDC | 3.3VDC | 600mA | 7.5mA | 58mA | 70% |
| VAWQ3-Q48-S5 | 18-72VDC | 5VDC | 600mA | 7.5mA | 87mA | 72% |
| VAWQ3-Q48-S12 | 18-72VDC | 12VDC | 250mA | 7.5mA | 78mA | 80% |
| VAWQ3-Q48-S15 | 18-72VDC | 15VDC | 200mA | 7.5mA | 78mA | 80% |
| VAWQ3-Q48-D5 | 18-72VDC | ±5VDC | ±300mA | 12mA | 88mA | 71% |
| VAWQ3-Q48-D12 | 18-72VDC | ±12VDC | ±125mA | 12mA | 87mA | 72% |
| VAWQ3-Q48-D15 | 18-72VDC | ±15VDC | ±100mA | 12mA | 87mA | 72% |

NOTES:

1. suffix "HM" for 1.5K Vdc isolation
2. suffix "H" for 3K Vdc isolation
3. suffix "-SMT" for SMT case style

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INPUT

| | |
|---------------------|-------------------------|
| input voltage range | 24V 9-36V 48V 18-72V |
| input filter | PI type |

OUTPUT

| | |
|--|-----------------|
| voltage accuracy | ±2.0% max. |
| voltage balance (dual) | ±1.0% max |
| ripple & noise 20MHz BW, Single & ±5V | 100mV p-p, max. |
| dual | 1% p-p max. |
| temperature coefficient | ±0.05%/°C |
| short circuit protection | continuous |
| line regulation ¹ single/dual | ±0.5% max |
| load regulation single ² | ±0.5% max |
| load regulation ² dual | ±1% max |

GENERAL SPECIFICATIONS

| | |
|---------------------------------|---|
| efficiency | see table |
| isolation resistance | 10 ⁹ Ohm |
| switching frequency | 100KHz, min. |
| operating temperature range | -25°C to +71°C |
| case temperature (plastic case) | 95°C |
| (copper case) | 100°C |
| cooling | free-air convection |
| storage temperature range | -40°C to +100°C |
| dimensions | 1.25x0.8x0.4 inches (31.8x20.3x10.2mm) |

ISOLATION VOLTAGE

| | |
|---------------|--------------------|
| 500 VDC min. | standard models |
| 1.5K VDC min. | suffix "HM" models |
| 3K VDC min | suffix "H" models |

CASE MATERIAL

| | |
|-------------------|-------------------------------|
| standard Models | non conductive black plastic |
| suffix "M" models | black coated copper with non- |
| conductive base | |

NOTES:

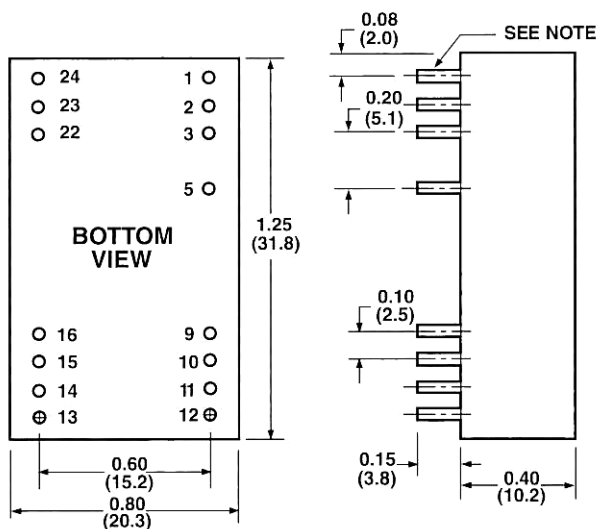
1. measured from high line to low line
2. measured from full load to 10% load
3. measured from full load to 1/4 load
4. non-conductive black plastic only

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DIMENSIONS (mm)

NOTE: Pin Size is 0.02" Inch (0.5mm) DIA
All Dimensions In Inches(mm)
Tolerance .xx= ±.02, .xxx= ±.010



PIN CONNECTION

| Pin | 500 VDC | | Pin | 1.5K & 3K VDC | |
|-----|---------------|-------------|-----|---------------|-------------|
| | Single Output | Dual Output | | Single Output | Dual Output |
| 1 | +V Input | +V Input | 1 | NP | NP |
| 2 | NC | -V Output | 2 | -V Input | -V Input |
| 3 | NC | Common | 3 | -V Input | -V Input |
| 5 | NP | NP | 5 | NP | NP |
| 9 | NP | NP | 9 | NC | Common |
| 10 | -V Output | Common | 10 | NC | NC |
| 11 | +V Output | +V Output | 11 | NC | -V Output |
| 12 | -V Input | -V Input | 12 | NP | NP |
| 13 | -V Input | -V Input | 13 | NP | NP |
| 14 | +V Output | +V Output | 14 | +V Output | +V Output |
| 15 | -V Output | Common | 15 | NC | NC |
| 16 | NP | NP | 16 | -V Output | Common |
| 22 | NC | Common | 22 | +V Input | +V Input |
| 23 | NC | -V Output | 23 | +V Input | +V Input |
| 24 | +V Input | +V Input | 24 | NP | NP |

*NP-NO PIN

*NC-NO CONNECTION WITH PIN

DERATING CURVE

