

PART NUMBER: VCQ15

DESCRIPTION: dc-dc converter

Features

- 15W isolated output
- Efficiency to 82%
- 4:1 input range
- Six sided shield
- Remote On/Off Control



| MODEL | Input Voltage | Output Voltage | Output Current | Input Current | | Efficiency |
|----------------|---------------|----------------|----------------|---------------|-----------|------------|
| | | | | No Load | Full Load | |
| VCQ15-Q24-S5 | 9-36VDC | 5VDC | 3000mA | 15mA | 810mA | 77% |
| VCQ15-Q24-S12 | 9-36VDC | 12VDC | 1250mA | 15mA | 780mA | 80% |
| VCQ15-Q24-S15 | 9-36VDC | 15VDC | 1000mA | 15mA | 780mA | 80% |
| VCQ15-Q24-D5 | 9-36VDC | ±5VDC | ±1500mA | 20mA | 810mA | 77% |
| VCQ15-Q24-D12 | 9-36VDC | ±12VDC | ±625mA | 20mA | 780mA | 80% |
| VCQ15-Q24-D15 | 9-36VDC | ±15VDC | ±500mA | 20mA | 780mA | 80% |
| VCQ15-Q24-T512 | 9-36VDC | 5/±12VDC | 1500/±310mA | 20mA | 780mA | 80% |
| VCQ15-Q24-T515 | 9-36VDC | 5/±15VDC | 1500/±250mA | 20mA | 780mA | 80% |
| VCQ15-Q24-S3R3 | 9-36VDC | 3.3VDC | 3000mA | 15mA | 545mA | 76% |
| VCQ15-Q48-S5 | 18-72VDC | 5VDC | 3000mA | 10mA | 410mA | 77% |
| VCQ15-Q48-S12 | 18-72VDC | 12VDC | 1250mA | 10mA | 390mA | 80% |
| VCQ15-Q48-S15 | 18-72VDC | 15VDC | 1000mA | 10mA | 390mA | 80% |
| VCQ15-Q48-D5 | 18-72VDC | ±5VDC | ±1500mA | 15mA | 400mA | 79% |
| VCQ15-Q48-D12 | 18-72VDC | ±12VDC | ±625mA | 15mA | 380mA | 82% |
| VCQ15-Q48-D15 | 18-72VDC | ±15VDC | ±500mA | 15mA | 380mA | 82% |
| VCQ15-Q48-T512 | 18-72VDC | 5/±12VDC | 1500/±310mA | 15mA | 380mA | 82% |
| VCQ15-Q48-T515 | 18-72VDC | 5/±15VDC | 1500/±250mA | 15mA | 380mA | 82% |
| VCQ15-Q48-S3R3 | 18-72VDC | 3.3VDC | 3000mA | 10mA | 270mA | 76% |

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INPUT

| | |
|---------------------|---------------------------|
| Input Voltage Range | 24V: 9-36V 48V: 18-72V |
| Input Filter | Pi Type |

OUTPUT

| | | |
|------------------------------|------------------------------|---------------------------------|
| Voltage Accuracy | Single Output | ±1.0% max. |
| | Dual +Output | ±1.0% max. |
| | -Output | ±3.0% max. |
| | Triple, 5V | ±2.0% max. |
| | 12V/15V | ±3.0% max. |
| Voltage Balance (Dual) | | ±1.0%max |
| Transient Response: | Single, 25% Step Load Change | <500µ sec. |
| | Dual, FL-1/2±1% Error Band | <500µ sec. |
| External Trim Adj. Range | | ±10% |
| Ripple & Noise | 20MHz BW | 10mV RMS., max 75mV p-p, max |
| Short Circuit Protection | | Continuous |
| Line Regulation ¹ | Single/Dual | ±0.2% max. |
| | Triple | ±1.0% max. |
| Load Regulation ² | Single/Dual | ±1.0% max. |
| | Triple | ±5.0% max. |

SAFETY & EMI

| | |
|----------------------|-----------------------------|
| Isolation Voltage | 500VDC min. |
| Isolation Resistance | 10 ⁹ Ohm min. |
| Case Grounding | Connected to Output common |
| UL/cUL | UL60950-1 |
| EMI/RFI | Six Sided Continuous Shield |

ENVIRONMENTAL

| | |
|-----------------------------|---------------------|
| Operating Temperature Range | -25°C to +71°C |
| Case Temperature | 100°C max. |
| Cooling | Free-Air Convection |
| Storage Temperature | -55°C to +105°C |
| Temperature Coefficient | ±0.02%/°C |

GENERAL SPECIFICATIONS

| | |
|---------------------|--|
| Efficiency | see table |
| Switching Frequency | 300KHz, Type |
| Dimensions | 2x2x0.4 inches (50.8x50.8x10.2mm) |
| Case Material | Black coated copper with non-conductive base |

NOTES:

1. Measured from High Line to Low Line
2. Measured from Full Load to 1/4 Load

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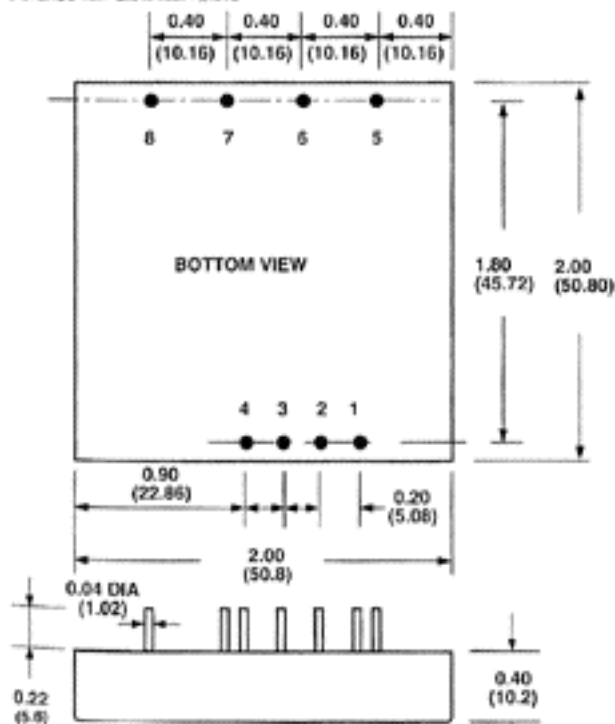
DESCRIPTION: dc-dc converter

| Output (Pin No.) | Voltage | Amperes | |
|------------------|------------|---------|------|
| | | Min.(2) | Nom. |
| 7 | +5 | 0.25 | 1.5 |
| 8 & 5 | +12 or -12 | 0.10 | 0.31 |
| 8 & 5 | +15 or -15 | 0.10 | 0.25 |

NOTE:

- Maximum total power from all outputs is limited to 15 watts but no output should be allowed to exceed its maximum current.
- Minimum current on each output is required to maintain specified regulation.

Dimensions (mm)

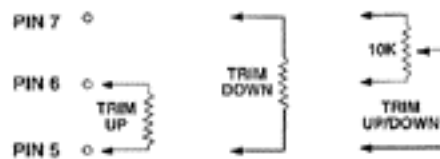
 All Dimensions in inches (mm)
 Tolerance .xxx ±0.04, .xxx± ±0.10


| Pin | PIN CONNECTION | | |
|-----|-----------------------|--------|-----------|
| | Single | Dual | Triple |
| 1 | Remote On/Off Control | | |
| 2 | No Pin | No Pin | No Pin |
| 3 | -Vin | -Vin | -Vin |
| 4 | +Vin | +Vin | +Vin |
| 5 | Trim | Trim | -Aux. Out |
| 6 | -Vout | -Vout | Common |
| 7 | +Vout | Common | +5V out |
| 8 | No Pin | +Vout | +Aux. Out |

| Remote On/Off Control | |
|-----------------------|----------------------------|
| Logic Compatibility | CMOS or Open Collector TTL |
| EC-On | >+5.5VDC or Open Circuit |
| EC-Off | <1.8 VDC |
| Shutdown Idle Current | 10 mA |
| Control Common | Referenced to Input Minus |

External Output Trimming

Output may optionally be externally trimmed ($\pm 10\%$) with a fixed resistor or an external trimpot as shown.



Derating Curve

