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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



SERIES: PTK15-T

DESCRIPTION: screw terminal dc-dc converter

Features

- U-frame with screw terminals
- Industry standard pin out
- Wide 4:1 input range
- Fully isolated
- Output voltage trimmable
- Output on/off control
- Over-current protection
- Over-voltage protection
- Six-sided EMI shielding
- Constant switching frequency
- High efficiency
- Compact size 2.25"x3.0"x0.67"
- 40°C~85°C Models available
- 3 year warranty



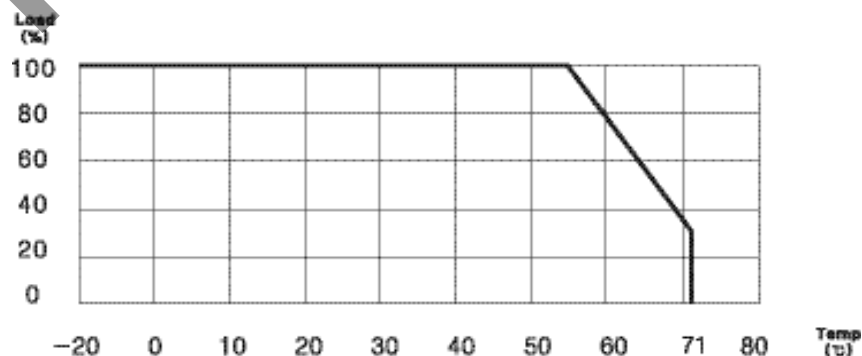
RoHS

| MODEL ¹ | Output Power (max) | Input Voltage | Output Voltage | Output Current (max) | Ripple & Noise ² mV P-P | Efficiency (Typ.) |
|--------------------|--------------------|---------------|----------------|----------------------|------------------------------------|-------------------|
| PTK15-Q24-S3-T | 13.2W | 10-36VDC | 3.3VDC | 4.0A | 75 | 80% |
| PTK15-Q24-S5-T | 15.0W | 10-36VDC | 5VDC | 3.0A | 75 | 85% |
| PTK15-Q24-S12-T | 15.0W | 10-36VDC | 12VDC | 1.25A | 120 | 86% |
| PTK15-Q24-S15-T | 15.0W | 10-36VDC | 15VDC | 1.0A | 150 | 84% |
| PTK15-Q24-D5-T | 15.0W | 10-36VDC | ±5VDC | 1.5A | 50/50 | 85% |
| PTK15-Q24-D12-T | 15.0W | 10-36VDC | ±12VDC | 0.625A | 120/120 | 87% |
| PTK15-Q24-D15-T | 15.0W | 10-36VDC | ±15VDC | 0.5A | 150/150 | 87% |
| PTK15-Q48-S3-T | 13.2W | 20-72VDC | 3.3VDC | 4.0A | 75 | 80% |
| PTK15-Q48-S5-T | 15.0W | 20-72VDC | 5VDC | 3.0A | 75 | 85% |
| PTK15-Q48-S12-T | 15.0W | 20-72VDC | 12VDC | 1.25A | 120 | 87% |
| PTK15-Q48-S15-T | 15.0W | 20-72VDC | 15VDC | 1.0A | 150 | 87% |
| PTK15-Q48-D5-T | 15.0W | 20-72VDC | ±5VDC | 1.5A | 50/50 | 85% |
| PTK15-Q48-D12-T | 15.0W | 20-72VDC | ±12VDC | 0.625A | 120/120 | 86% |
| PTK15-Q48-D15-T | 15.0W | 20-72VDC | ±15VDC | 0.5A | 150/150 | 87% |

Note: 1 All models are also available in an extended temperature range of -40°C~85°C. For these models, append "M" to the model number, e.g. PTK15-Q48-S5M.

2 Ripple & noise measured with a 20MHz bandwidth, off a 10 µF electrolytic and a 0.1 µF ceramic cap in parallel at output.

Derating Curve



**SERIES:** PTK15-T**DESCRIPTION:** screw terminal dc-dc converter

Input

| Parameter | Conditions/Description | Min | Nom | Max | Units |
|-----------------------|-----------------------------|------|---------|------|-------|
| Input voltage range | | 10 | 24 | 36 | VDC |
| | | 20 | 48 | 72 | VDC |
| Remote on/off control | Output turn-on ³ | 2.5V | (open) | 5.5V | |
| | Output turn-off | 0V | (short) | 0.8V | |
| Switching frequency | Constant | | 250 | | KHz |

Note: 3 Output defaults to "on" when there is no connection to the "CNT" pin.

OUTPUT

| Parameter | Conditions/Description | Min | Nom | Max | Units |
|--|---|--------|-----|--------|-----------|
| Output trim range | With external trim resistors | -5% | | +5% | |
| Set point accuracy | Single output | -2% | | +2% | |
| | Dual output | -3% | | +3% | |
| Line regulation (Low line to high line) | Single output models | -0.25% | | +0.25% | |
| | Dual output models | -2.5% | | +2.5% | |
| | Triple: main output (Vout) auxillary outputs (+Vaux / -Vaux) | -0.25% | | +0.25% | |
| Load regulation ² | Single output models - no load to full load | -0.25% | | +0.25% | |
| | Dual output models - balanced loads | -2.5% | | +2.5% | |
| | Triple: main output (Vout) auxillary outputs(+Vaux / -Vaux) - with 10% load on Vout and balanced loads on +Vaux and -Vaux | -0.25% | | +0.25% | |
| Minimum load | Converters will not be damaged if loading conditions are less than minimum specified loads, but regulation specs may not be met ⁴ | | | | |
| Ripple and noise | | | | | See chart |

Note: 4 Single output: no min. load required, Dual output: 10%, Triple output: balanced load

PROTECTION

| Parameter | Conditions/Description | Min | Nom | Max | Units |
|--------------|---------------------------------------|------|-----|------|-------|
| Over-current | Continuous auto recovery ⁵ | 105% | | 135% | |
| Over-voltage | Internally zener clamped ⁵ | 110% | | 140% | |

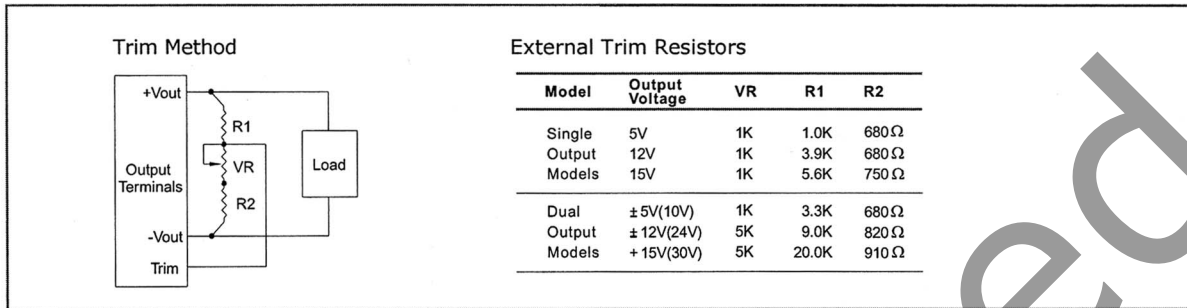
Note: 5 Continuous operation in a protected state may compromise long-term reliability.

GENERAL

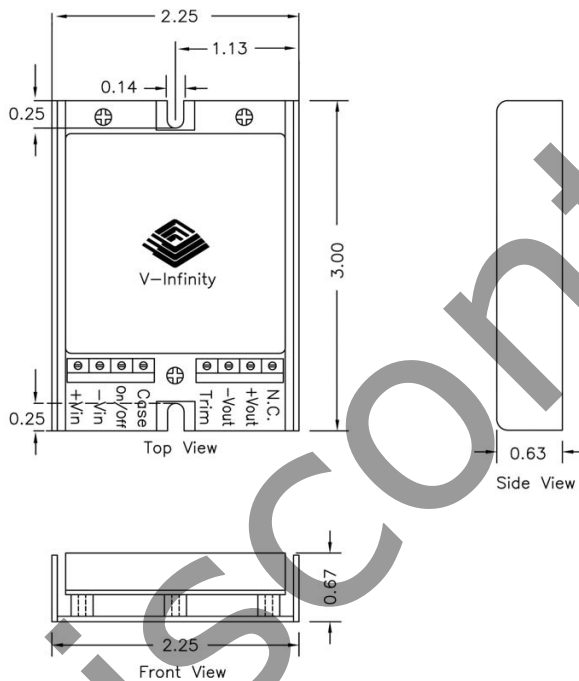
| Parameter | Continuous/Description | Min | Nom | Max | Units |
|-----------------------|---|--------|--------------|------|-------------------|
| Efficiency | Typical at full load | 78% | | 83% | |
| Dielectric withstand | Input/case, input/output, output/case | 500 | | | VAC |
| Insulation resistance | at 500 VDC | 100M | | | Ohms |
| Agency standards | Approved to UL60950, CSA C22.2 No. 60950, TUV EN60950 | | | | |
| Case material | | | Zn | | |
| Material flammability | | 94 V-0 | | | |
| Weight | | | 80 (2.82) | | grams (ounces) |
| MTBF | MIL-HDBK-217F | | 470k | | hours |
| Operating temperature | Regular models - see derating curve. | -20 | | +71 | °C |
| | Extended temperature models | -40 | | +85 | °C |
| Storage temperature | | -40 | | +105 | °C |
| Humidity | Operating(non-condensing) | 5% | | 95% | RH |

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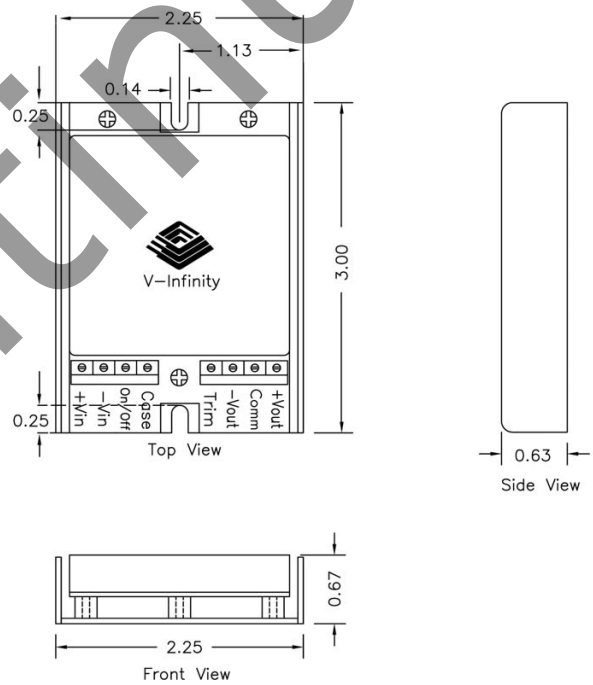
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Single Output



Dual Output



*DIN rail mounting kit available (part# STK-DIN)

PIN Definitions

- +Vin: Input positive terminal
- Vin: Input negative terminal
- CNT: Remote On/Off control of output voltage. Referenced to -Vin
- +Vout: Main output positive terminal
- Vout: Output negative terminal
- Com: Common node for dual- or triple-output models
- Trim: For trimming output voltage on single- or dual-output models
- Case: Connected to chassis

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