

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

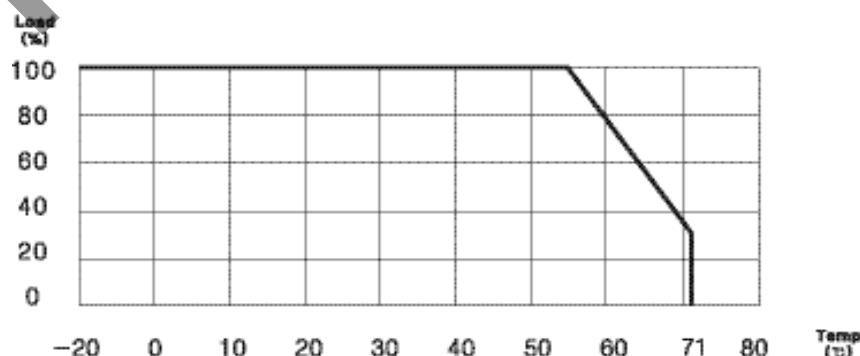
- U-frame with screw terminals
- Industry standard pin out
- Wide 4:1 input range
- Fully isolated
- Output voltage trimmable
- Output on/off control
- Over-current protection
- Over-voltage protection
- Six-sided EMI shielding
- Constant switching frequency
- High efficiency
- Compact size 2.25"x3.0"x0.67"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

**RoHS**

| MODEL <sup>1</sup> | Output Power (max) | Input Voltage | Output Voltage | Output Current (max) | Ripple & Noise <sup>2</sup> 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 <sup>3</sup> | 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**

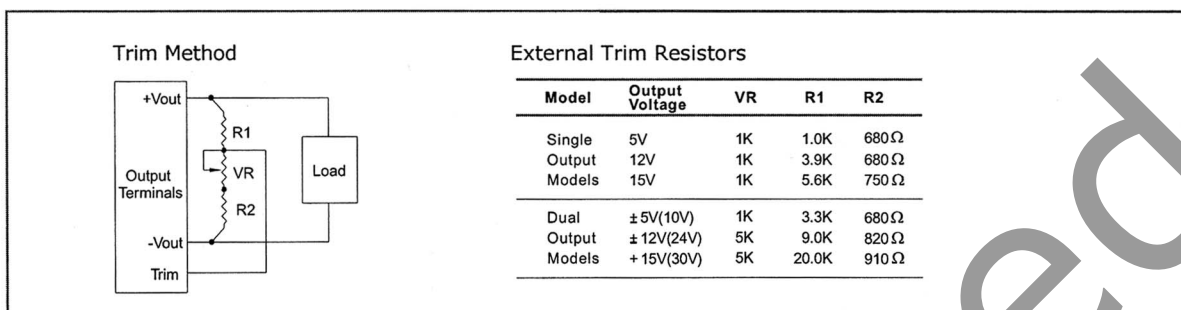
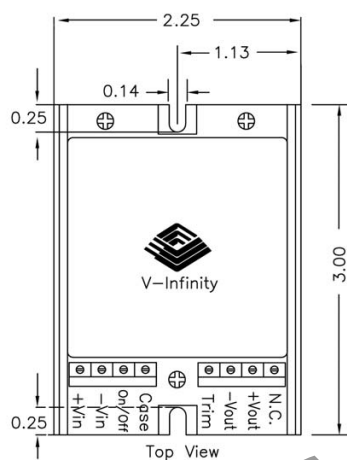
| Parameter                                  | Conditions/Description                                                                                                                          | Min    | Nom | Max    | Units |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----|--------|-------|
| Output trim range                          | With external trim resistors                                                                                                                    | -5%    |     | +5%    |       |
| Set point accuracy                         | Single output                                                                                                                                   | -2%    |     | +2%    |       |
|                                            | Dual output                                                                                                                                     | -3%    |     | +3%    |       |
| Line regulation<br>(Low line to high line) | Single output models                                                                                                                            | -0.25% |     | +0.25% |       |
|                                            | Dual output models                                                                                                                              | -2.5%  |     | +2.5%  |       |
|                                            | Triple: main output (Vout)                                                                                                                      | -0.25% |     | +0.25% |       |
|                                            | auxiliary outputs (+Vaux / -Vaux)                                                                                                               | -5%    |     | +5%    |       |
| Load regulation <sup>2</sup>               | 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)                                                                                                                      | -0.25% |     | +0.25% |       |
|                                            | auxiliary outputs(+Vaux / -Vaux) - with 10% load<br>on Vout and balanced loads on +Vaux and -Vaux                                               | -5%    |     | +5%    |       |
| Minimum load                               | Converters will not be damaged if loading conditions are less than minimum specified loads,<br>but regulation specs may not be met <sup>4</sup> |        |     |        |       |
| Ripple and noise                           | See chart                                                                                                                                       |        |     |        |       |

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

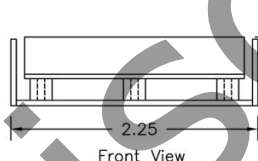
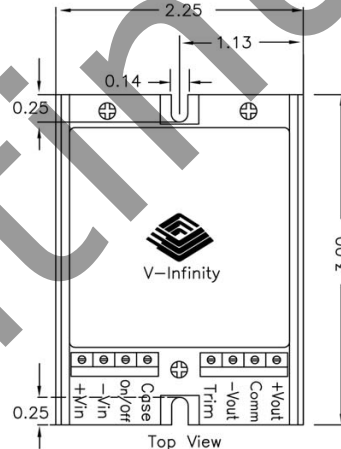
| Parameter    | Conditions/Description                | Min  | Nom | Max  | Units |
|--------------|---------------------------------------|------|-----|------|-------|
| Over-current | Continuous auto recovery <sup>5</sup> | 105% |     | 135% |       |
| Over-voltage | Internally zener clamped <sup>5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

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

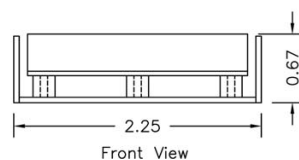
| Parameter             | Continuous/Description                                | Min  | Nom                  | Max  | Units                      |
|-----------------------|-------------------------------------------------------|------|----------------------|------|----------------------------|
| Efficiency            | 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<br>(2.82)<br>470k |      | grams<br>(ounces)<br>hours |
| MTBF                  | MIL-HDBK-217F                                         |      |                      |      |                            |
| 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                         |

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

Side View

**Dual Output**

Side View



\*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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