V·INFINITY

PTK15 Series Screw Terminal Dc-Dc Converter

Rev. 01-2009

Features

- 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 2.0”x2.0”x0.4”
- -40°C~85°C Models available
- 3 year warranty

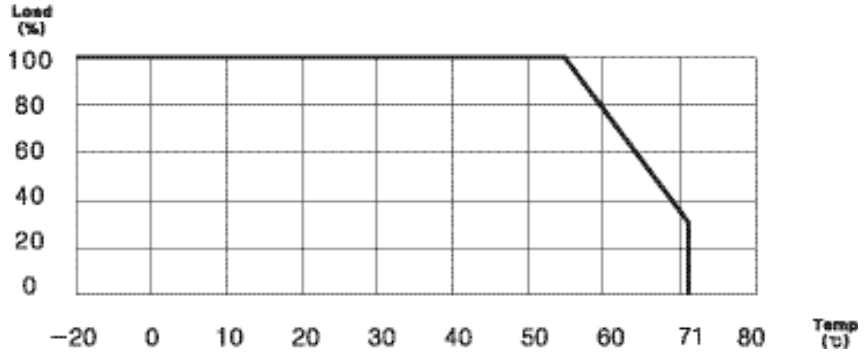
RoHS

Model [1] Number	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 10uF electrolytic and a 0.1uF ceramic cap in parallel at the ouptut.

Derating Curve



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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	Single output models	-0.25%		+0.25%	
(Low line to high line)	Dual output models	-2.5%		+2.5%	
	Triple: main output (Vout)	-0.25%		+0.25%	
	auxillary outputs (+Vaux / -Vaux)	-5%		+5%	
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)	-0.25%		+0.25%	
	auxillary outputs(+Vaux / -Vaux) - with 10% load 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, but regulation specs may not be met				
Ripple and noise					See chart

Protection

Parameter	Conditions/Description	Min	Nom	Max	Units
Over-current	Continuous auto recovery [4]	105%		135%	
Over-voltage	Internally zener clamped [4]	110%		140%	

Note: 4 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			75 (2.65)		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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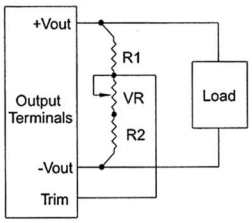
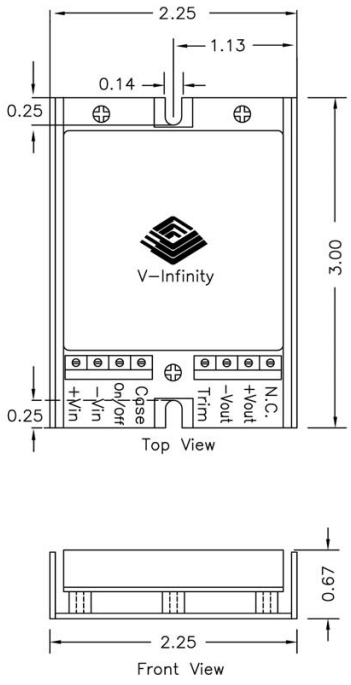
Trim Method



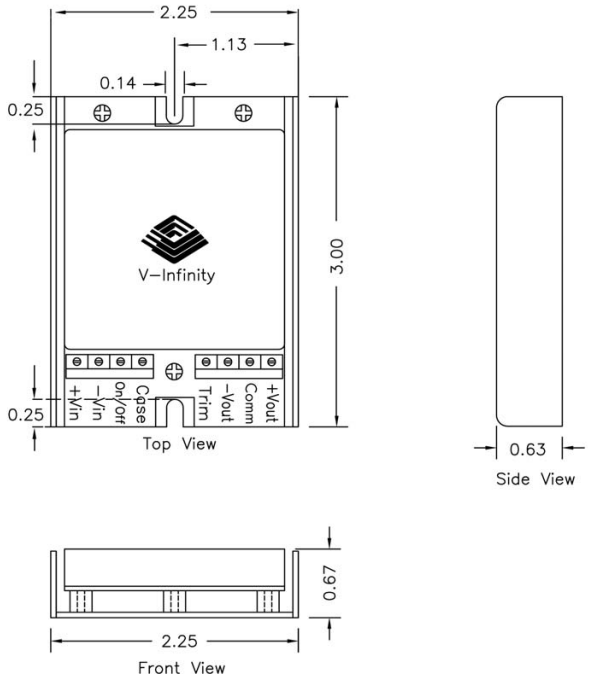
External Trim Resistors

Model	Output Voltage	VR	R1	R2
Single Output Models	5V	1K	1.0K	680Ω
	12V	1K	3.9K	680Ω
	15V	1K	5.6K	750Ω
Dual Output Models	±5V(10V)	1K	3.3K	680Ω
	±12V(24V)	5K	9.0K	820Ω
	+15V(30V)	5K	20.0K	910Ω

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