

### Features

- ·U-Frame w/ screw terminals
- ·Industry standard pin out
- •Wide 2:1 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"x0.67"
- -3 year warranty



Output	Input	Output	Output	Output	Ripple & Noise in	Line	Load	Efficiency
Power	Voltage	Voltage	Current	Current	mV P-P@20mHz	Reg.	Reg.	(Typ.)
(max)			(min)	(max)	Bandwidth			
20.0W	18-36VDC	3.3VDC	0A	6.0A	100	±0.25%	±0.25%	78%
25.0W	18-36VDC	5VDC	0A	5.0A	100	±0.25%	±0.25%	79%
24.0W	18-36VDC	12VDC	0A	2.0A	120	±0.25%	±0.25%	81%
24.0W	18-36VDC	15VDC	0A	1.6A	150	±0.25%	±0.25%	81%
25.0W	18-36VDC	±5VDC	0A	2.5A	75/75	±0.25%	±0.25%	79%
24.0W	18-36VDC	±12VDC	0A	1.0A	120/120	±0.25%	±0.25%	81%
24.0W	18-36VDC	±15VDC	0A	0.8A	150/150	±0.25%	±0.25%	81%
20.0W	36-72VDC	3.3VDC	0A	6.0A	100	±0.25%	±0.25%	78%
25.0W	36-72VDC	5VDC	0A	5.0A	100	±0.25%	±0.25%	79%
24.0W	36-72VDC	12VDC	0A	2.0A	120	±0.25%	±0.25%	83%
24.0W	36-72VDC	15VDC	0A	1.6A	150	±0.25%	±0.25%	83%
25.0W	36-72VDC	±5VDC	0A	2.5A	75/75	±0.25%	±0.25%	80%
24.0W	36-72VDC	±12VDC	0A	1.0A	120/120	±0.25%	±0.25%	82%
24.0W	36-72VDC	±15VDC	0A	0.8A	150/150	±0.25%	±0.25%	82%
	Power (max) 20.0W 25.0W 24.0W 25.0W 24.0W 25.0W 24.0W 20.0W 25.0W 24.0W 25.0W 24.0W 24.0W 24.0W	Power (max) Voltage   20.0W 18-36VDC   25.0W 18-36VDC   24.0W 36-72VDC   25.0W 36-72VDC   24.0W 36-72VDC   24.0W 36-72VDC   24.0W 36-72VDC   24.0W 36-72VDC   24.0W 36-72VDC   24.0W 36-72VDC	Power (max) Voltage Voltage   20.0W 18-36VDC 3.3VDC   25.0W 18-36VDC 5VDC   24.0W 18-36VDC 12VDC   24.0W 18-36VDC 15VDC   24.0W 18-36VDC 15VDC   24.0W 18-36VDC ±5VDC   24.0W 18-36VDC ±12VDC   24.0W 18-36VDC ±15VDC   24.0W 36-72VDC 3.3VDC   25.0W 36-72VDC 5VDC   24.0W 36-72VDC 15VDC   24.0W 36-72VDC ±5VDC   24.0W 36-72VDC ±5VDC   24.0W 36-72VDC ±5VDC   24.0W 36-72VDC ±5VDC	Power (max) Voltage Voltage (min)   20.0W 18-36VDC 3.3VDC 0A   25.0W 18-36VDC 5VDC 0A   24.0W 18-36VDC 12VDC 0A   24.0W 18-36VDC 15VDC 0A   24.0W 18-36VDC 15VDC 0A   24.0W 18-36VDC ±5VDC 0A   24.0W 18-36VDC ±5VDC 0A   24.0W 18-36VDC ±12VDC 0A   24.0W 18-36VDC ±12VDC 0A   24.0W 36-72VDC 3.3VDC 0A   25.0W 36-72VDC 5VDC 0A   24.0W 36-72VDC 12VDC 0A   24.0W 36-72VDC 15VDC 0A   25.0W 36-72VDC 15VDC 0A   25.0W 36-72VDC 15VDC 0A   25.0W 36-72VDC ±5VDC 0A   25.0W 36-72VDC ±0A 0A   24.0W 36-72VDC<	Power (max) Voltage Voltage Current (min) Current (max)   20.0W 18-36VDC 3.3VDC 0A 6.0A   25.0W 18-36VDC 5VDC 0A 5.0A   24.0W 18-36VDC 12VDC 0A 2.0A   24.0W 18-36VDC 12VDC 0A 2.0A   24.0W 18-36VDC 15VDC 0A 1.6A   25.0W 18-36VDC ±5VDC 0A 2.5A   24.0W 18-36VDC ±12VDC 0A 1.0A   24.0W 18-36VDC ±12VDC 0A 0.8A   20.0W 36-72VDC 3.3VDC 0A 6.0A   25.0W 36-72VDC 5VDC 0A 5.0A   24.0W 36-72VDC 12VDC 0A 1.6A   25.0W 36-72VDC 12VDC 0A 1.6A   25.0W 36-72VDC 15VDC 0A 1.6A   25.0W 36-72VDC 15VDC 0A 1.6A <td< td=""><td>Power (max) Voltage Voltage Current (min) Current (max) mV P-P@20mHz   20.0W 18-36VDC 3.3VDC 0A 6.0A 100   25.0W 18-36VDC 5VDC 0A 5.0A 100   24.0W 18-36VDC 12VDC 0A 2.0A 120   24.0W 18-36VDC 12VDC 0A 2.0A 120   24.0W 18-36VDC 15VDC 0A 1.6A 150   25.0W 18-36VDC ±5VDC 0A 2.5A 75/75   24.0W 18-36VDC ±12VDC 0A 1.0A 120/120   24.0W 18-36VDC ±12VDC 0A 1.0A 120/120   24.0W 18-36VDC ±12VDC 0A 0.8A 150/150   20.0W 36-72VDC 5VDC 0A 6.0A 100   25.0W 36-72VDC 12VDC 0A 1.6A 150   24.0W 36-72VDC 15VDC 0A 1.6A 150</td><td>Power (max) Voltage Voltage Current (min) Current (max) mV P-P@20mHz Bandwidth Reg.   20.0W 18-36VDC 3.3VDC 0A 6.0A 100 ±0.25%   25.0W 18-36VDC 5VDC 0A 5.0A 100 ±0.25%   24.0W 18-36VDC 12VDC 0A 2.0A 120 ±0.25%   24.0W 18-36VDC 12VDC 0A 2.0A 120 ±0.25%   24.0W 18-36VDC 15VDC 0A 1.6A 150 ±0.25%   24.0W 18-36VDC ±5VDC 0A 2.5A 75/75 ±0.25%   24.0W 18-36VDC ±12VDC 0A 1.0A 120/120 ±0.25%   24.0W 18-36VDC ±12VDC 0A 0.8A 150/150 ±0.25%   20.0W 36-72VDC 3.3VDC 0A 6.0A 100 ±0.25%   24.0W 36-72VDC 12VDC 0A 2.0A 120 ±0.25%   24.0W<td>Power (max) Voltage Voltage Current (min) Current (max) mV P-P@20mHz Bandwidth Reg. Reg.   20.0W 18-36VDC 3.3VDC 0A 6.0A 100 ±0.25% ±0.25%   25.0W 18-36VDC 5VDC 0A 5.0A 100 ±0.25% ±0.25%   24.0W 18-36VDC 12VDC 0A 2.0A 120 ±0.25% ±0.25%   24.0W 18-36VDC 15VDC 0A 1.6A 150 ±0.25% ±0.25%   24.0W 18-36VDC ±5VDC 0A 2.5A 75/75 ±0.25% ±0.25%   24.0W 18-36VDC ±5VDC 0A 2.5A 75/75 ±0.25% ±0.25%   24.0W 18-36VDC ±12VDC 0A 1.0A 120/120 ±0.25% ±0.25%   24.0W 18-36VDC ±15VDC 0A 0.8A 150/150 ±0.25% ±0.25%   25.0W 36-72VDC 5VDC 0A 5.0A 100 ±0.25%</td></td></td<>	Power (max) Voltage Voltage Current (min) Current (max) mV P-P@20mHz   20.0W 18-36VDC 3.3VDC 0A 6.0A 100   25.0W 18-36VDC 5VDC 0A 5.0A 100   24.0W 18-36VDC 12VDC 0A 2.0A 120   24.0W 18-36VDC 12VDC 0A 2.0A 120   24.0W 18-36VDC 15VDC 0A 1.6A 150   25.0W 18-36VDC ±5VDC 0A 2.5A 75/75   24.0W 18-36VDC ±12VDC 0A 1.0A 120/120   24.0W 18-36VDC ±12VDC 0A 1.0A 120/120   24.0W 18-36VDC ±12VDC 0A 0.8A 150/150   20.0W 36-72VDC 5VDC 0A 6.0A 100   25.0W 36-72VDC 12VDC 0A 1.6A 150   24.0W 36-72VDC 15VDC 0A 1.6A 150	Power (max) Voltage Voltage Current (min) Current (max) mV P-P@20mHz Bandwidth Reg.   20.0W 18-36VDC 3.3VDC 0A 6.0A 100 ±0.25%   25.0W 18-36VDC 5VDC 0A 5.0A 100 ±0.25%   24.0W 18-36VDC 12VDC 0A 2.0A 120 ±0.25%   24.0W 18-36VDC 12VDC 0A 2.0A 120 ±0.25%   24.0W 18-36VDC 15VDC 0A 1.6A 150 ±0.25%   24.0W 18-36VDC ±5VDC 0A 2.5A 75/75 ±0.25%   24.0W 18-36VDC ±12VDC 0A 1.0A 120/120 ±0.25%   24.0W 18-36VDC ±12VDC 0A 0.8A 150/150 ±0.25%   20.0W 36-72VDC 3.3VDC 0A 6.0A 100 ±0.25%   24.0W 36-72VDC 12VDC 0A 2.0A 120 ±0.25%   24.0W <td>Power (max) Voltage Voltage Current (min) Current (max) mV P-P@20mHz Bandwidth Reg. Reg.   20.0W 18-36VDC 3.3VDC 0A 6.0A 100 ±0.25% ±0.25%   25.0W 18-36VDC 5VDC 0A 5.0A 100 ±0.25% ±0.25%   24.0W 18-36VDC 12VDC 0A 2.0A 120 ±0.25% ±0.25%   24.0W 18-36VDC 15VDC 0A 1.6A 150 ±0.25% ±0.25%   24.0W 18-36VDC ±5VDC 0A 2.5A 75/75 ±0.25% ±0.25%   24.0W 18-36VDC ±5VDC 0A 2.5A 75/75 ±0.25% ±0.25%   24.0W 18-36VDC ±12VDC 0A 1.0A 120/120 ±0.25% ±0.25%   24.0W 18-36VDC ±15VDC 0A 0.8A 150/150 ±0.25% ±0.25%   25.0W 36-72VDC 5VDC 0A 5.0A 100 ±0.25%</td>	Power (max) Voltage Voltage Current (min) Current (max) mV P-P@20mHz Bandwidth Reg. Reg.   20.0W 18-36VDC 3.3VDC 0A 6.0A 100 ±0.25% ±0.25%   25.0W 18-36VDC 5VDC 0A 5.0A 100 ±0.25% ±0.25%   24.0W 18-36VDC 12VDC 0A 2.0A 120 ±0.25% ±0.25%   24.0W 18-36VDC 15VDC 0A 1.6A 150 ±0.25% ±0.25%   24.0W 18-36VDC ±5VDC 0A 2.5A 75/75 ±0.25% ±0.25%   24.0W 18-36VDC ±5VDC 0A 2.5A 75/75 ±0.25% ±0.25%   24.0W 18-36VDC ±12VDC 0A 1.0A 120/120 ±0.25% ±0.25%   24.0W 18-36VDC ±15VDC 0A 0.8A 150/150 ±0.25% ±0.25%   25.0W 36-72VDC 5VDC 0A 5.0A 100 ±0.25%

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. PTK25-Q48-S5M.



### Input

Parameter	Conditions/Description	Min	Nom	Max	Units
Input voltage range		18	24	36	VDC
		36	48	72	VDC
Remote on/off control	Output turn-on	2.5V	(open)	7.0V	
	Output turn-off	-0.7V	(short)	0.8V	
Switching frequency	Constant		300		KHz

## Output

Parameter	Conditions/Description	Min	Nom Max	Units
Output trim range	With external trim resistors	-5%	+5%	
Set point accuracy		-2%	+2%	
Line regulation <sup>2</sup>	Single-output models	-0.25%	+0.25%	
(Low line to high line)	Dual-output models	-0.5%	+0.5%	
	Triple: main output (Vout)	-0.25%	+0.25%	
	auxillary outputs (+Vaux / -Vaux)	-5%	+5%	
Load regulation <sup>2</sup>	Single output models	-0.25%	+0.25%	
-	Dual output models	-2.5%	+2.5%	
	Triple: main output (Vout)	-0.25%	+0.25%	
	aux. outputs (main output varies from	-5%	+5%	
	10% - 100% load)			
Minimum load		0.0		Amps
Ripple and noise				See cha

Note 2. To maintain specified regulation, it is required to have a minimum 10% load on the main output, and a 20% load on each auxillary output. Under no load conditions, operations will not damage the devices, but all specified regulation may not be met.

## Protection

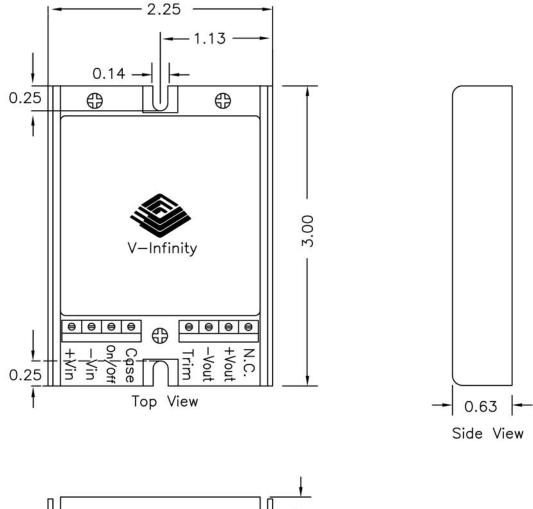
Parameter	Conditions/Description	Min	Nom Max	Units
Over-current	Continuous auto recovery <sup>3</sup>	105%	135%	
Over-voltage	Internal clamping <sup>3</sup>	115%	140%	

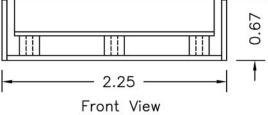
Note 3. Continuous operation in a protected state may compromise long-term reliability.

# **General Specifications**

Parameter	Continuous/Description	Min	Nom	Max	Units
Efficiency	Typical at full load	77%		83%	
Dielectric withstand	Input/case, input/output, output/case	500			VAC
Insulation resistance	at 500 VDC	100M			Ohms
Agency standards	Designed to meet, UL1950, EN60950,	CISPR22, CE			
Case material			Zn		
Material flammability		94 V-0			
Weight			80		grams
			(2.82)		(ounces)
MTBF	MIL-HDBK-217F		450k		hours
Operating temperature	Regular models	-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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