

KEY FEATURES

- Power Module for PCB Mountable
- High Efficiency up to 90%
- 4:1 Wide Input Range
- Without Tantalum Capacitors Inside
- Low Ripple and Noise
- Remote ON/OFF Control
- Operating Temperature: -40°C...+85°C (with derating)
- Very Small Size :1.02 x 1.02 x 0.45 Inches
- Screw Terminal for Option
- Safety Meet UL / IEC / EN 62368-1 & 60950
- 3-Years Product Warranty



ELECTRICAL SPECIFICATIONS

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

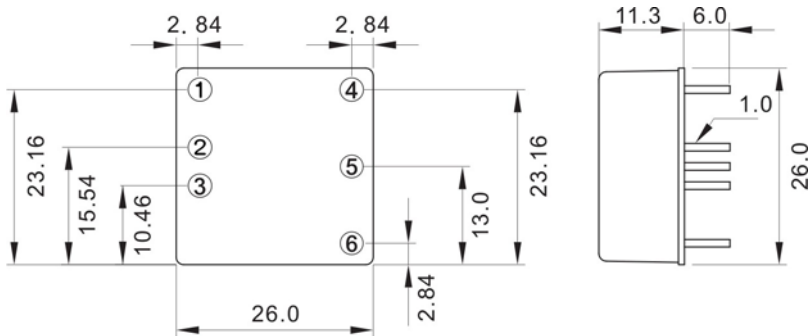
Model No.	with Heatsink	VP20F-24-5S X VP20F-48-5S X	VP20F-24-12S X VP20F-48-12S X	VP20F-24-15S X VP20F-48-15S X	VP20F-24-24S X VP20F-48-24S X
Model No.	without Heatsink	VP20F-24-5S VP20F-48-5S	VP20F-24-12S VP20F-48-12S	VP20F-24-15S VP20F-48-15S	VP20F-24-24S VP20F-48-24S
Max Output Wattage (W)		20 W			
Input	Voltage (V.DC.)	VP20F-24-xS X, VP20F-24-xS: 24V (9-36V) VP20F-48-xS X, VP20F-48-xS: 48V (18-75V)			
	Input Filter	C type			
Output	Voltage (V.DC.)	5V	12V	15V	24V
	Trim Voltage Range	±10%			
	Voltage Accuracy	±2%			
	Current (mA) max	4000	1667	1333	833
	Line Regulation (LL-HL) (typ.)	±0.5%			
	Load Regulation (10-100%) (typ.)	±2%			
	Minimum Load	0%			
	Capacitor Load (max.)	2,000uF	1,000uF	820uF	470uF
	Ripple & Noise (typ.)	100mV	150mV		
Protection	Efficiency	89%	90%	88.5%	90%
	Over Power Protection	Auto-recovery			
	Over Voltage Protection	Zener diode clamp			
Isolation	Short Circuit Protection	Auto-recovery			
	Voltage	2250 VDC			
	Resistance	10 ⁸ ohms			
Environment	Capacitance	1500 pF			
	Operating Temperature	-40°C...+85°C (with derating)			
	Storage Temperature	-55°C...+105°C			
	Case Temperature (Note 2)	+105°C max.			
	Temperature Coefficient	±0.05%/°C			
	Humidity	95% RH			
Physical	MTBF	>800,000 h @ 25°C (MIL-HDBK-217F)			
	Dimensions (L x W x H)	1.02 x 1.02 x 0.45 Inches (26.0 x 26.0 x 11.3 mm) Tolerance ±0.5 mm			
	Case Material	Five-side shielded Aluminum with Non-Conductive base, Black Anodize			
	Weight	SW20F-x-xS X : 23 g (with Heatsink) SW20F-x-xS : 17 g (without Heatsink)			
Remote ON/OFF	Cooling Method	Free-air convection			
	DC-DC ON	Open or +5V ~ 15V			
EMC	DC-DC OFF	When -DC IN and ON/OFF CTL is Short (or 0 VDC ~ +0.5VDC)			
	EMI (Conducted & Radiated Emission) (Note 3)	EN 55032 class A			

NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Maximum case temperature under any operating condition should not be exceeded 105°C.
3. For EMI test, Please refer to below.

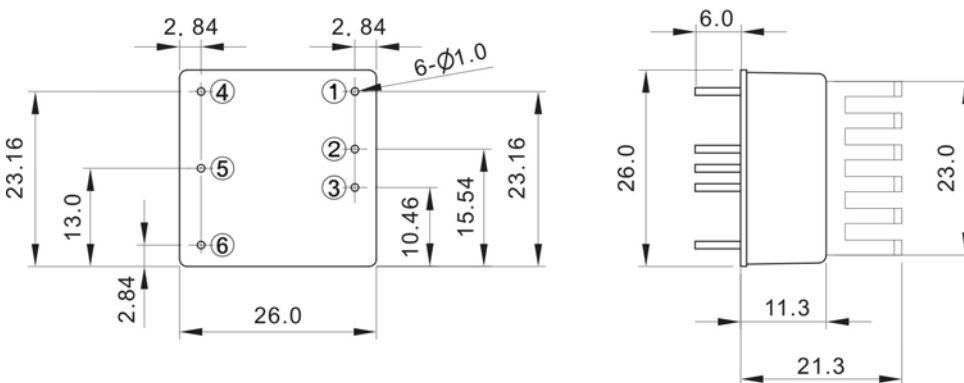
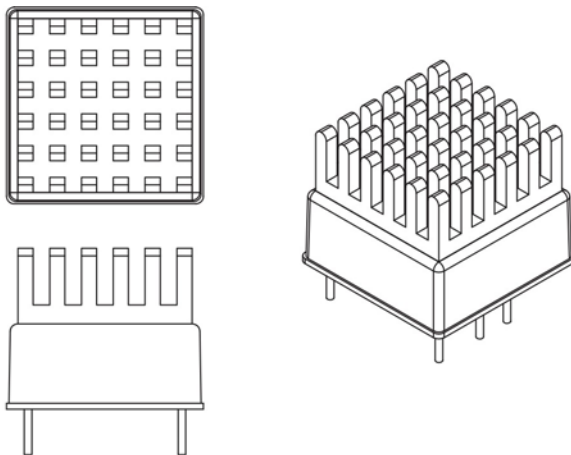
MECHANICAL DIMENSIONS (Top View)

VP20F-x-xS (without Heatsink)

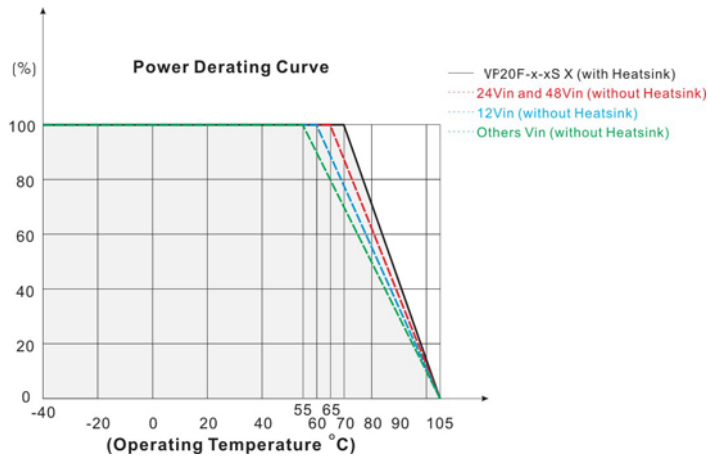


PIN#	Single
1	CTRL
2	-DC IN
3	+DC IN
4	-DC OUT
5	TRIM
6	+DC OUT

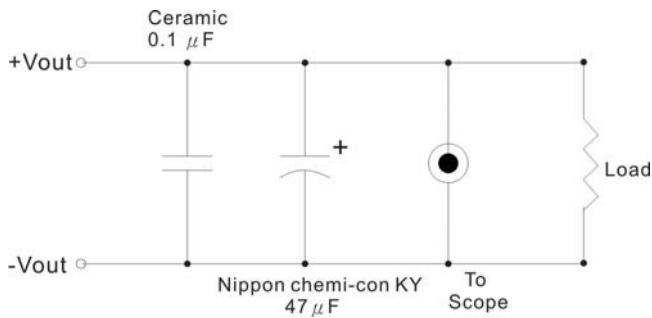
VP20F-x-xS X (with Heatsink)



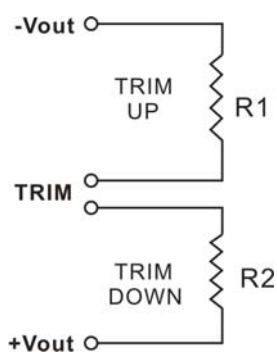
DERATING



OUTPUT NOISE

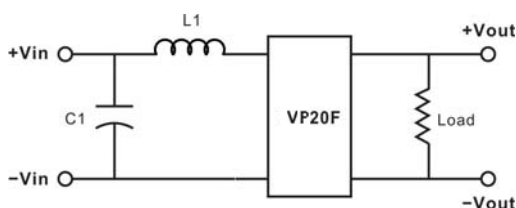


TRIM



	R1		R2	
5S	+10%	1%	-10%	-1%
	0	~ 135K	0	~ 184K
12S	+10%	1%	-10%	-1%
	0	~ 300K	75K	~ 1.2M
15S	+10%	1%	-10%	-1%
	0	~ 310K	110K	~ 1.6M
24S	+10%	1%	-10%	-1%
	0	~ 310K	240K	~ 3M

EMI



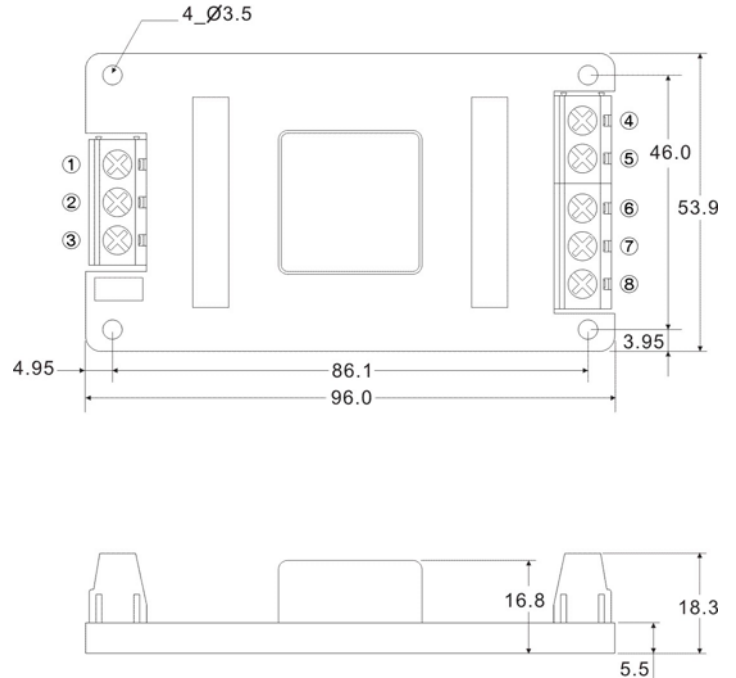
	C1	L1
24F	20 uF / 50 V	10 uH
48F	20 uF / 100 V	15 uH

SCREW TERMINAL

VP20F-A2



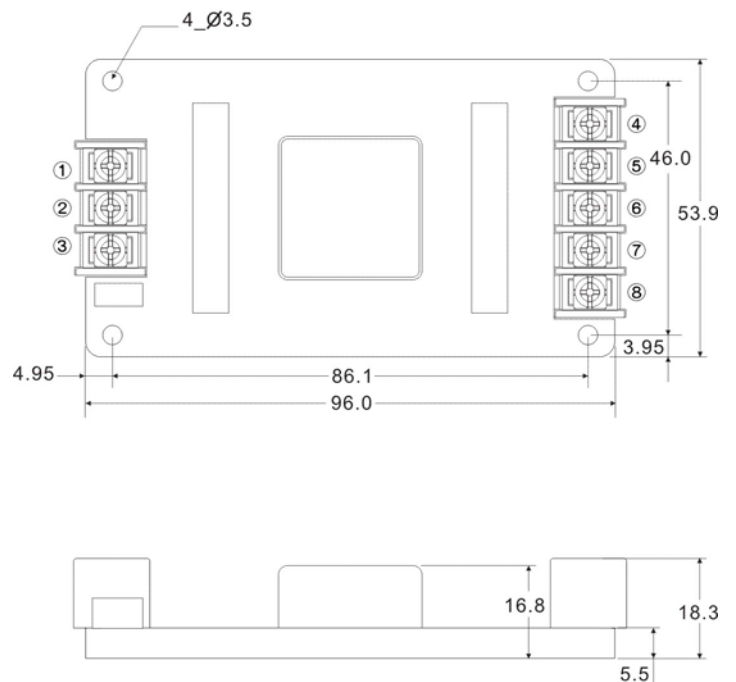
PIN#	Single
1	CTRL
2	-DC IN
3	+DC IN
4	-DC OUT
5	NO CONNECT
6	TRIM
7	NO CONNECT
8	+DC OUT



VP20F-A5



PIN#	Single
1	CTRL
2	-DC IN
3	+DC IN
4	-DC OUT
5	NO CONNECT
6	TRIM
7	NO CONNECT
8	+DC OUT



We reserve the right to make alterations in the product materials and specifications without prior notification and consent to improve reliability, function or design or otherwise.