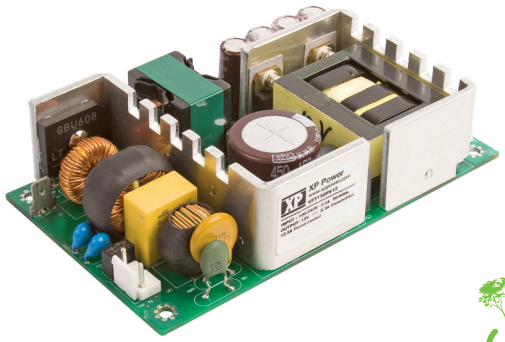
150 Watts
VFT Series



- 100 W Convection Rating
- 150 W Forced-cooled Rating
- 3"x 5"Package
- Single Outputs from 5 V to 48 V
- Built-in Fan Supply
- <0.5 W No Load Input Power

GREEN XP POWER

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 2.5 A max at 115 VAC, 1.5 A max at 230 VAC
Inrush Current	• 80 A max at 230 VAC, cold start 25 °C
Earth Leakage Current	• 180 µA max at 230 VAC/50 Hz
Power Factor	• >0.9 at 230 VAC and full load
No Load Input Power	• <0.5 W
Input Protection	• Internal T3.15 A/250 V fuse in line

Output

Output Voltage	• See table
Output Voltage Trim	• None
Initial Set Accuracy	• ±2% at 50 % load
Minimum Load	• No minimum load requirement
Start Up Delay	• 2 s max
Start Up Rise Time	• 35 ms typical
Hold Up Time	• 8 ms minimum at full load and 115 VAC
Line Regulation	• ±0.5% max
Load Regulation	• ±0.5% max
Transient Response	• 5% maximum deviation, recovering to less than 1% within 500 µs for 50% step load
Ripple & Noise	• 5 V version: 85 mV pk-pk max, 1% pk-pk max for others (see note 1)
Overvoltage Protection	• 110-135%, recycle input to reset
Overload Protection	• 130-160%
Short Circuit Protection	• Trip and restart (hiccup mode)
Temperature Coefficient	• 0.02 %/°C
Remote Sense	• Compensates for 0.5 V total voltage drop
Fan Supply	• 5 V version: 5 V at 200 mA Other versions: 12 V at 300 mA

General

Efficiency	• Up to 92%, see table
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VDC Output to Ground
Switching Frequency	• PFC: 45-80 kHz, PWM: 100-115 kHz
MTBF	• >300 kHrs to MIL HDBK 217F at 25 °C, GB

Environmental

Operating Temperature	• -10 °C to +70 °C derate from 100% load at 50 °C to 50% load at 70 °C for 12, 24 & 48 V versions or 65 °C for 5 & 15 V versions
Cooling	• Convection-cooled: 100 W Forced-cooled: 150 W (120 W for 5 V models) with 15 CFM
Operating Humidity	• 5% to 90% RH, non condensing
Operating Altitude	• 3000 m
Storage Temperature	• -20 °C to +85 °C
Shock	• IEC68-2-6, 30 g, 11 mins half sine, 3 times in each of 6 axes
Vibration	• IEC68-2-27, 10-55 Hz, 2 g 10 mins / sweep. 60 mins for each of 3 axes

EMC & Safety

Emissions	• EN55032, level B conducted & radiated
Harmonic Currents	• EN61000-3-2 class A EN61000-3-2 class C for loads ≥60 W
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, ±8 kV air, ±4 kV contact, Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m, Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3, Perf Criteria A
Surge	• EN61000-4-5, installation class 3, Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3 V, Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60%, 100 ms, 100%, 5000 ms Perf Criteria A, B, B
Safety Approvals	• UL60950-1, IEC60950-1, EN60950-1, UL62368-1, EN62368-1, IEC62368-1

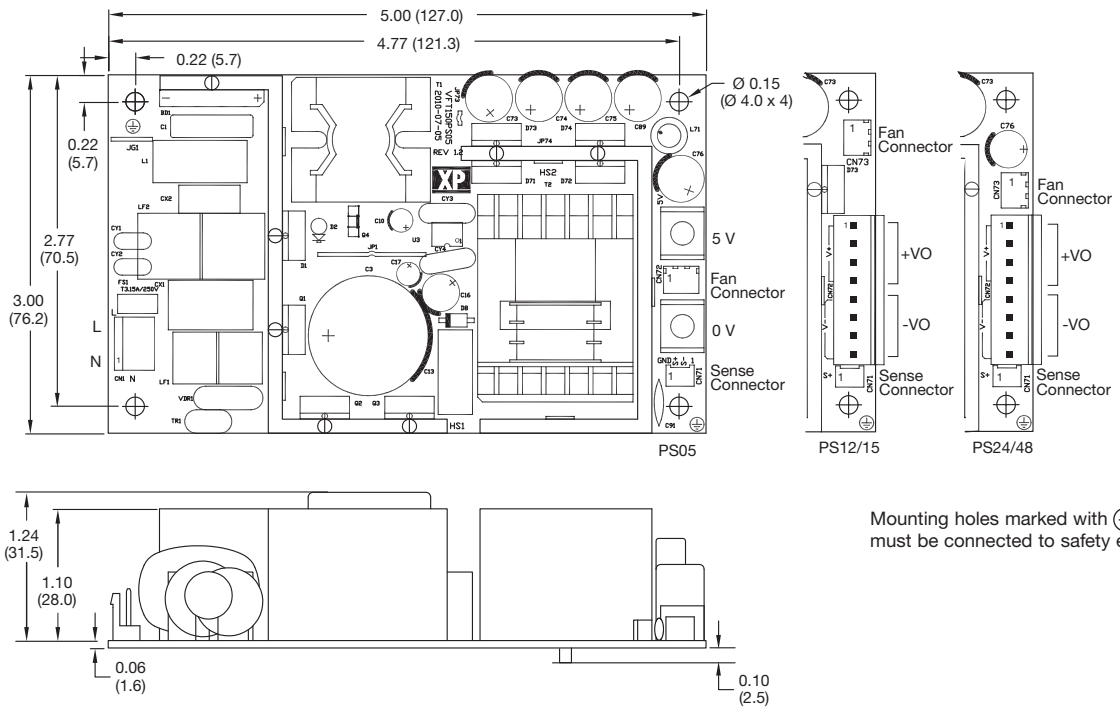
Models and Ratings

Output Voltage	Output Current		Efficiency[2]	Model Number
	Convection-cooled	Forced-cooled		
5.0 V	16.0 A	24.00 A	83%	VFT150PS05
12.0 V	8.30 A	12.50 A	87%	VFT150PS12[3]
15.0 V	6.66 A	10.00 A	87%	VFT150PS15
24.0 V	4.20 A	6.25 A	92%	VFT150PS24
48.0 V	2.10 A	3.13 A	92%	VFT150PS48

Notes

1. *Measured at the output connector with a 0.1 µF ceramic capacitor and a 10 µF electrolytic capacitor and 20 MHz bandwidth.*
2. *Average of efficiencies measured at 25%, 50%, 75% & 100% load and 230 VAC input.*
3. *VFT150PS12 model is available with optional blocking diode, add suffix '-D', e.g. VFT150PS12-D.*

Mechanical Details



Mounting holes marked with ⏚ must be connected to safety earth

Input Connector	
Pin 1	Neutral
Pin 2	Live

Mates with: JST Housing VHR-3N and JST Series SVH crimp terminals.

Output Connector (PS12-48)	
1	+Vout
2	+Vout
3	+Vout
4	+Vout
5	-Vout
6	-Vout
7	-Vout
8	-Vout

Mates with: JST Housing VHR-8N and JST Series SNH crimp terminals

Sense Connector	
Pin 1	Sense+
Pin 2	Sense-

Mates with: JST PHR-2 Housing and SPH-002T-PO.5S crimps.

Fan Connector	
Pin 1	Fan+
Pin 2	Fan-

Mates with: JST XHP-2 Housing and SXH-002T-PO.6 crimps

Notes

1. All dimensions shown in inches (mm).
2. Weight: 0.75 lbs (340 g) approx
3. Tolerance: x.xx = ±0.04 (x.x = ±0.1); x.xxx = ±0.2 (x.xx = ±0.5)

Derating Curve