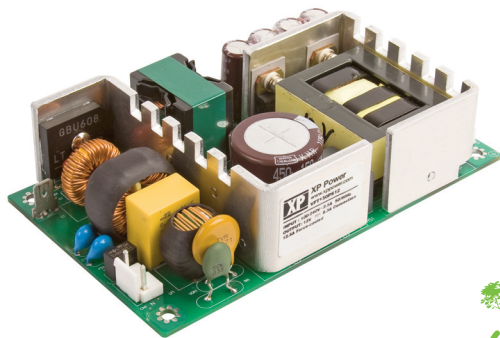


150 Watts VFT Series



- 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

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 μ A 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 | • \pm 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 | • \pm 0.5% max |
| Load Regulation | • \pm 0.5% max |
| Transient Response | • 5% maximum deviation, recovering to less than 1% within 500 μ s 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 \geq 60 W |
| Voltage Flicker | • EN61000-3-3 |
| ESD Immunity | • EN61000-4-2, \pm 8 kV air, \pm 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, CE (Meets all applicable directives), UKCA (Meets all applicable legislation) |

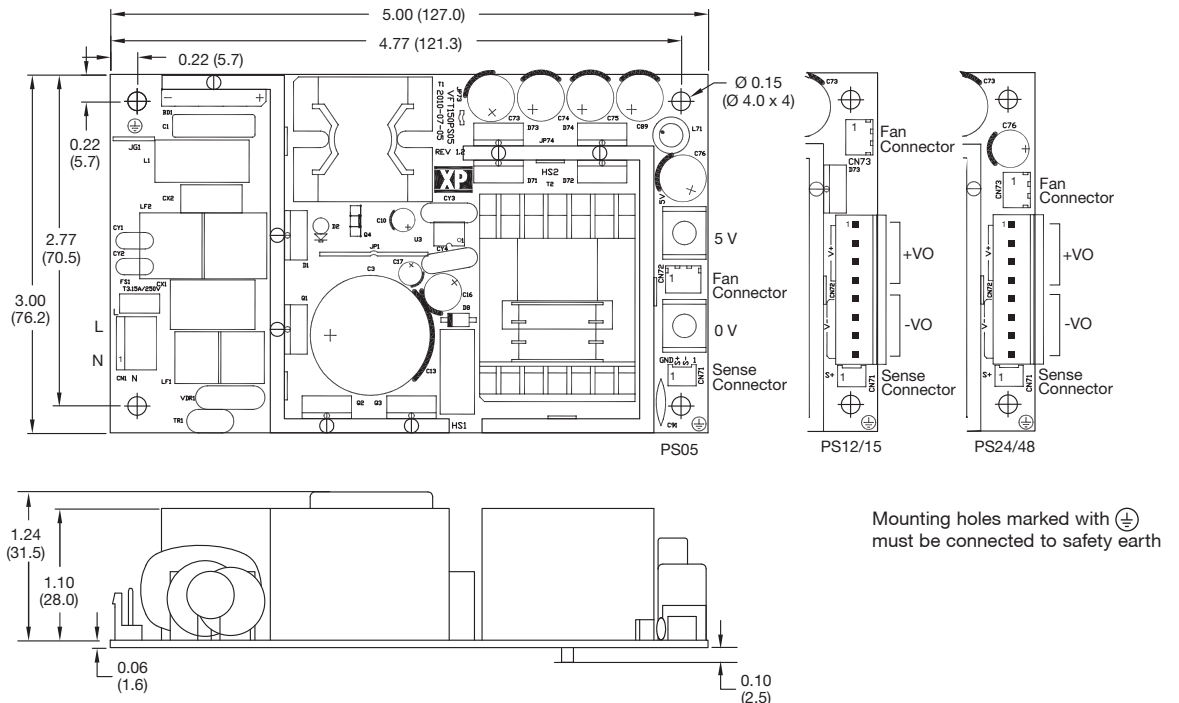
Models and Ratings

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



| 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.

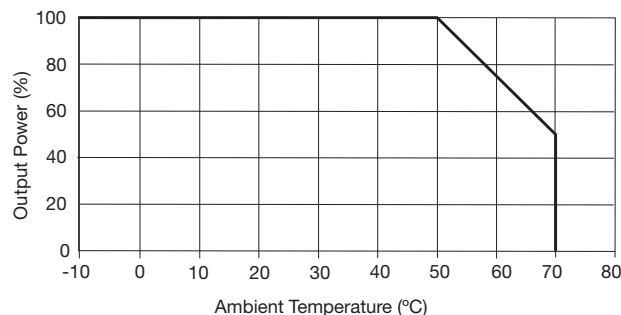
| Fan Connector | |
|---------------|------|
| Pin 1 | Fan+ |
| Pin 2 | Fan- |

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



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