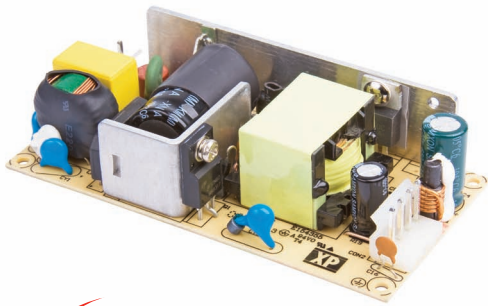


80 Watts VFT Series



- Low Cost
- Single Outputs from 5 V to 24 V
- Peak Load Capability
- High Efficiency
- <0.5 W No Load Input Power
- 2" x 4" Package
- Fits 1U Applications

Specification

Input

| | |
|-----------------------|--|
| Input Voltage | • 85-264 VAC |
| Input Frequency | • 47-63 Hz |
| Input Current | • 2 A max at 115 VAC, 1 A max at 230 VAC |
| Inrush Current | • 85 A max at 230 VAC, cold start 25 °C |
| Earth Leakage Current | • 500 μ A max at 264 VAC / 60 Hz |
| Power Factor | • EN61000-3-2, class A |
| No Load Input Power | • <0.5 W max |
| Input Protection | • Internal T3.15A/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 | • 8 ms typical |
| Hold Up Time | • 8 ms typical at full load and 115 VAC |
| Line Regulation | • \pm 0.5% max |
| Load Regulation | • \pm 1.0% max (see note 1) |
| Transient Response | • 4% maximum deviation, recovering to less than 1% within 500 μ s for 50% step load |
| Ripple & Noise | • 1% max pk-pk (see note 2) |
| Overvoltage Protection | • See table |
| Overload Protection | • 110-180% |
| Short Circuit Protection | • Trip and restart (hiccup mode) |
| Temperature Coefficient | • 0.02%/°C |
| Remote Sense | • Fitted to 5 V version compensates for 0.5 V total voltage drop |

General

| | |
|---------------------|--|
| Efficiency | • See table |
| Isolation | • 3000 VAC Input to Output 1500 VAC Input to Ground 500 VDC Output to Ground |
| Switching Frequency | • 60 kHz \pm 10 kHz |
| MTBF | • >320 kHrs to Bell Core iss. 6 |

Environmental

| | |
|-----------------------|---|
| Operating Temperature | • -10 °C to +70 °C derate from 100% load at 50 °C to 50% load at 70 °C |
| Cooling | • VFT80US05: convection-cooled 40 W, forced-cooled 60 W with 10 CFM VFT80US12-24: convection-cooled 60 W, forced-cooled 80 W with 10 CFM |
| Operating Humidity | • 5% to 90% RH, non condensing |
| Operating Altitude | • 2000 m |
| Storage Temperature | • -40 °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, 10-500Hz, 2 g 10 mins / sweep. 60 mins for each of 3 axes |

EMC & Safety

| | |
|----------------------|--|
| Emissions | • EN55022, level B conducted & radiated |
| Harmonic Currents | • EN61000-3-2 class A |
| 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 2, 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 |

Models and Ratings

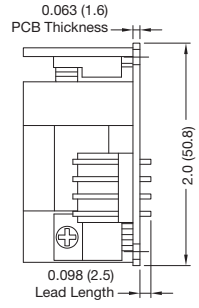
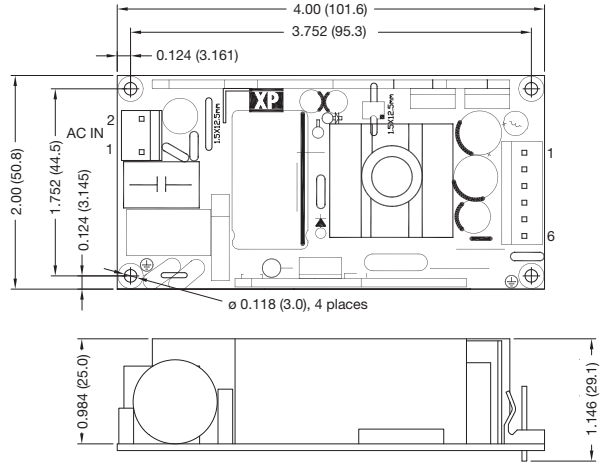
| Output Voltage ⁽⁶⁾ | Output Current | | OVP Setting ⁽⁵⁾ | Efficiency ⁽⁴⁾ | Model Number |
|-------------------------------|----------------|---------------------|----------------------------|---------------------------|--------------|
| | Nominal | Peak ⁽³⁾ | | | |
| 5.0 V | 12.00 A | 15.00 A | 7.0 V | 80% | VFT80US05 |
| 12.0 V | 6.67 A | 8.34 A | 16.0 V | 87% | VFT80US12 |
| 15.0 V | 5.53 A | 6.91 A | 18.0 V | 87% | VFT80US15 |
| 24.0 V | 3.33 A | 4.16 A | 30.0 V | 88% | VFT80US24 |

Notes

1. Load regulation is measured from 60% to full load and from 60% to 20% load (60% ±40% full load).
2. Measured at the output connector with a 0.1 µF ceramic capacitor and a 10 µF electrolytic capacitor.
3. Peak load lasting <30 s with a maximum duty cycle of 10%, average output power not to exceed nominal.
4. Average of efficiencies measured at 25%, 50%, 75% & 100% load and 230 VAC input
5. Typical trip point.
6. Other voltages between 5 V & 30 V are available on request, contact sales for details.

Mechanical Details

VFT80US05



| Output Connector | | | |
|------------------|-------|-------|-------|
| Pin 1 | +Vout | Pin 4 | -Vout |
| Pin 2 | +Vout | Pin 5 | -S |
| Pin 3 | -Vout | Pin 6 | +S |

Only 5 V Version has pins 5 & 6 fitted.
 5 V Mates with: Molex Housing 09-50-3061 and Molex Series 2878 crimp terminals
 Others mates with: Molex Housing 09-50-3041 and Molex Series 2878 crimp terminals.

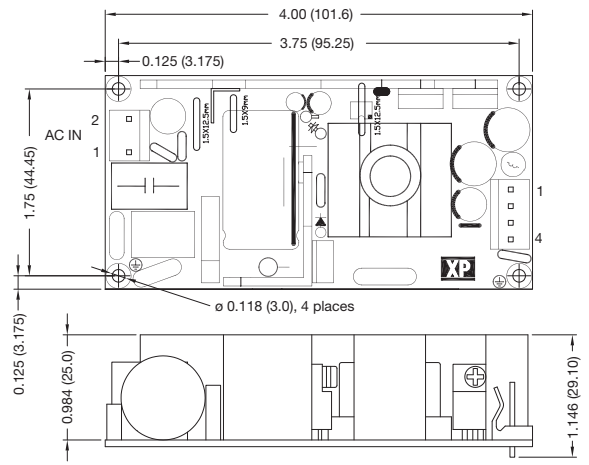
| Input Connector | |
|-----------------|---------|
| Pin 1 | Neutral |
| Pin 2 | Live |

Mates with: Molex Housing 09-50-3031 and Molex Series 2878 crimp terminals.
 Mounting holes marked with ⊕ must be connected to safety earth

Notes

1. All dimensions shown in inches (mm).
2. Weight: 0.29 lbs (130 g) approx
3. Tolerance: x.xx = ±0.04 (x.x = ±0.1); x.xxx = ±0.2 (x.xx = ±0.5)

VFT80US12 - US24



Derating Curve

