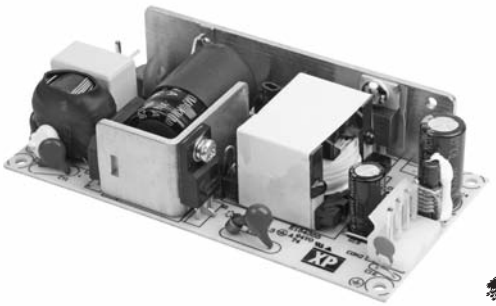
60 Watts
VCT Series



- Low Cost
- Single Outputs from 5 V to 30 V
- Peak Load Capability
- Convection–cooled
- <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	• 1.7 A max at 115 VAC, 0.85 A max at 230 VAC
Inrush Current	• 60 A max at 230 VAC, cold start at 25 °C
Earth Leakage Current	• 500 µA at 264 VAC / 60 Hz
Power Factor	• EN61000-3-2, class A
No Load Input Power	• <0.5 W
Input Protection	• Internal T3.15A/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	• 500 ms max
Start Up Rise Time	• 8 ms typical
Hold Up Time	• 8 ms typical at full load and 115 VAC
Line Regulation	• ±0.5% max
Load Regulation	• ±1.0% max (see note 1)
Transient Response	• 4% maximum deviation, recovering to less than 1% within 500 µs for 50% step load
Ripple & Noise	• 1% max pk-pk (see note 2)
Overvoltage Protection	• See table
Overload Protection	• 133-166%
Short Circuit Protection	• Trip and restart (hiccup mode)
Temperature Coefficient	• 0.02% /°C

General

Efficiency	• See table
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VDC Output to Ground
Switching Frequency	• 60 kHz ±10 kHz
MTBF	• >700 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	• Natural convection
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, 10-500Hz, 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, level 3, Perf Criteria A
Radiated Immunity	• EN61000-4-3, 10 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, 10 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	8.00 A	10.0 A	7.0 V	82%	VCT40US05†^
12.0 V	5.00 A	6.3 A	13.0 V	87%	VCT60US12†^
15.0 V	4.00 A	5.0 A	17.0 V	87%	VCT60US15†^
24.0 V	2.50 A	3.1 A	29.0 V	88%	VCT60US24†^

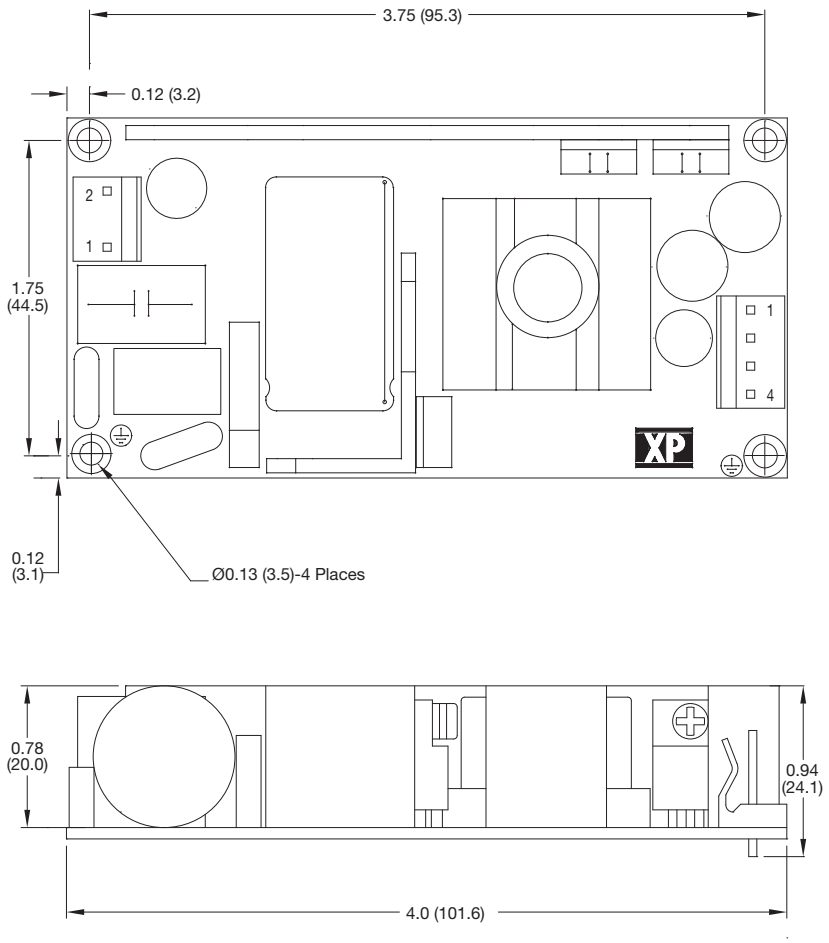
Notes

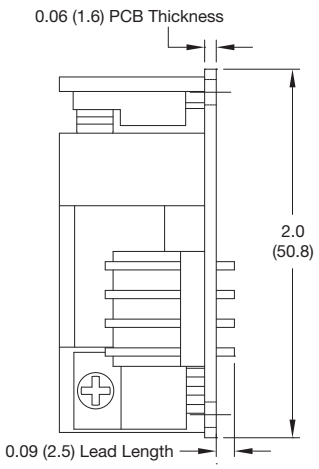
1. Load regulation is measured from 60% to full load and from 60% to 20% load (60% ±40% full load).
2. Measured at the output connector with a 0.1 µF ceramic capacitor and a 10 µF electrolytic capacitor.
3. Peak load lasting <30 s with a maximum duty cycle of 10%, average output power not to exceed nominal.
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 and 30 V available on request, contact sales for details.

† Available from Farnell & element14. See page 28.

^ Available from Newark. See page 28.

Mechanical Details





Output Connector	
1	+Vout
2	+Vout
3	-Vout
4	-Vout

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 09-50-3051 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)