5 Watts
VCP Series



- Low Cost
- Universal AC Input
- Output Voltage from 5 to 15 V
- PCB Mount
- Class II Construction
- EN55022 Class B Emissions
- No Load Input Power <0.3 W

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 0.2 A max at 90 VAC
Inrush Current	• 40 A max at 240 VAC, cold start at 25 °C
Power Factor	• EN61000-3-2, class A
No Load Input Power	• <0.3 W
Input Protection	• Internal T1.6A/250 V fuse in line

Output

Output Voltage	• See table
Initial Set Accuracy	• ±5% at 50% load
Minimum Load	• No minimum load required
Start Up Delay	• 2 s max
Start Up Rise Time	• 100 ms typical
Hold Up Time	• 5 ms typical at full load and 115 VAC
Line Regulation	• ±0.5% max
Load Regulation	• 2% max, 0-100% load
Transient Response	• 10% max. deviation, recovery to <1% within 500 µs for a 50% step load change at 0.2 A/µs
Ripple & Noise	• See table
Overvoltage Protection	• See table
Overload Protection	• 120-180%, auto recovery
Short Circuit Protection	• Trip and restart (hiccup mode)
Temperature Coefficient	• 0.2 %/°C

General

Efficiency	• See table
Isolation	• 3000 VAC Input to Output
Switching Frequency	• 60 kHz typical
MTBF	• 250 kHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• 0 °C to +70 °C, derate from 100% load at 50 °C to 50% load at 70 °C
Cooling	• Natural convection
Operating Humidity	• 10-90% RH, non-condensing
Storage Temperature	• -20 °C to +80 °C
Shock	• Able to survive 1 m drop onto concrete on each of 6 axes
Vibration	• 10-300 Hz, 2 g 15 mins/sweep. 30 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, ±4kV contact, ±8kV air, 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
Magnetic Field	• EN61000-4-8, 1 A/m, Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B
Safety Approvals	• EN60950-1, cUL60950-1, IEC60950-1

Models and Ratings

Output Power	Output Voltage[2]	Output Current	Ripple & Noise[1]	OVP Setting[3]	Efficiency[4]	Model Number
5.0 W	5.0 V	1.0 A	150 mV	10.0 V	69%	VCP05US05†^
4.8 W	12.0 V	0.4 A	150 mV	20.0 V	69%	VCP05US12†^
4.5 W	15.0 V	0.3 A	150 mV	25.0 V	69%	VCP05US15†^

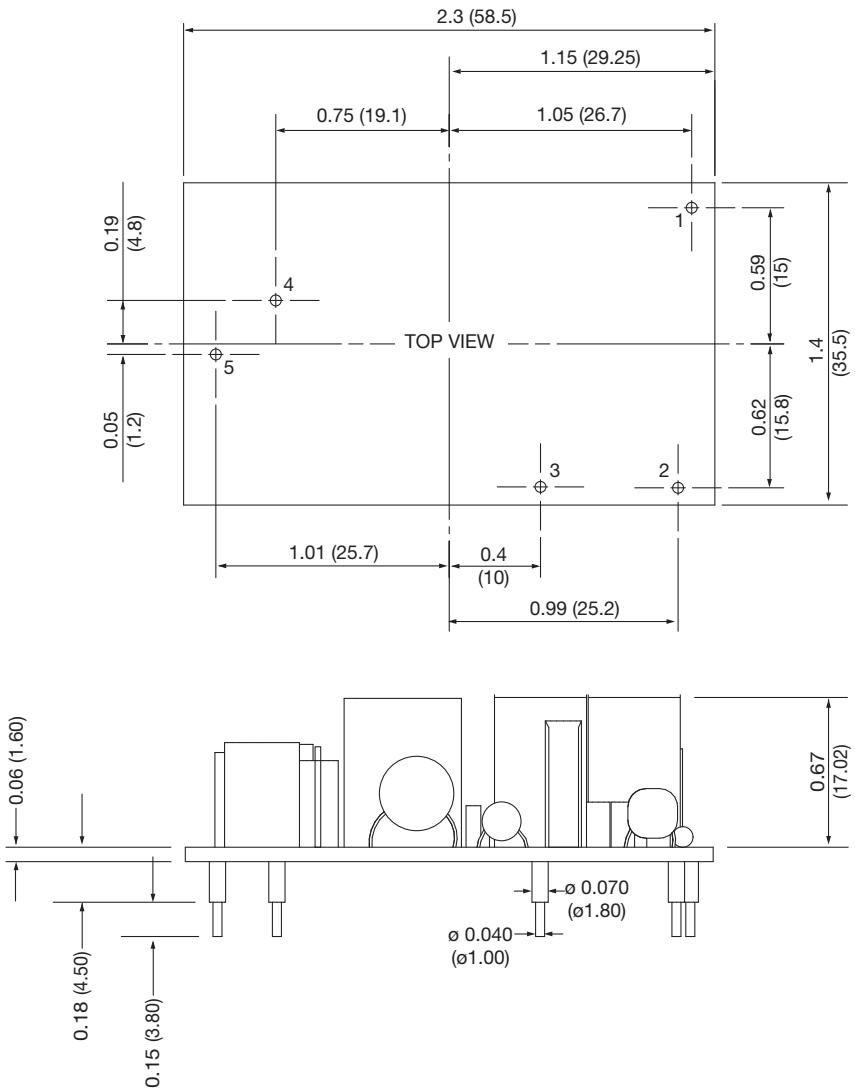
Notes

1. Measured at DC output connector using 20 MHz bandwidth and 0.1 µF ceramic capacitor in parallel with 10 µF electrolytic capacitor placed at connector terminals
2. Other voltages between 3.0 V and 15.0 V are available, consult sales for details.
3. Typical trip point.
4. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load and 230 VAC input.

† Available from Farnell & element14. See page 28.

^ Available from Newark. See page 28.

Mechanical Details



Pin	Designation
1	No connection
2	Neutral
3	Live
4	Output -VE
5	Output +VE

Notes

1. All dimensions are in inches (mm).
2. Weight: 0.04 lbs (20 g) approx.
3. Tolerance: x.x = ±0.04 (x.x = ±1.0), x.xx = ±0.02 (x.xx = ±0.5)