



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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VEH Series



- Energy Efficiency Level V
- CEC 2008 and EISA 2007 Compliant
- Optional Inlet Connectors
- Class II Versions
- +60 °C Operating Temperature
- Compact Dimensions
- Low Cost

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 0.5 A max VEH20 1.0 A max VEH40
Inrush Current	• 45 A/90 A for 115 VAC/230 VAC, cold start at 25 °C
Earth Leakage Current	• 0.75 mA at 240 VAC/50 Hz
Power Factor	• EN61000-3-2, Class A
Input Protection	• Internal fuse fitted in line VEH20: T1 A, 250 V VEH40: T3.15 A, 250 V
No Load Input Power	• <0.3 W

Output

Output Voltage	• See table
Minimum Load	• No minimum load required
Hold Up Time	• VEH20: 5 ms min, VEH40: 12 ms min, at full load & 110 VAC
Start Up Delay	• 2 s max at full load 100 VAC
Transient Response	• 2% deviation, recovery to within 1% of nominal in 500 µs for 50% load change
Regulation	• See table
Ripple & Noise	• 1% pk-pk max, 20 MHz bandwidth
Overvoltage Protection	• Not fitted
Overload Protection	• 110-150%
Short Circuit Protection	• Trip & restart (hiccup mode), auto recovery
Temperature Coefficient	• ±0.04%/°C

General

Efficiency	• 87% typical (average of measured values with output loads of 25%, 50%, 75% and 100%)
Energy Efficiency	• Level V
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground* 500 VDC Output to Ground* *Not C2 version
Switching Frequency	• VEH20: 63 kHz typical VEH40: 20 kHz - 60 kHz variable
MTBF	• >250 kHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• 0 °C to +60 °C, derate from 100% power at +40 °C to 50% power at +60 °C
Storage Temperature	• -40 °C to +85 °C
Cooling	• Convection-cooled
Operating Humidity	• 5-95% RH, non-condensing
Operating Altitude	• 2000 m
Shock	• 10 g, 10 ms on 3 axes

EMC & Safety

Emissions	• EN55022 level B conducted & radiated
Harmonic Current	• 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 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 level 2 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, UL/cUL60950-1, Approved as Limited Power Source

Models and Ratings

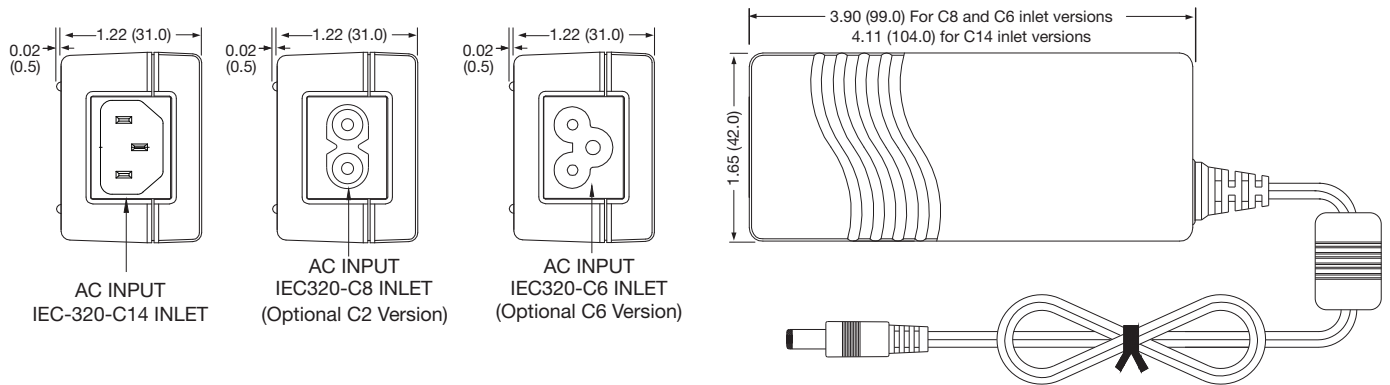
Max Output Power	Output Voltage ⁽¹⁾	Output Current	Total Regulation ⁽²⁾	Model Number
15 W	5.0 VDC	3.00 A	5%	VEH20US05 ^(3,4)
20 W	12.0 VDC	1.67 A	5%	VEH20US12 ^(3,4)
20 W	15.0 VDC	1.33 A	5%	VEH20US15 ^(3,4)
20 W	18.0 VDC	1.11 A	5%	VEH20US18 ^(3,4)
20 W	24.0 VDC	0.83 A	5%	VEH20US24 ^(3,4)
20 W	48.0 VDC	0.42 A	5%	VEH20US48 ^(3,4)
25 W	5.0 VDC	5.00 A	5%	VEH40US05
40 W	12.0 VDC	3.33 A	5%	VEH40US12
40 W	15.0 VDC	2.67 A	5%	VEH40US15
40 W	18.0 VDC	2.22 A	5%	VEH40US18
40 W	24.0 VDC	1.67 A	5%	VEH40US24
40 W	48.0 VDC	0.83 A	5%	VEH40US48

Notes

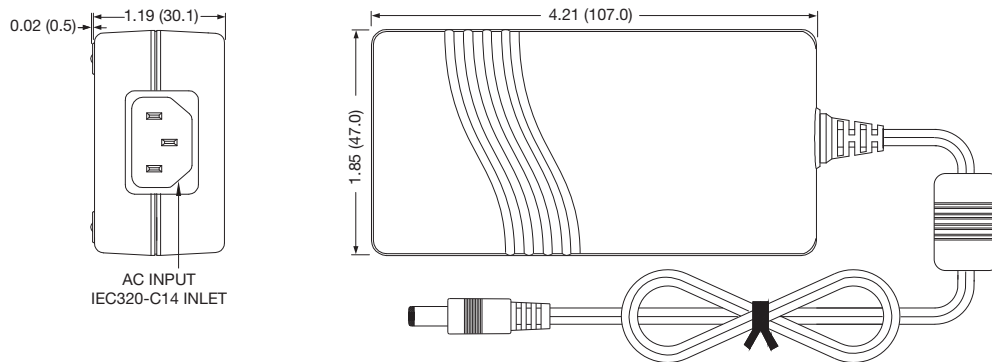
1. Other output voltages available, contact sales for details
2. Total regulation includes line regulation and load regulation.
3. Standard input connector is IEC320-C14 inlet. For optional IEC320-C6 inlet add suffix 'C6' to model number, e.g. VEH20US12C6.
4. For optional class II version with IEC320-C8 inlet add suffix 'C2' to model number e.g. VEH20US12C2

Mechanical Details

VEH20



VEH40



Notes

1. All dimensions are shown in inches (mm). Tolerance ± 0.04 (± 1.0) max.
2. Weight: 0.37 lbs (170 g) for VEH20, 0.62 lbs (280 g) for VEH40
3. Output connector: is 0.22 (5.5) outer diameter barrel, 0.10 (2.5) inner diameter barrel with center positive (+) and outer shell negative (-). Length is 0.433 (11.0).
4. Output cable length is 48" (1220mm) approx.
5. For European mains lead order part: EU-MAINS-IEC, for IEC320-C14 inlet, EU-MAINS-C5 for IEC320-C6 inlet, EU-MAINS-8 for Class II
6. For UK mains lead order part: UK-MAINS-IEC, for IEC320-C14 inlet, UK-MAINS-C5 for IEC320-C6 inlet, UK-MAINS-8 for Class II
7. For US mains lead order part: US-MAINS-IEC, for IEC320-C14 inlet, US-MAINS-C5 for IEC320-C6 inlet, US-MAINS-8 for Class II