SP15P1R – SP20P1R Series

15 - 20 Watt AC - DC Desktop Power Supply
Energy Efficiency Level VI, CoC Tier 2, RoHS 2

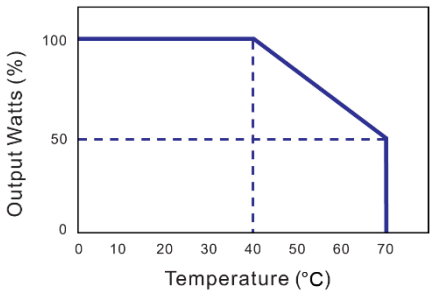
The SP15P1R – SP20P1R Series switch mode power supply offers 15 - 20 Watts output power, with an output voltage range of 5 Vdc – 50 Vdc. Case style is a desktop enclosure with an IEC-320 C14, C8, C6 input socket. Approved to UL/cUL, EN and IEC 60950-1 2nd Edition safety approvals, and DoE Level 6 efficiency.

Input Voltage	*90 to 264 Vac*
Input Frequency	*47 to 63 Hz*
Input Current	*0.5 A Typ. at 100 Vac, Full Load* *0.2 A Typ. at 240 Vac, Full Load*
Leakage Current	*C8 Input Models: 0.25 mA Max. at 240 Vac, Full Load* *C14/C6 Input Models: 0.75 mA Max. at 240 Vac, Full Load*
Output Voltage & Current	*See Table on Page 2*
Temperature Coefficient	*±0.04% / °C Max.*
Transient Response	*100% - 50% Load Change at 110 Vac Input: 4 ms Max.*
Efficiency	*81.4 - 87%*
No Load Power Consumption	*< 0.1 Watts*
Line Regulation	*±1% Max. at Full Load*
Load Regulation	*±5% Max. at 230 Vac*
Start-Up Time	*3 s Max.*
Hold-Up Time	*8 ms Min.*
Withstanding Voltage	*Primary to Secondary: 4,242 Vdc* *C14/C6 Inlet Models Only: Primary to Ground: 2,121 Vdc*
Inrush Current	*50 A Max. @ 100 Vac at 25°C Cold Start* *120 A Max. @ 240 Vac at 25°C Cold Start*
Mean Time Between Failure	*100,000 Hours Min. (MIL-HDBK-217F, Full Load @ 25°C)*
Operating Temperature	*See Derating Curve*
Storage Temperature	*-40 to 85 °C*
Weight	*170 g (Ref.)*
Industry Compliance	*Directive 2011/65/EU (RoHS 2), DoE Level VI*
EMI Requirements	*Meets Conduction and Radiation Limits of:* *FCC Part 15 Class B, CISPR-32 Class B, and EN 55032 Class B*
Safety Compliance	*UL/cUL (UL 60950-1:2nd Ed.),* *TUV/GS (EN 60950-1:2nd Ed.), CB, CE, FCC, PSE*

Features:

- Universal Input 100 - 240 Vac
- IEC 320 C14, C8, C6
- Short Circuit Protection
- 100% Burn-In
- RoHS 2 Compliant
- DoE Level VI

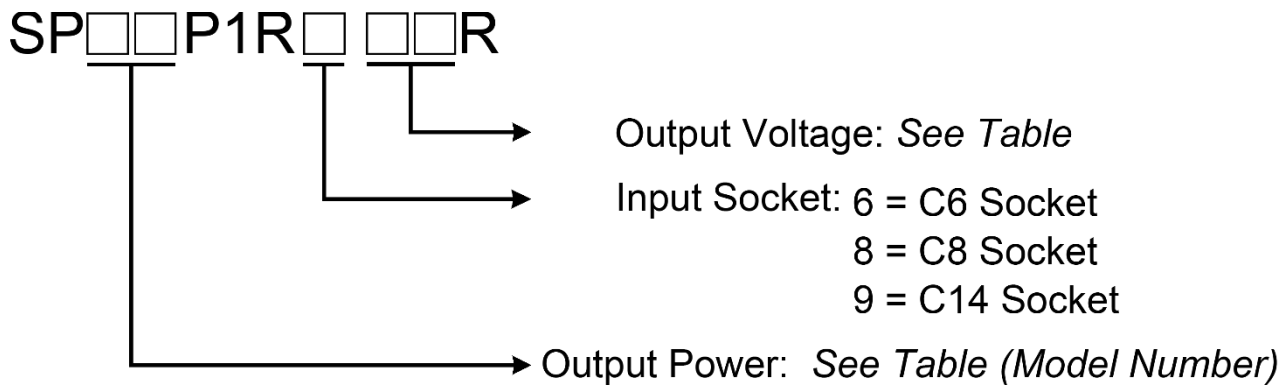
Derating Curve



Derate Linearly from 100% at 40°C to 50% at 70°C

Output Voltage and Current Table

Model Number	Output Voltage	Output Current *Limited to Output Power* [1]	Ripple & Noise (mV P-P) [2]	Output Power
SP15P1R_ _ _R	5.00 – 5.99 Vdc	2.50 – 3.00 A	60	15 Watts
SP15P1R_ _ _R	6.5 – 8.0 Vdc	1.88 – 2.31 A	80	15 Watts
SP20P1R_ _ _R	9 – 11 Vdc	1.82 – 2.22 A	110	20 Watts
SP20P1R_ _ _R	12 – 13 Vdc	1.54 – 1.67 A	130	20 Watts
SP20P1R_ _ _R	14 – 16 Vdc	1.25 – 1.43 A	160	20 Watts
SP20P1R_ _ _R	17 – 21 Vdc	0.95 – 1.18 A	200	20 Watts
SP20P1R_ _ _R	22 – 27 Vdc	0.74 – 0.91 A	200	20 Watts
SP20P1R_ _ _R	28 – 33 Vdc	0.61 – 0.71 A	250	20 Watts
SP20P1R_ _ _R	34 – 40 Vdc	0.50 – 0.59 A	250	20 Watts
SP20P1R_ _ _R	41 – 50 Vdc	0.40 – 0.49 A	300	20 Watts



Notes:

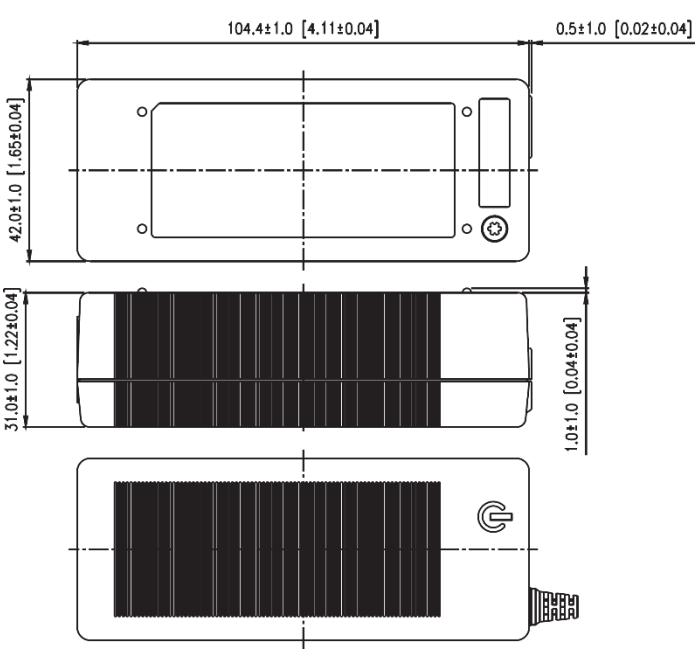
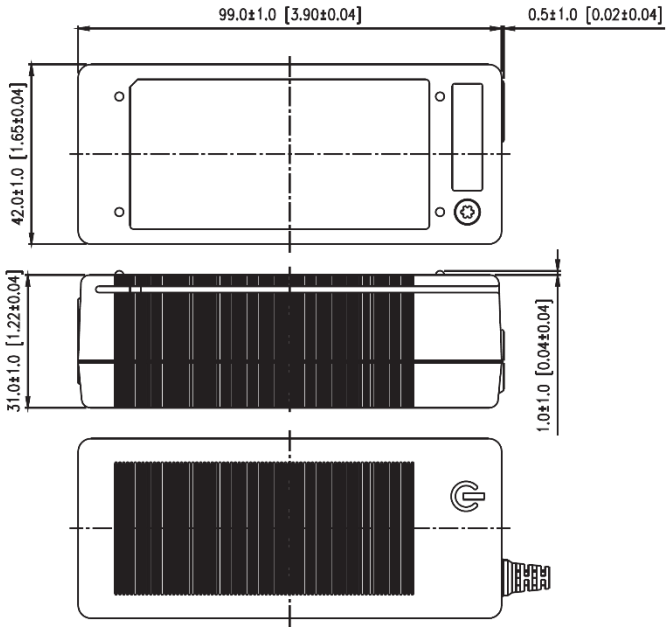
1. To find Output Current:
Output Current = Max Power ÷ Output Voltage

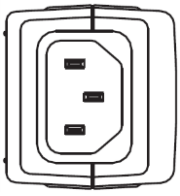
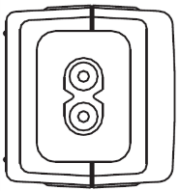
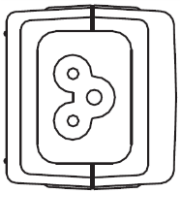
*Example: Output Current for SP20P1R6**15**R (15 Vdc Output, 20 Watts)*

Output Current = 20 W ÷ 15 V
Output Current = 1.33 A

2. Measured w/ 0.1 µF ceramic capacitor & 47 µF electrolytic capacitor in parallel and a 20 MHz Bandwidth-limited scope.

Mechanical Specification *(mm)*

C14 Input Models	C8 and C6 Input Models
	

SP_ _P1R9: *C14 Socket*	SP_ _P1R8: *C8 Socket*	SP_ _P1R6: *C6 Socket*
		

Note:
Output connector to be specified by customer.
Standard connector is a 2.5 x 5.5 x 11 mm Female Barrel Connector
The cable length and wire gauge will be dependent on the Energy Efficiency Level requirements.