

- 100% Full Load Burn-In Test
- Protections: Short circuit/Over load/Over voltage
- Cooling by free air convection
- Fix switching frequency at 134KHz



| Model Number         | Output Volts   | Output Amps | Ripple & Noise | Min Load          | DC Volt Adjust  | Volt Tolerance |
|----------------------|----------------|-------------|----------------|-------------------|-----------------|----------------|
| <b>SINGLE OUTPUT</b> |                |             |                |                   |                 |                |
| LPS100-3.3           | 3.3 Volts(DC)  | 20 Amps     | 150mV pk-pk    | 0~20Amps          | 3~3.6Volt(DC)   | ±3.0%          |
| LPS100-5             | 5 Volts(DC)    | 20 Amps     | 100mV pk-pk    | 0~20Amps          | 4.5~5.7Volt(DC) | ±3.0%          |
| LPS100-7.5           | 7.5 Volts(DC)  | 13.3 Amps   | 100mV pk-pk    | 0~13.3Amps        | 6~9.0Volt(DC)   | ±2.0%          |
| LPS100-12            | 12 Volts(DC)   | 8.4 Amps    | 100mV pk-pk    | 0~8.4Amps         | 10~13.2Volt(DC) | ±2.0%          |
| LPS100-13.5          | 13.5 Volts(DC) | 7.5Amps     | 100mV pk-pk    | 0~7.5Amps         | 12~15Volt(DC)   | ±2.0%          |
| LPS100-15            | 15 Volts(DC)   | 6.7 Amps    | 100mV pk-pk    | 0~6.7Amps         | 13.5~18Volt(DC) | ±2.0%          |
| LPS100-24            | 24 Volts(DC)   | 4.2 Amps    | 150mV pk-pk    | 0~4.2Amps(6A 10S) | 20~26.4Volt(DC) | ±1.0%          |
| LPS100-27            | 27 Volts(DC)   | 3.8 Amps    | 150mV pk-pk    | 0~3.8Amps         | 26~32Volt(DC)   | ±1.0%          |
| LPS100-48            | 48 Volts(DC)   | 2.1 Amps    | 200mV pk-pk    | 0~3.2Amps         | 41~56Volt(DC)   | ±1.0%          |



## 100W Single Output Switching Power Supply

## LPS100 series

### INPUT SPECIFICATIONS

|                                   |   |
|-----------------------------------|---|
| Input Voltage Range               | 88 ~ 132 VAC / 176~264 VAC auto switch<br>248~370 Volts(DC) |
| Frequency Range                   | 47-63 Hz  |
| Inrush Current, typ: (cold start) | 30Amps@115VAC / 60Amps@230VAC                               |
| Input Current, typ.               | 2.3Amps@115VAC<br>1.5Amps@230VAC                            |
| Leakage current                   | < 1mAmps /240VAC  |
| Min Load                          | See Selection Chart   |

### OUTPUT SPECIFICATIONS

|                           |   |
|---------------------------|---|
| Voltage and Current       | See Selection Chart   |
| Line Regulation           | ±0.5%   |
| Load Regulation           | ±2.0%: 3.3~5Volts(DC)<br>±1.5%: .5~15Volts(DC)<br>±0.5%: 24~48Volts(DC)   |
| Voltage Tolerance (Note2) | See Selection Chart   |
| Ripple/Noise (Note 1)     | See Selection Chart   |
| Hold Up Time,typ @ FL     | 20mS/230VAC<br>20mS/115VAC  |
| Setup, Rise Time @ FL     | 800ms, 50m/230VAC<br>1200mS, 50mS/115VAC  |
| Over Voltage Protection   | 3.8 ~ 4.45Volt(DC): 3.3Volts(DC)<br>5.75 ~ 6.75Volt(DC): 5Volts(DC)<br>9.4 ~ 10.9Volt(DC): 7.5Volts(DC)<br>13.8 ~ 16.2Volt(DC): 12Volts(DC)<br>15.5 ~ 18.2Volt(DC): 13.5Volts(DC)<br>18 ~ 21Volt(DC): 15Volts(DC)<br>27.6~ 32.4Volt(DC): 24Volts(DC)<br>33.7 ~ 39.2Volt(DC): 5Volts(DC)<br>57.6~ 67.2Volt(DC): 48Volts(DC)<br>Hiccup mode, auto recover |
| Over Current Protection   | 105 ~ 140% (+24Volts: above 6.5Amps)<br>rated output power<br>Hiccup mode, auto recover   |
| DC Volt Adjust            | See Selection Chart   |

### GENERAL SPECIFICATIONS

|        |                                      |
|--------|--------------------------------------|
| Safety | UL60950-1,<br>TUV EN60950-1 Approved |
|--------|--------------------------------------|

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted

|                       |   |
|-----------------------|---|
| Insulation Resistance | ≥ 100MΩ / 500Volts(DC)  |
| EMI                   | Compliance to EN55022B (CISPR22B)   |
| Harmonic Current      | Compliance to EN61000-3-2,-3  |
| Efficiency, typ.      | 69% (LPS-100-3.3)<br>77% (LPS-100-5/7.5)<br>79% (LPS-100-12/13.5)<br>80% (LPS-100-15/24)<br>81% (LPS-100-27/48) |
| Isolation             | 3000VAC Input - Output<br>1500VAC Input - Ground<br>500VAC Output - Ground                                      |
| EMS                   | Compliance to EN61000-4-2,3,4,5,6,8,11<br>light Industry Level, Criteria A                                      |
| Remote ON/OFF         | RC+/RC-: 0~0.8Volts(DC)= power On<br>4~10Volts(DC)= power Off   |

### ENVIRONMENTAL SPECIFICATIONS

|                         |   |
|-------------------------|---|
| Oper. Temperature       | -10°C to +60°C (See Derate Curve)                                       |
| Storage Temperature     | -20°C to +85°C, 10~95% RH   |
| Relative Humidity       | 20~90% RH non cond  |
| Temperature Coefficient | ±0.05% / °C (0-50°C)  |
| MTBF                    | 203.6KHrs min, MIL-HDBK-217F(25°C)                                      |
| Vibration               | 10~500Hz, 2G10min./1cycle, period for<br>60min. each along X, Y, Z axes |

### PHYSICAL SPECIFICATIONS

|             |                       |
|-------------|-----------------------|
| Size        |                       |
| Millimeters | 222 x 62 x 32         |
| Inches      | 8.74" x 2.44" x 1.26" |
| Weight      | 15.87 oz (450g)       |

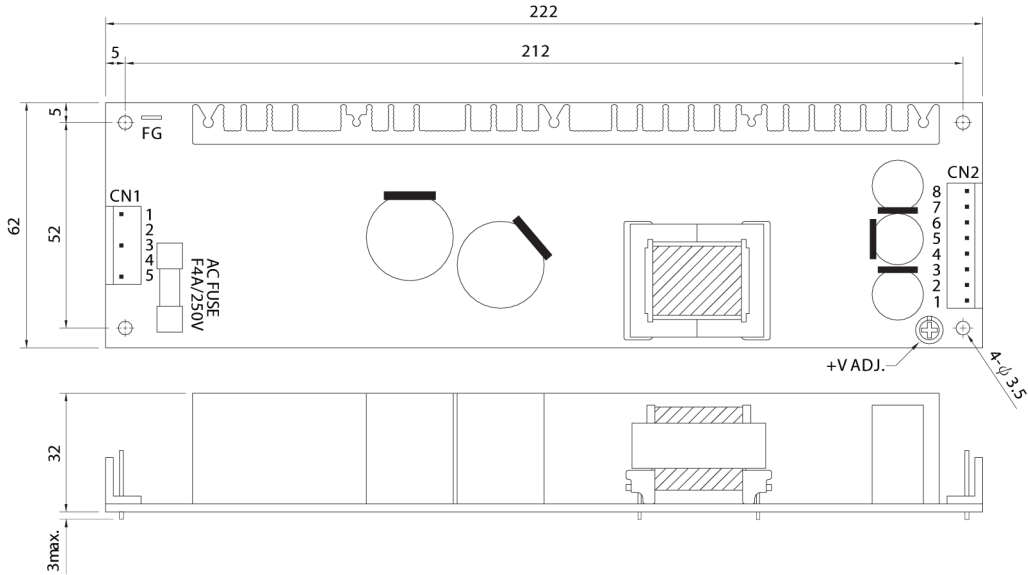
### NOTE

1. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
2. Tolerance : includes set up tolerance, line regulation and load regulation.
3. If the input range 85V-89V, the output load is changed from 0A-rated load, There will be reduced 20V for 1second (LPS-100-24).
4. Mounting holes M1 and M2 should be grounded for EMI purposes.

**Astrodyne products are not authorized or warranted for use as critical components in life support systems, equipment used in hazardous environments, nuclear controls systems, or other mission-critical applications.**

■ Mechanical Specification

Unit:mm



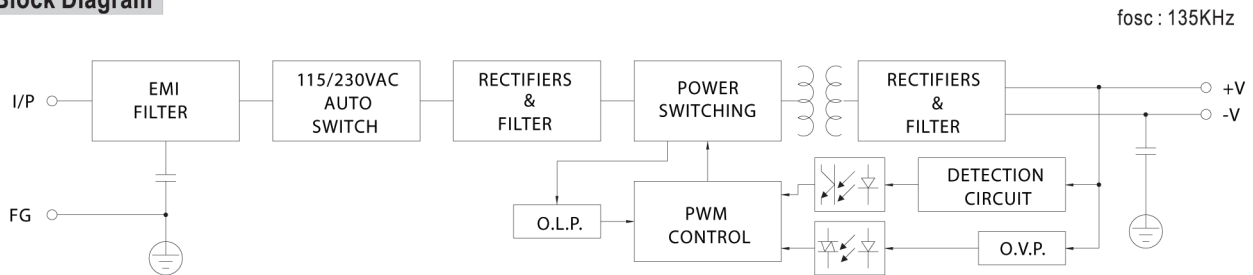
AC Input Connector (CN1) : JST B5P-VH or equivalent

| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1       | FG $\perp$ | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2,4     | No pin     |                       |                                |
| 3       | AC/N       |                       |                                |
| 5       | AC/L       |                       |                                |

DC Output Connector (CN2) : JST B8P-VH or equivalent

| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1,2,3,4 | +V         | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 5,6,7,8 | -V         |                       |                                |

■ Block Diagram



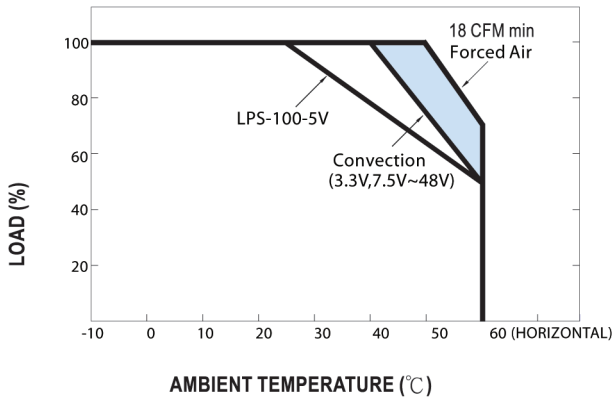


# Astrodyne

100W Single Output Switching Power Supply

**LPS100** series

## Derating Curve



## Static Characteristics (12V)

