

### SPECIFICATIONS

PA581-01-01E

| ITEMS |  | MODEL | LS35-3.3   | LS35-5      | LS35-12     | LS35-15       | LS35-24     | LS35-36     | LS35-48     |
|-------|--|-------|--|-------------|-------------|---------------|-------------|-------------|-------------|
| 1     | Nominal Output Voltage                 | V     | 3.3  | 5           | 12          | 15            | 24          | 36          | 48          |
| 2     | Maximum Output Current                 | A     | 7  | 7           | 3           | 2.4           | 1.5         | 1           | 0.8         |
| 3     | Maximum Output Power                   | W     | 23.1   | 35          | 36          | 36            | 36          | 36          | 38.4        |
| 4     | Efficiency (Typ) (230VAC) (* 1)        | %     | 75   | 78          | 82          | 83            | 84          | 84          | 84          |
| 5     | Input Voltage Range (* 2)              | -     | 88 ~ 264VAC (47-63Hz) or 125 ~ 373VDC (Withstand 300VAC Surge for 5 seconds)   |             |             |               |             |             |             |
| 6     | Input Current (Typ) (115/230VAC) (* 1) | A     | 0.8 / 0.55   |             |             |               |             |             |             |
| 7     | Inrush Current (Typ) (* 3)             | -     | 40A at 230VAC, Ta=25°C (Cold Start)  |             |             |               |             |             |             |
| 8     | Harmonic Current                       | -     | Designed to meet IEC61000-3-2, -3  |             |             |               |             |             |             |
| 9     | Output Voltage Range                   | V     | 2.85 ~ 3.6   | 4.5 ~ 5.5   | 10.8 ~ 13.2 | 13.5 ~ 16.5   | 22 ~ 27.6   | 32 ~ 40     | 42 ~ 54     |
| 10    | Ripple and Noise (* 1, 4)              | mV    | 80   | 80          | 120         | 120           | 120         | 150         | 200         |
| 11    | Line Regulation (* 5, 6)               | mV    | 20   | 20          | 48          | 60            | 96          | 144         | 192         |
| 12    | Load Regulation (* 5, 7)               | mV    | 40   | 40          | 96          | 120           | 192         | 288         | 384         |
| 13    | Temperature Coefficient                | -     | Less than 0.02%/°C   |             |             |               |             |             |             |
| 14    | Over Current Protection (* 8)          | A     | > 110% rated output current  |             |             |               |             |             |             |
| 15    | Over Voltage Protection (* 9)          | V     | 3.8 ~ 4.45   | 5.75 ~ 6.75 | 13.8 ~ 16.2 | 17.25 ~ 20.25 | 27.7 ~ 32.4 | 41.4 ~ 48.6 | 55.2 ~ 64.8 |
| 16    | Hold-Up Time (Typ) (115/230VAC) (* 1)  | mS    | 15 / 80  |             |             |               |             |             |             |
| 17    | Leakage current (* 10)                 | -     | < 1mA at 230VAC  |             |             |               |             |             |             |
| 18    | Series Operation                       | -     | Possible   |             |             |               |             |             |             |
| 19    | Operating Temperature (* 11)           | -     | - 25 ~ + 70 °C (Refer to Output Derating Curve)  |             |             |               |             |             |             |
| 20    | Operating Humidity                     | -     | 20 ~ 90%RH (No dewdrop)  |             |             |               |             |             |             |
| 21    | Storage Temperature                    | -     | - 40 ~ +85°C   |             |             |               |             |             |             |
| 22    | Storage Humidity                       | -     | 10 ~ 95%RH (No dewdrop)  |             |             |               |             |             |             |
| 23    | Cooling                                | -     | Convection cooling   |             |             |               |             |             |             |
| 24    | Withstand Voltage                      | -     | Input - Output : 3.0kVAC (20mA), Input - FG : 1.5kVAC (20mA)<br>Output - FG : 500VAC (100mA) for 1min.                   |             |             |               |             |             |             |
| 25    | Isolation Resistance                   | -     | Input - FG, Input - Output and Output - FG: More than 100MΩ (500VDC) at 25°C and 70%RH                                   |             |             |               |             |             |             |
| 26    | Vibration                              | -     | At no operating, 10 - 55Hz (sweep for 1min)<br>19.6m/s <sup>2</sup> Constant, X, Y, Z 1hour each.                        |             |             |               |             |             |             |
| 27    | Shock (In package)                     | -     | Less than 196.1m/s <sup>2</sup>  |             |             |               |             |             |             |
| 28    | Safety                                 | -     | Approved by UL62368-1, CSA62368-1, IEC62368-1, IEC60950-1, CE, UKCA  |             |             |               |             |             |             |
| 29    | EMI                                    | -     | Designed to meet EN55011/EN55032-B, FCC-B  |             |             |               |             |             |             |
| 30    | Immunity                               | -     | Designed to meet EN61000-4-2 (Level 2,3), -3 (Level 3), -4 (Level 3),<br>-5 (Level 3,4), -6 (Level 3), -8 (Level 4), -11 |             |             |               |             |             |             |
| 31    | Weight (Typ)                           | g     | 270  |             |             |               |             |             |             |
| 32    | Dimension (L x W x H)                  | mm    | 99 x 82 x 36 (Refer to Outline Drawing)  |             |             |               |             |             |             |

\* Read instruction manual carefully , before using the power supply unit.

= NOTES=

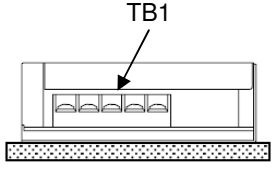
- \* 1 : At Maximum Output Power, nominal input voltage, Ta = 25°C.
- \* 2 : For cases where conformance to various safety specs ( UL, CSA ) are required, to be described as 100 - 240VAC, 50 / 60Hz on name plate.
- \* 3 : Not applicable for the in-rush current to Noise Filter for less than 0.2mS.
- \* 4 : Ripple & noise are measured at 20MHz by using a 300mm twisted pair of load wires terminated with a 0.1uF film capacitor and a 47uF electrolytic capacitor.
- \* 5 : Measure line & load regulation at output terminal M3.5 tapped point.
- \* 6 : 88 - 264VAC, constant load.
- \* 7 : No load - Full load (Maximum power ), constant input voltage.
- \* 8 : Current limit with automatic recovery.  
Avoid to operate at overload or dead short for more than 30 seconds.
- \* 9 : OVP circuit will shutdown output, manual reset (Re-power on).
- \* 10: Measured by each measuring method of UL (at 60Hz), Ta = 25°C.
- \* 11: Refer to Output Derating Curve (PA581-01-02\_) for details of output derating versus ambient temperature.
- \* 12: All parameters NOT specifically mentioned are measured at 230VAC input, rated load and Ta = 25°C.

LS35

PA581-01-02

**OUTPUT DERATING**

**\*COOLING : CONVECTION COOLING**

| Ta (°C)   | LOAD (%) | STANDARD MOUNTING  |
|-----------|----------|--|
| -25 ~ +50 | 100      |  |
| 70        | 50       |  |

**OUTPUT DERATING CURVE**

