

# SPU50 SERIES

## 60W Desk Top Switching Power Supplies For I.T.E.

### Description:

The SPU50 series of AC/DC switching mode power supplies provide 60 Watts of continuous output power. All supplies are UL 94V-1 min compliant, include IEC-320-C14 input for worldwide applications. All models meet FCC Part-15 class B and CISPR-22 class B emission Limits and are designed to comply with UL/c-UL(UL 60950-1), TUV/GS(EN 60950) and new CE requirements. All units are 100% burned in and tested.



### Features:

- Wide Input Voltage 90 to 264 VAC, 47 to 63 Hz
- IEC-320-C14 Input Inlet
- Output Voltage Available From 5VDC Thru 50VDC
- Optional Output Connector (See appendix)
- Input Surge Current, Over Voltage And Over Load protection
- Over Voltage Protection (Crowbar Design)
- Single Output
- Splash proof
- Class I
- 2 year warranty

### Safety Approvals :



### Electrical Characteristics:

| Sym.  | Parameter                     | Test Conditions                            | Min.             | Typ. | Max. | Unit |
|-------|-------------------------------|--------------------------------------------|------------------|------|------|------|
| Vin   | Input Voltage                 | Operating Voltage                          | 90               |      | 264  | VAC  |
| fin   | Input Frequency               |                                            | 47               |      | 63   | Hz   |
| Po    | Output Power Range            | Vin=90 to 264VAC                           | 0                |      | 60   | W    |
| Vo    | Output Voltage Range          |                                            | See rating chart |      |      | V    |
| Io    | Output Current Range          |                                            | See rating chart |      |      | A    |
| Iil   | Input Current (Low Line)      | Io=Full load, Vin=115VAC                   |                  |      | 1.6  | A    |
| Iih   | Input Current (High Line)     | Io=Full load, Vin=230VAC                   |                  |      | 1.0  | A    |
| Irl   | Low Line Inrush Current       | Io=Full load, 25°C, Cool start, Vin=115VAC |                  | 12   | 15   | A    |
| Irh   | High Line Inrush Current      | Io=Full load, 25°C, Cool start, Vin=230VAC |                  | 26   | 30   | A    |
| Eff   | Efficiency                    | Io=Full Load, Vin=230VAC                   | 70               | 83   | 88   | %    |
| REG-i | Line Regulation               | Io=Full Load                               |                  | 0.5  | 1    | %    |
| REG-o | Load Regulation               | Vin=230VAC                                 |                  | 5    |      | %    |
| OVP   | Over Voltage Protection       |                                            | 112              |      | 132  | %    |
| OCP   | Over Current Protection       |                                            | 110              |      | 150  | %    |
| Ttr   | Time Transient Response       | Io=Full Load to Half Load, Vin=100VAC      |                  |      | 4    | mS   |
| Thold | Hold-Up Time                  | Io=Full Load, Vin=110VAC                   | 16               |      |      | mS   |
| Ts    | Start Up Time                 | Io=Full Load, Vin=100VAC                   | 0.3              | 1    | 2    | S    |
| Vrn   | Ripple & Noise (Peak to Peak) | Full Load, Vin=90VAC                       |                  | 0.5  | 1    | %    |
| Ilk   | Safety Ground Leakage Current | Io=Full Load, Vin=240VAC                   |                  | 0.5  | 0.75 | mA   |
| TC    | Temperature Coefficient       | All output                                 | -0.04            |      | 0.04 | %/°C |

### Environmental :

| Sym.  | Parameter                                                   | Test Conditions | Min. | Typ. | Max. | Unit |
|-------|-------------------------------------------------------------|-----------------|------|------|------|------|
| Toper | Operating Temperature                                       |                 | 0    |      | 70   | °C   |
| Tstg  | Storage Temperature                                         |                 | -40  |      | 85   | °C   |
| Hr    | Relative Humidity                                           |                 | 5    |      | 95   | %    |
| MTBF  | Operating Temperature at 25°C, Calculated per MIL-HDBK-217F |                 | 0.1  |      |      | MHrs |
| Pd    | Derate linearly from 100% load at 25°C to 50% load at 70°C  |                 |      |      |      |      |

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### Safety Specifications:

| Sym.  | Parameter                                                | Test Conditions      | Min. | Typ. | Max. | Unit  |
|-------|----------------------------------------------------------|----------------------|------|------|------|-------|
| Vps   | Dielectric Withstanding Voltage for Primary to secondary | Primary to secondary | 4242 |      |      | VDC   |
| Vpg   | Dielectric Withstanding Voltage for Primary to Ground    | Primary to ground    | 2121 |      |      | VDC   |
| Ris   | Isolation Resistance                                     | Test Voltage=500VDC  | 50   |      |      | M Ω   |
| CISPR | EMI requirements for CISPR-22                            | Vin=220VAC           | B    |      |      | CLASS |
| FCC   | EMI requirements for FCC PART-15                         | Vin=110VAC           | B    |      |      | CLASS |

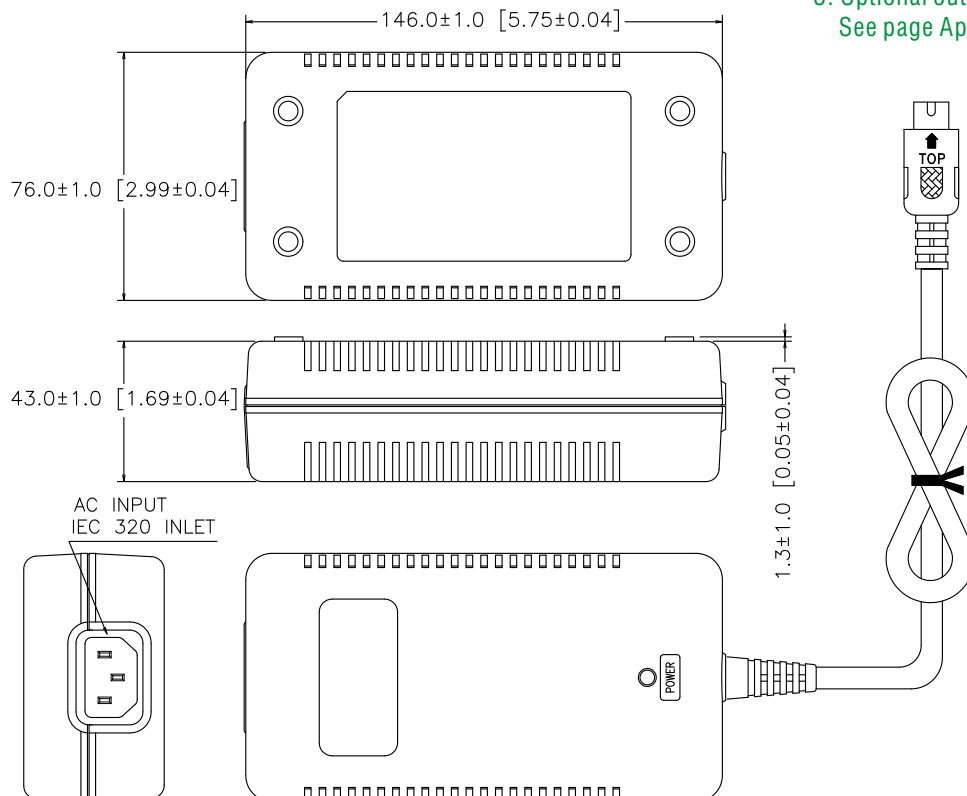
### Output Voltage And Current Rating Chart ( Single Output ) :

| Model Number | Output Voltage | Output Current | Total Regulation | Maximum Output Power |
|--------------|----------------|----------------|------------------|----------------------|
| * SPU50-1    | 5 ~ 6 VDC      | 10.0 ~ 8.30 A  | 5%               | 50W                  |
| * SPU50-1-1  | 6 ~ 9 VDC      | 9.10 ~ 6.11 A  | 5%               | 55W                  |
| * SPU50-2    | 9 ~ 11 VDC     | 6.50 ~ 5.31 A  | 5%               | 58.5W                |
| * SPU50-3    | 11 ~ 13 VDC    | 5.45 ~ 4.61 A  | 5%               | 60W                  |
| * SPU50-4    | 13 ~ 16 VDC    | 4.61 ~ 3.75 A  | 5%               | 60W                  |
| SPU50-5      | 16 ~ 21 VDC    | 3.75 ~ 2.85 A  | 5%               | 60W                  |
| SPU50-6      | 21 ~ 27 VDC    | 2.85 ~ 2.22 A  | 5%               | 60W                  |
| SPU50-7      | 27 ~ 33 VDC    | 2.22 ~ 1.82 A  | 5%               | 60W                  |
| SPU50-8      | 33 ~ 40 VDC    | 1.82 ~ 1.50 A  | 5%               | 60W                  |
| SPU50-9      | 40 ~ 50 VDC    | 1.50 ~ 1.20 A  | 5%               | 60W                  |

Mark " \* " means " PSE approval "

The output voltage under 15V had been approved by TUV/PSE

### Mechanical Specifications :



Note:

1. Dimensions are shown in inches or mm.
2. Weight: 488~596gs approx.
3. Optional output connector:  
See page Appendix.