



## 50~60W AC-DC Single Output Desktop

## SPU50 series



### ■ Features :

- 3 pole AC inlet IEC320-C14
- Class I power ( with earth pin )
- Full output 5~48V safety approval
- Protections: Short circuit/ Over load/ Over voltage
- Fix switching frequency and regulation
- LED indicator for power on
- Fully enclosed plastic case
- Topology: PWM 3882 circuit
- Approvals: UL/ CUL / TUV / CB / CE
- 1 year warranty

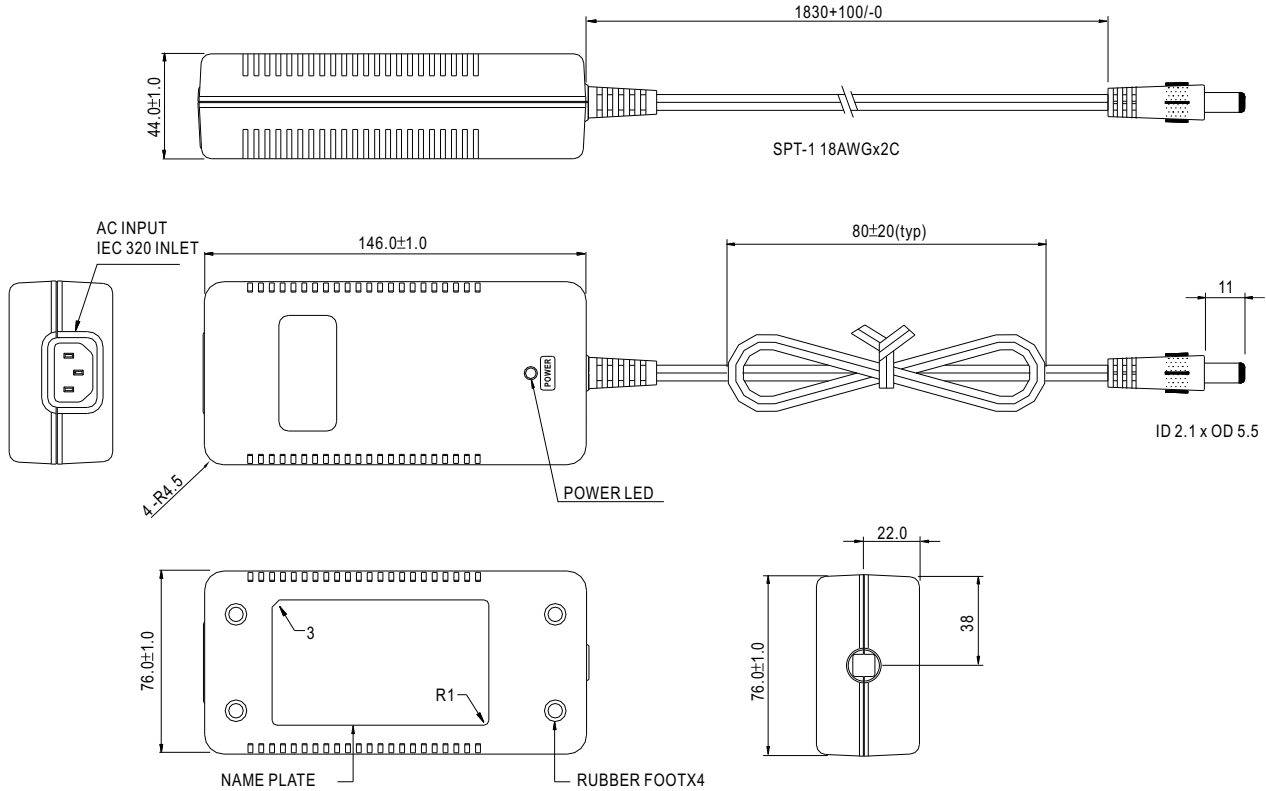


### SPECIFICATION

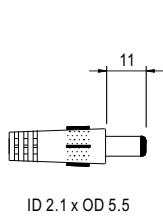
| ORDER NO.                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SPU50-1                                                                                                               | SPU50-2                                                                                                     | SPU50-3 | SPU50-4  | SPU50-5   | SPU50-6                                    | SPU50-8   | SPU50-9   |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------|----------|-----------|--------------------------------------------|-----------|-----------|
| OUTPUT                    | SAFETY MODEL NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SPU50-1                                                                                                               | SPU50-2                                                                                                     | SPU50-3 | SPU50-4  | SPU50-5   | SPU50-6                                    | SPU50-8   | SPU50-9   |
|                           | DC VOLTAGE <span>Note.2</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 5V                                                                                                                    | 10V                                                                                                         | 12V     | 15V      | 18V       | 24V                                        | 36V       | 48V       |
|                           | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10A                                                                                                                   | 5.85A                                                                                                       | 5A      | 4A       | 3.33A     | 2.5A                                       | 1.66A     | 1.25A     |
|                           | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0~ 10A                                                                                                                | 0 ~ 5.85A                                                                                                   | 0 ~ 5A  | 0 ~ 4A   | 0 ~ 3.33A | 0 ~2.5A                                    | 0 ~ 1.66A | 0 ~ 1.25A |
|                           | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 50W                                                                                                                   | 58.5W                                                                                                       | 60W     | 60W      | 60W       | 60W                                        | 60W       | 60W       |
|                           | RIPPLE & NOISE (max.) <span>Note.3</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 50mVp-p                                                                                                               | 70mVp-p                                                                                                     | 80mVp-p | 100mVp-p | 120mVp-p  | 120mVp-p                                   | 150mVp-p  | 150mVp-p  |
|                           | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Fixed                                                                                                                 |                                                                                                             |         |          |           |                                            |           |           |
|                           | VOLTAGE TOLERANCE <span>Note.4</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ±5.0%                                                                                                                 | ±4.0%                                                                                                       | ±3.0%   | ±3.0%    | ±3.0%     | ±2.0%                                      | ±2.0%     | ±2.0%     |
|                           | LINE REGULATION <span>Note.5</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ±0.5%                                                                                                                 | ±0.5%                                                                                                       | ±0.5%   | ±0.5%    | ±0.5%     | ±0.5%                                      | ±0.5%     | ±0.5%     |
|                           | LOAD REGULATION <span>Note.6</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ±4.5%                                                                                                                 | ±3.5%                                                                                                       | ±2.5%   | ±2.5%    | ±2.5%     | ±1.5%                                      | ±1.5%     | ±1.5%     |
| SETUP, RISE, HOLD TIME    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 800ms, 50ms, 16ms at full load                                                                                        |                                                                                                             |         |          |           |                                            |           |           |
| INPUT                     | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 90 ~ 264VAC 135~370VDC                                                                                                |                                                                                                             |         |          |           |                                            |           |           |
|                           | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 47~63Hz                                                                                                               |                                                                                                             |         |          |           |                                            |           |           |
|                           | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 69%                                                                                                                   | 75%                                                                                                         | 77%     | 80%      | 78%       | 80%                                        | 82%       | 83%       |
|                           | AC CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.6A / 100VAC                                                                                                         |                                                                                                             |         |          |           |                                            |           |           |
|                           | INRUSH CURRENT (max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 60A / 230VAC                                                                                                          |                                                                                                             |         |          |           |                                            |           |           |
|                           | LEAKAGE CURRENT(max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.75mA / 240VAC                                                                                                       |                                                                                                             |         |          |           |                                            |           |           |
| PROTECTION                | OVER LOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 110~160% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed |                                                                                                             |         |          |           |                                            |           |           |
|                           | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 105~145% of rated output voltage<br>Protection type : Shut down o/p voltage, re-power on to recover                   |                                                                                                             |         |          |           |                                            |           |           |
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                       |                                                                                                             |         |          |           |                                            |           |           |
| ENVIRONMENT               | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0~+40℃ (Refer to output load derating curve)                                                                          |                                                                                                             |         |          |           |                                            |           |           |
|                           | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 20%~90% RH non-condensing                                                                                             |                                                                                                             |         |          |           |                                            |           |           |
|                           | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -20~+85℃ , 10~95% RH                                                                                                  |                                                                                                             |         |          |           |                                            |           |           |
|                           | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ±0.03% / °C (0~50℃)                                                                                                   |                                                                                                             |         |          |           |                                            |           |           |
|                           | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10~500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes                                                 |                                                                                                             |         |          |           |                                            |           |           |
| SAFETY & EMC<br>(Note. 7) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | UL1950, TUV EN60950 Approved                                                                                          |                                                                                                             |         |          |           |                                            |           |           |
|                           | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | I/P-O/P:3KVAC , I/P-FG:1.5KVAC                                                                                        |                                                                                                             |         |          |           |                                            |           |           |
|                           | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | I/P-O/P,I/P-FG:100M Ohms / 500VDC                                                                                     |                                                                                                             |         |          |           |                                            |           |           |
|                           | EMI CONDUCTION & RADIATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance to EN55022(CISPR22) class B                                                                                |                                                                                                             |         |          |           |                                            |           |           |
|                           | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Compliance to IEC801-2,3,4, Light industry level, criteria A                                                          |                                                                                                             |         |          |           |                                            |           |           |
| OTHERS                    | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 100K hrs min. MIL-HDBK-217F (25℃)                                                                                     |                                                                                                             |         |          |           |                                            |           |           |
|                           | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 146*76*44mm (L*W*H)                                                                                                   |                                                                                                             |         |          |           |                                            |           |           |
|                           | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.7kg ; 25pcs/ 20kg / CARTON                                                                                          |                                                                                                             |         |          |           |                                            |           |           |
| CONNECTOR                 | PLUG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Standard type 2.1φ * 5.5φ * 11mm, center positive for stock ; Other type available by customer requested              |                                                                                                             |         |          |           |                                            |           |           |
|                           | CABLE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Standard type                                                                                                         | 120cm of Awm2464, 18Awg*4c for +5V output for stock<br>180cm of SPT-1, 18Awg*2c for 10~48V output for stock |         |          |           | Other type available by customer requested |           |           |
| NOTE                      | 1.All parameters are specified at 230VAC input, rated load, 25℃ 70% RH. Ambient.<br>2.DC voltage: The output voltage set at point measure by plug terminal & 50% load.<br>3.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor.<br>4.Tolerance: includes set up tolerance, line regulation, load regulation.<br>5.Line regulation is measured from low line to high line at rated load.<br>6.Load regulation is measured from 0% to 100% rated load.<br>7.The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. |                                                                                                                       |                                                                                                             |         |          |           |                                            |           |           |

## Mechanical Specification

Unit:mm

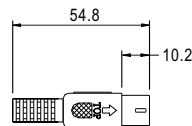


## Plug Assignment



Standard plug: P2J (option)

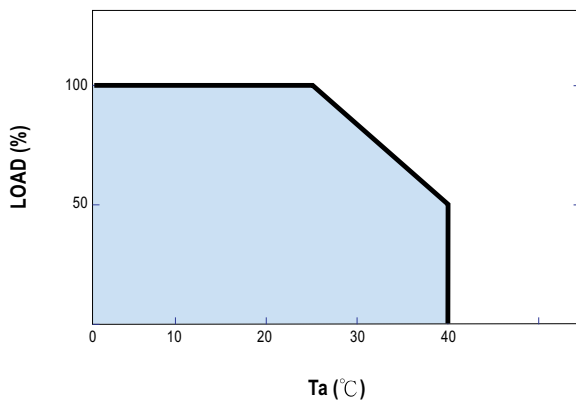
| P2J    |        |
|--------|--------|
| P/N    | OUTPUT |
| CENTER | +      |



Standard plug: R1B (option)

| PIN NO | OUTPUT |
|--------|--------|
| 1      | COM    |
| 2      | COM    |
| 3      | +Vout  |
| 4      | COM    |
| 5      | +Vout  |

## Derating Curve



## Static Characteristics

