



## 60W Isolated Triple Output Switching Power Supply

# IT-60 series



### Features :

- Isolated output & GND for CH1,CH2,CH3
- Universal AC input/Full range
- Protections: Short circuit / Overload / Over voltage
- LED indicator for power on
- 100% full load burn-in test
- Fixed switching frequency at 67KHz
- 2 years warranty

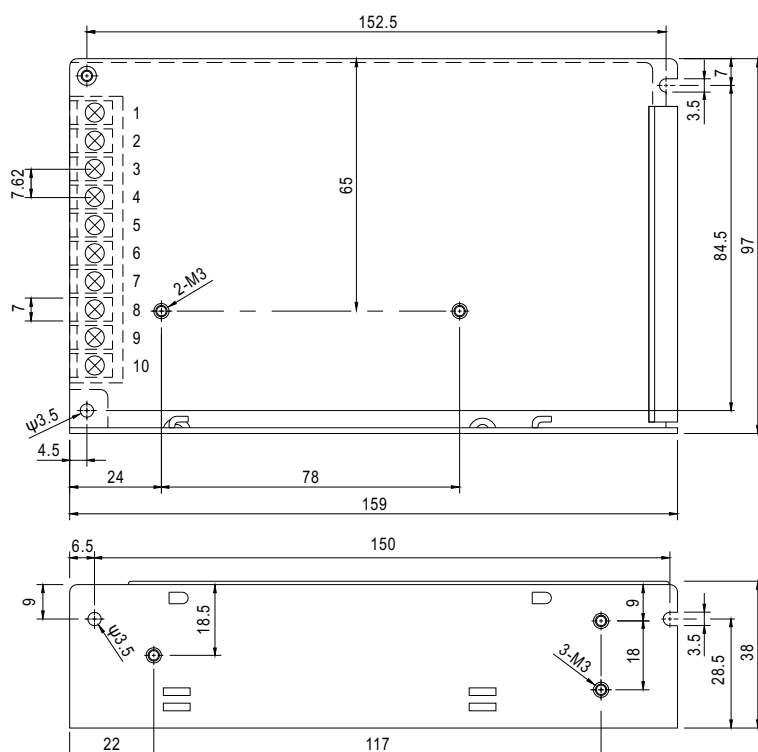


### SPECIFICATION

| MODEL       |                         | IT-60D                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |          | IT-60F            |          |          |
|-------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-------------------|----------|----------|
| OUTPUT      | OUTPUT                  | CH1                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CH2      | CH3      | CH1               | CH2      | CH3      |
|             | DC VOLTAGE              | 5V                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 12V      | 24V      | 5V                | 15V      | 24V      |
|             | RATED CURRENT           | 3A                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.8A     | 1.4A     | 3A                | 0.8A     | 1.3A     |
|             | CURRENT RANGE           | 0.5 ~ 3A                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.1 ~ 1A | 0.2 ~ 2A | 0.5 ~ 3A          | 0.1 ~ 1A | 0.2 ~ 2A |
|             | RATED POWER             | 58.2W                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |          | 58.2W             |          |          |
|             | PEAK LOAD (3sec.)       | 70W                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |          | 70W               |          |          |
|             | RIPPLE & NOISE (max.)   | 80mVp-p                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 120mVp-p | 240mVp-p | 80mVp-p           | 150mVp-p | 240mVp-p |
|             | VOLTAGE ADJ. RANGE      | CH1 : 4.75 ~ 5.5V                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |          | CH1 : 4.75 ~ 5.5V |          |          |
|             | VOLTAGE TOLERANCE       | ±3.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ±8.0%    | ±8.0%    | ±3.0%             | ±8.0%    | ±8.0%    |
|             | LINE REGULATION         | ±1.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ±2.0%    | ±2.0%    | ±1.0%             | ±2.0%    | ±2.0%    |
|             | LOAD REGULATION         | ±2.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ±5.0%    | ±5.0%    | ±2.0%             | ±5.0%    | ±5.0%    |
|             | SETUP, RISE TIME        | 300ms, 20ms/230VAC      800ms, 20ms/115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                  |          |          |                   |          |          |
|             | HOLD UP TIME (Typ.)     | 80ms/230VAC      18ms/115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                |          |          |                   |          |          |
| INPUT       | VOLTAGE RANGE           | 90 ~ 264VAC      127 ~ 370VDC                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          |                   |          |          |
|             | FREQUENCY RANGE         | 47 ~ 63Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |          |                   |          |          |
|             | EFFICIENCY(Typ.)        | 76%                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |          |                   |          |          |
|             | AC CURRENT (Typ.)       | 1.8A/115VAC      0.9A/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                             |          |          |                   |          |          |
|             | INRUSH CURRENT (Typ.)   | COLD START 20A/115VAC      40A/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                    |          |          |                   |          |          |
|             | LEAKAGE CURRENT         | <1mA / 240VAC                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          |                   |          |          |
| PROTECTION  | OVERLOAD                | 72 ~ 90W rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed                                                                                                                                                                                                                                                                                                                                    |          |          |                   |          |          |
|             | OVER VOLTAGE            | 5V: 5.75 ~ 6.75V<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed                                                                                                                                                                                                                                                                                                                                               |          |          |                   |          |          |
|             | WORKING TEMP.           | -10 ~ +60°C (Refer to "Derating Curve")                                                                                                                                                                                                                                                                                                                                                                                                                  |          |          |                   |          |          |
| ENVIRONMENT | WORKING HUMIDITY        | 20 ~ 90% RH non-condensing                                                                                                                                                                                                                                                                                                                                                                                                                               |          |          |                   |          |          |
|             | STORAGE TEMP., HUMIDITY | -20 ~ +85°C, 10 ~ 95% RH                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |          |                   |          |          |
|             | TEMP. COEFFICIENT       | ±0.03%/°C (0 ~ 50°C) on +5V output                                                                                                                                                                                                                                                                                                                                                                                                                       |          |          |                   |          |          |
| SAFETY      | VIBRATION               | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes                                                                                                                                                                                                                                                                                                                                                                                  |          |          |                   |          |          |
|             | SAFETY STANDARDS        | UL60950-1, TUV EN60950-1 approved                                                                                                                                                                                                                                                                                                                                                                                                                        |          |          |                   |          |          |
|             | WITHSTAND VOLTAGE       | I/P-O/P:3KVAC    I/P-FG:1.5KVAC    O/P-FG:0.5KVAC                                                                                                                                                                                                                                                                                                                                                                                                        |          |          |                   |          |          |
| OTHERS      | ISOLATION RESISTANCE    | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH                                                                                                                                                                                                                                                                                                                                                                                                |          |          |                   |          |          |
|             | MTBF                    | 314.3K hrs min.    MIL-HDBK-217F (25°C)                                                                                                                                                                                                                                                                                                                                                                                                                  |          |          |                   |          |          |
|             | DIMENSION               | 159*97*38mm (L*W*H)                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |          |                   |          |          |
| NOTE        | PACKING                 | 0.51Kg; 24pcs/13.2Kg/0.75CUFT                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          |                   |          |          |
|             | NOTE                    | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. 5% Duty cycle maximum within every 1min. Average output power should not exceed the rated power. |          |          |                   |          |          |

## ■ Mechanical Specification

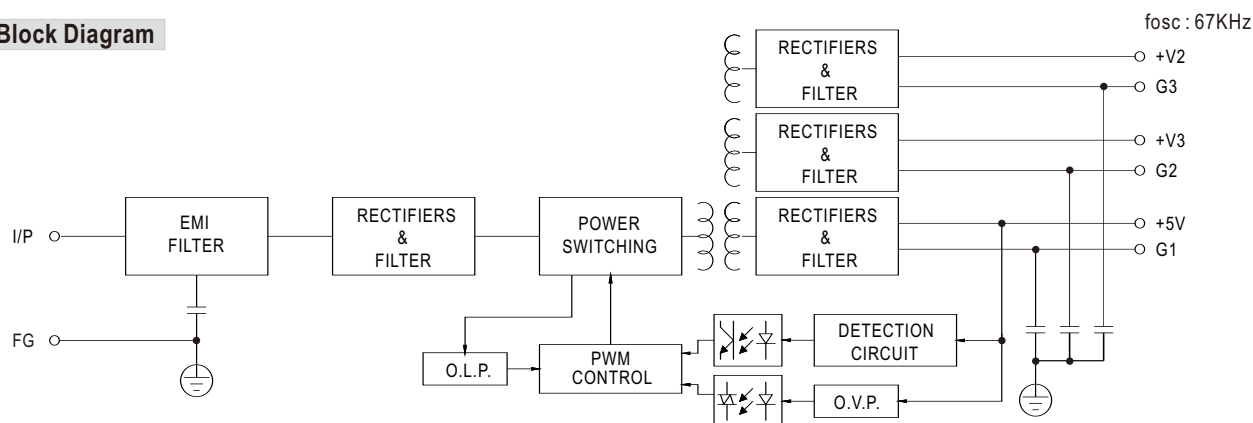
Case No. 901 Unit:mm



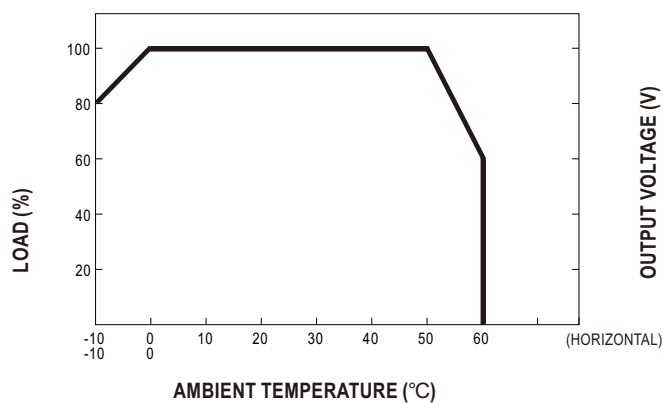
### Terminal Pin No. Assignment

| Pin No. | Assignment   | Pin No. | Assignment    |
|---------|--------------|---------|---------------|
| 1       | AC/L         | 6       | DC OUTPUT +V2 |
| 2       | AC/N         | 7       | DC OUTPUT G3  |
| 3       | FG $\perp$   | 8       | DC OUTPUT +V3 |
| 4       | NC           | 9       | DC OUTPUT G1  |
| 5       | DC OUTPUT G2 | 10      | DC OUTPUT +5V |

### ■ Block Diagram



### Derating Curve



### ■ Static Characteristics

