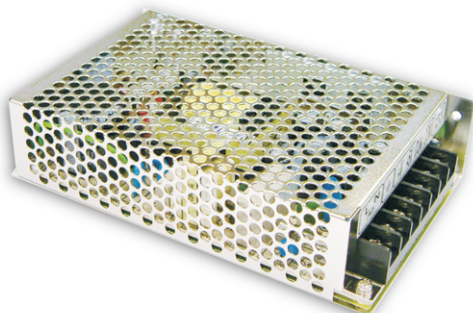
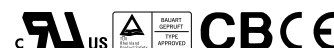




## ■ Features :

- Universal AC input / Full range
- Protections: Short circuit/Over load/Over voltage
- Cooling by free air convection
- LED indicator for power on
- Fixed switching frequency at 50KHz
- 2 years warranty

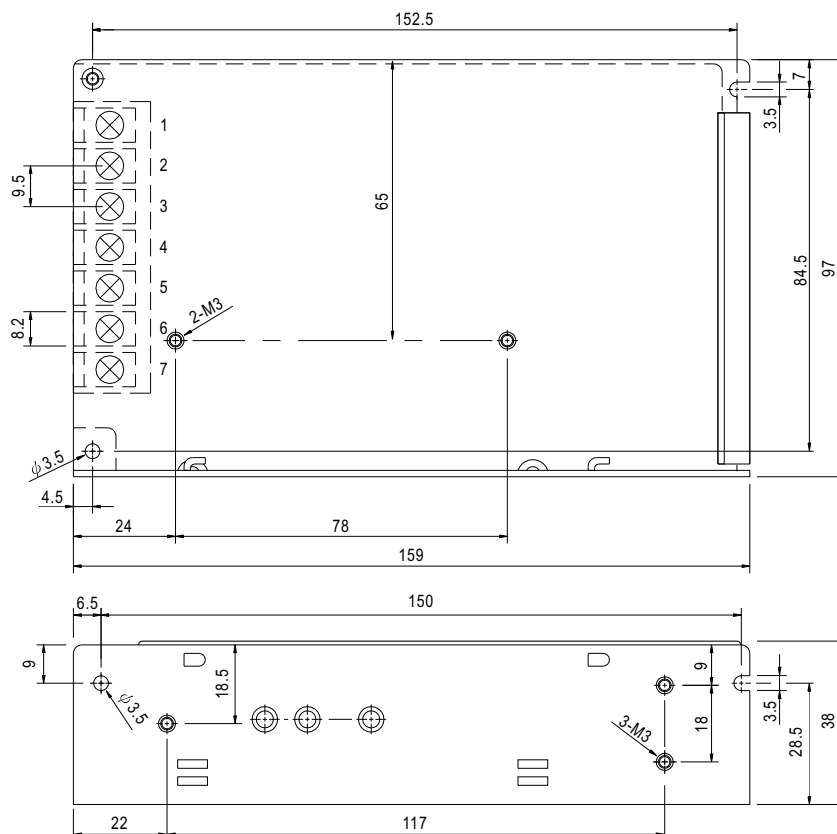


## SPECIFICATION

| MODEL                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | T-60A                                                                                                                   |            |                                 | T-60B             |            |          | T-60C             |          |          |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------|-------------------|------------|----------|-------------------|----------|----------|
| OUTPUT                                  | OUTPUT NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CH1                                                                                                                     | CH2        | CH3                             | CH1               | CH2        | CH3      | CH1               | CH2      | CH3      |
|                                         | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5V                                                                                                                      | 12V        | -5V                             | 5V                | 12V        | -12V     | 5V                | 15V      | -15V     |
|                                         | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5A                                                                                                                      | 2.5A       | 0.5A                            | 5A                | 2.5A       | 0.5A     | 5A                | 2A       | 0.5A     |
|                                         | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.5 ~ 7A                                                                                                                | 0.2 ~ 3.5A | 0 ~ 1A                          | 0.5 ~ 7A          | 0.2 ~ 3.5A | 0 ~ 1A   | 0.5 ~ 7A          | 0.2 ~ 3A | 0 ~ 1A   |
|                                         | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 57.5W                                                                                                                   |            |                                 | 61W               |            |          | 62.5W             |          |          |
|                                         | RIPPLE & NOISE (max.) <small>Note.2</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 100mVp-p                                                                                                                | 100mVp-p   | 100mVp-p                        | 100mVp-p          | 100mVp-p   | 100mVp-p | 100mVp-p          | 100mVp-p | 100mVp-p |
|                                         | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CH1 : 4.75 ~ 5.5V                                                                                                       |            |                                 | CH1 : 4.75 ~ 5.5V |            |          | CH1 : 4.75 ~ 5.5V |          |          |
|                                         | VOLTAGE TOLERANCE <small>Note.3</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ±2.0%                                                                                                                   | ±6.0%      | ±6.0%                           | ±2.0%             | ±6.0%      | ±6.0%    | ±2.0%             | ±6.0%    | ±6.0%    |
|                                         | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±0.5%                                                                                                                   | ±1.0%      | ±0.5%                           | ±0.5%             | ±1.0%      | ±0.5%    | ±0.5%             | ±1.0%    | ±0.5%    |
|                                         | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±1.0%                                                                                                                   | ±4.0%      | ±1.0%                           | ±1.0%             | ±4.0%      | ±1.0%    | ±1.0%             | ±4.0%    | ±1.0%    |
| SETUP, RISE TIME                        | 300ms, 50ms/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                         |            | 800ms, 50ms/115VAC at full load |                   |            |          |                   |          |          |
| HOLD TIME (Typ.)                        | 80ms/230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                         |            | 10ms/115VAC at full load        |                   |            |          |                   |          |          |
| INPUT                                   | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 85 ~ 264VAC                                                                                                             |            | 120 ~ 370VDC                    |                   |            |          |                   |          |          |
|                                         | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 47 ~ 63Hz                                                                                                               |            |                                 |                   |            |          |                   |          |          |
|                                         | EFFICIENCY(Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 72%                                                                                                                     |            |                                 | 72%               |            |          | 72%               |          |          |
|                                         | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2A/115VAC                                                                                                               |            | 1A/230VAC                       |                   |            |          |                   |          |          |
|                                         | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | COLD START 20A/115VAC                                                                                                   |            | 40A/230VAC                      |                   |            |          |                   |          |          |
|                                         | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <3.5mA / 240VAC                                                                                                         |            |                                 |                   |            |          |                   |          |          |
| PROTECTION                              | OVER LOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 105 ~ 150% 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              |            |                                 |                   |            |          |                   |          |          |
| ENVIRONMENT                             | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -10 ~ +60℃ (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%/℃ (0 ~ 50℃) on +5V output                                                                                        |            |                                 |                   |            |          |                   |          |          |
|                                         | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10~500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes                                                   |            |                                 |                   |            |          |                   |          |          |
| SAFETY & EMC<br><small>(Note 4)</small> | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | UL1012, UL60950, TUV EN60950 Approved                                                                                   |            |                                 |                   |            |          |                   |          |          |
|                                         | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC                                                                             |            |                                 |                   |            |          |                   |          |          |
|                                         | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC                                                                                |            |                                 |                   |            |          |                   |          |          |
|                                         | EMI CONDUCTION & RADIATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Compliance to EN55022 (CISPR22) Class B                                                                                 |            |                                 |                   |            |          |                   |          |          |
|                                         | HARMONIC CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance to EN61000-3-2,-3                                                                                            |            |                                 |                   |            |          |                   |          |          |
|                                         | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A                             |            |                                 |                   |            |          |                   |          |          |
| OTHERS                                  | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 281.1K hrs min. MIL-HDBK-217F (25℃)                                                                                     |            |                                 |                   |            |          |                   |          |          |
|                                         | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 159*97*38mm (L*W*H)                                                                                                     |            |                                 |                   |            |          |                   |          |          |
|                                         | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.55Kg; 24pcs/14.1Kg/0.75CUFT                                                                                           |            |                                 |                   |            |          |                   |          |          |
| NOTE                                    | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ 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. 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

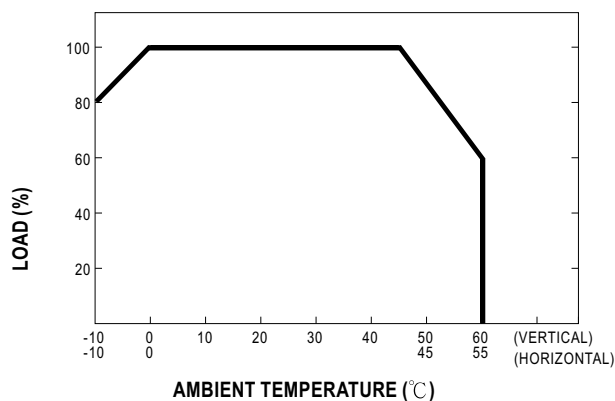
Case No. 901 Unit:mm



Terminal Pin. No Assignment

| Pin No. | Assignment | Pin No. | Assignment    | Pin No. | Assignment    |
|---------|------------|---------|---------------|---------|---------------|
| 1       | AC/L       | 4       | DC OUTPUT -V  | 7       | DC OUTPUT +V1 |
| 2       | AC/N       | 5       | DC OUTPUT +V2 |         |               |
| 3       | FG $\perp$ | 6       | DC OUTPUT COM |         |               |

## Output Derating



## Static Characteristics (B)

