

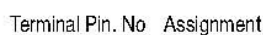


## Features :

- 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 35KHz

| MODEL        |                                                                                                                                                                                                                                                                                                                                                    | Q-60B                                                                                                                    |          |          |          | Q-60C             |          |          |          | Q-60D             |          |            |          |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-------------------|----------|----------|----------|-------------------|----------|------------|----------|
| OUTPUT       | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                         | 5V                                                                                                                       | 12V      | -5V      | -12V     | 5V                | 15V      | -5V      | -15V     | 5V                | 12V      | 24V        | -12V     |
|              | RATED CURRENT                                                                                                                                                                                                                                                                                                                                      | 5.5A                                                                                                                     | 2A       | 0.5A     | 0.5A     | 0.5A              | 1.5A     | 0.5A     | 0.5A     | 4A                | 1A       | 1A         | 0.5A     |
|              | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                      | 0.5 ~ 8A                                                                                                                 | 0.1 ~ 3A | 0 ~ 1A   | 0 ~ 1A   | 0.5 ~ 8A          | 0.1 ~ 3A | 0 ~ 1A   | 0 ~ 1A   | 0.5 ~ 8A          | 0.1 ~ 3A | 0.1 ~ 1.5A | 0 ~ 1A   |
|              | RATED POWER                                                                                                                                                                                                                                                                                                                                        | 60W                                                                                                                      |          |          |          | 60W               |          |          |          | 62W               |          |            |          |
|              | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                       | 100mVp-p                                                                                                                 | 120mVp-p | 100mVp-p | 120mVp-p | 100mVp-p          | 120mVp-p | 100mVp-p | 120mVp-p | 100mVp-p          | 120mVp-p | 150mVp-p   | 120mVp-p |
|              | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                 | CH1 : 4.75 ~ 5.5V                                                                                                        |          |          |          | CH1 : 4.75 ~ 5.5V |          |          |          | CH1 : 4.75 ~ 5.5V |          |            |          |
|              | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                           | ±2.0%                                                                                                                    | ±6.0%    | ±5.0%    | ±5.0%    | ±2.0%             | +8,-4%   | ±5.0%    | ±5.0%    | ±2.0%             | ±6.0%    | +6,-4%     | ±5.0%    |
|              | LINE REGULATION                                                                                                                                                                                                                                                                                                                                    | ±0.5%                                                                                                                    | ±1.0%    | ±0.5%    | ±0.5%    | ±0.5%             | ±2.0%    | ±0.5%    | ±0.5%    | ±0.5%             | ±1.0%    | ±2.0%      | ±0.5%    |
|              | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                    | ±0.5%                                                                                                                    | ±4.0%    | ±1.0%    | ±1.0%    | ±0.5%             | ±4.0%    | ±1.0%    | ±1.0%    | ±0.5%             | ±4.0%    | ±4.0%      | ±1.0%    |
|              | SETUP, RISE, HOLD TIME                                                                                                                                                                                                                                                                                                                             | 800s, 20ms, 70ms/230VAC    1600ms, 20ms, 15ms/115VAC at full load                                                        |          |          |          |                   |          |          |          |                   |          |            |          |
| INPUT        | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                      | 85 ~ 264VAC    120 ~ 370VDC                                                                                              |          |          |          |                   |          |          |          |                   |          |            |          |
|              | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                    | 47 ~ 63Hz                                                                                                                |          |          |          |                   |          |          |          |                   |          |            |          |
|              | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                  | 70%                                                                                                                      |          |          |          | 72%               |          |          |          | 75%               |          |            |          |
|              | AC CURRENT                                                                                                                                                                                                                                                                                                                                         | 2A/115VAC    0.8A/230VAC                                                                                                 |          |          |          |                   |          |          |          |                   |          |            |          |
|              | INRUSH CURRENT (max.)                                                                                                                                                                                                                                                                                                                              | COLD START 15A/115VAC    30A/230VAC                                                                                      |          |          |          |                   |          |          |          |                   |          |            |          |
|              | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                    | <1mA / 240VAC                                                                                                            |          |          |          |                   |          |          |          |                   |          |            |          |
| PROTECTION   | OVERLOAD                                                                                                                                                                                                                                                                                                                                           | 105~150%/115VAC of rate load.<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed. |          |          |          |                   |          |          |          |                   |          |            |          |
|              | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                       | CH1:5.75 ~ 6.75VDC<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed.            |          |          |          |                   |          |          |          |                   |          |            |          |
| ENVIRONMENT  | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                      | -10~+60°C (Refer to output load derating curve)                                                                          |          |          |          |                   |          |          |          |                   |          |            |          |
|              | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                   | 20 ~ 90% RH non-condensing                                                                                               |          |          |          |                   |          |          |          |                   |          |            |          |
|              | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                            | -20 ~ +85°C , 10 ~ 95% RH                                                                                                |          |          |          |                   |          |          |          |                   |          |            |          |
|              | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                  | ±0.03%/°C (0 ~ 50°C)                                                                                                     |          |          |          |                   |          |          |          |                   |          |            |          |
|              | VIBRATION                                                                                                                                                                                                                                                                                                                                          | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                             |          |          |          |                   |          |          |          |                   |          |            |          |
| SAFETY & EMC | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                   | Design refer to UL60950                                                                                                  |          |          |          |                   |          |          |          |                   |          |            |          |
|              | 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                                                                                 |          |          |          |                   |          |          |          |                   |          |            |          |
|              | HARMONIC CURRENT                                                                                                                                                                                                                                                                                                                                   | Compliance to EN61000-3-2,-3, Class A                                                                                    |          |          |          |                   |          |          |          |                   |          |            |          |
|              | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                       | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, Light industry level, criteria A                                       |          |          |          |                   |          |          |          |                   |          |            |          |
|              | EMI CONDUCTION & RADIATION                                                                                                                                                                                                                                                                                                                         | Compliance to EN55022 (CISPR22) Class B                                                                                  |          |          |          |                   |          |          |          |                   |          |            |          |
| OTHERS       | MTBF                                                                                                                                                                                                                                                                                                                                               | 284.8K hrs min. MIL-HDBK-217F (25°C)                                                                                     |          |          |          |                   |          |          |          |                   |          |            |          |
|              | DIMENSION                                                                                                                                                                                                                                                                                                                                          | 159*97*38mm (L*W*H)                                                                                                      |          |          |          |                   |          |          |          |                   |          |            |          |
|              | PACKING                                                                                                                                                                                                                                                                                                                                            | 0.492Kgs/pcs, 30pcs/16.41Kgs/0.0250CMB                                                                                   |          |          |          |                   |          |          |          |                   |          |            |          |
| 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. |                                                                                                                          |          |          |          |                   |          |          |          |                   |          |            |          |

## Unit:mm



### ■ Static Characteristics

