



250W Quad Output Power Supply

Q-250 series



■ Features :

- AC input range selected by switch
- Protections: Short circuit / Overload / Over voltage
- Forced air cooling by built-in DC fan
- 100% full load burn-in test
- Fixed switching frequency at 75KHz
- Low cost
- High reliability
- 2 years warranty



SPECIFICATION

| MODEL | | Q-250B | | | | Q-250C | | | |
|---------------------------|---|---|----------|-------------|---------|--------------|----------|----------|---------|
| OUTPUT | DC VOLTAGE | +5V | +12V | -12V | -5V | +5V | +15V | -15V | -5V |
| | RATED CURRENT | 20A | 7A | 1A | 1A | 20A | 5A | 1A | 1A |
| | CURRENT RANGE | 2 ~ 20A | 0.5 ~ 7A | 0.5 ~ 1A | 0 ~ 1A | 2 ~ 20A | 0.5 ~ 5A | 0.5 ~ 1A | 0 ~ 1A |
| | RATED POWER | 201W | | | | 195W | | | |
| | RIPPLE & NOISE (max.) Note.2 | 80mVp-p | 120mVp-p | 120mVp-p | 50mVp-p | 80mVp-p | 150mVp-p | 150mVp-p | 50mVp-p |
| | VOLTAGE ADJ. RANGE | 4.75 ~ 5.5V | | | | 4.75 ~ 5.5V | | | |
| | VOLTAGE TOLERANCE Note.3 | 2.0% | +8, -10% | 10% | 6.0% | 2.0% | 10% | 10% | 6.0% |
| | LINE REGULATION | 0.5% | 1.0% | 1.0% | 1.0% | 0.5% | 1.0% | 1.0% | 1.0% |
| | LOAD REGULATION | 1.0% | 6.0% | 8.0% | 2.0% | 1.0% | 8.0% | 10% | 2.0% |
| SETUP, RISE, HOLD UP TIME | | 800ms, 50ms, 20ms at full load | | | | | | | |
| INPUT | VOLTAGE RANGE | 90 ~ 132VAC / 176 ~ 264VAC Selected by switch | | | | 248 ~ 370VDC | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | |
| | EFFICIENCY (Typ.) | 73% | | | | 74% | | | |
| | AC CURRENT | 6A/115VAC | | 3.5A/230VAC | | | | | |
| | INRUSH CURRENT (max.) | COLD START 50A | | | | | | | |
| | LEAKAGE CURRENT | <2mA / 240VAC | | | | | | | |
| PROTECTION | OVERLOAD | 105 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | | | |
| | OVER VOLTAGE | +5V: 5.75 ~ 6.75V 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 | UL60950-1 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 | | | | | | | |
| OTHERS | MTBF | 219.5K hrs min. MIL-HDBK-217F (25°C) | | | | | | | |
| | DIMENSION | 150*140*86mm (L*W*H) | | | | | | | |
| | PACKING | 1.4Kg; 8pcs/11.5Kg/0.97CUFT | | | | | | | |
| NOTE | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. | | | | | | | | |



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| MODEL | | Q-250D | | | | Q-250F | | | | |
|---------------------------|---|---|----------|-------------|----------|--------------|----------|----------|----------|--|
| OUTPUT | DC VOLTAGE | +5V | +12V | +24V | -12V | +5V | +15V | +24V | -15V | |
| | RATED CURRENT | 10A | 5A | 5A | 1A | 10A | 4A | 5A | 1A | |
| | CURRENT RANGE | 2 ~ 15A | 0.5 ~ 6A | 0.5 ~ 5A | 0 ~ 1A | 2 ~ 15A | 0.5 ~ 5A | 0.5 ~ 5A | 0 ~ 1A | |
| | RATED POWER | 242W | | | | 245W | | | | |
| | RIPPLE & NOISE (max.) Note.2 | 80mVp-p | 120mVp-p | 240mVp-p | 120mVp-p | 80mVp-p | 150mVp-p | 240mVp-p | 150mVp-p | |
| | VOLTAGE ADJ. RANGE | 4.75 ~ 5.5V | | | | 4.75 ~ 5.5V | | | | |
| | VOLTAGE TOLERANCE Note.3 | 2.0% | +6, -10% | 8.0% | 6.0% | 2.0% | +6, -10% | 8.0% | 6.0% | |
| | LINE REGULATION | 0.5% | 1.0% | 1.0% | 1.0% | 0.5% | 1.0% | 1.0% | 1.0% | |
| | LOAD REGULATION | 1.0% | 5.0% | 6.0% | 2.0% | 1.0% | 4.0% | 6.0% | 2.0% | |
| SETUP, RISE, HOLD UP TIME | 800ms, 50ms, 16ms at full load | | | | | | | | | |
| INPUT | VOLTAGE RANGE | 90 ~ 132VAC / 176 ~ 264VAC Selected by switch | | | | 248 ~ 370VDC | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | |
| | EFFICIENCY (Typ.) | 78% | | | | 78% | | | | |
| | AC CURRENT | 6A/115VAC | | 3.5A/230VAC | | | | | | |
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| ENVIRONMENT | WORKING TEMP. | -10 ~ +60°C (Refer to output load derating curve) | | | | | | | | |
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| | TEMP. COEFFICIENT | 0.03%/°C (0 ~ 50°C) | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | | | | |
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| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC | | | | | | | | |
| OTHERS | MTBF | 219.5K hrs min. MIL-HDBK-217F (25°C) | | | | | | | | |
| | DIMENSION | 150*140*86mm (L*W*H) | | | | | | | | |
| | PACKING | 1.4Kg; 8pcs/11.5Kg/0.97CUFT | | | | | | | | |
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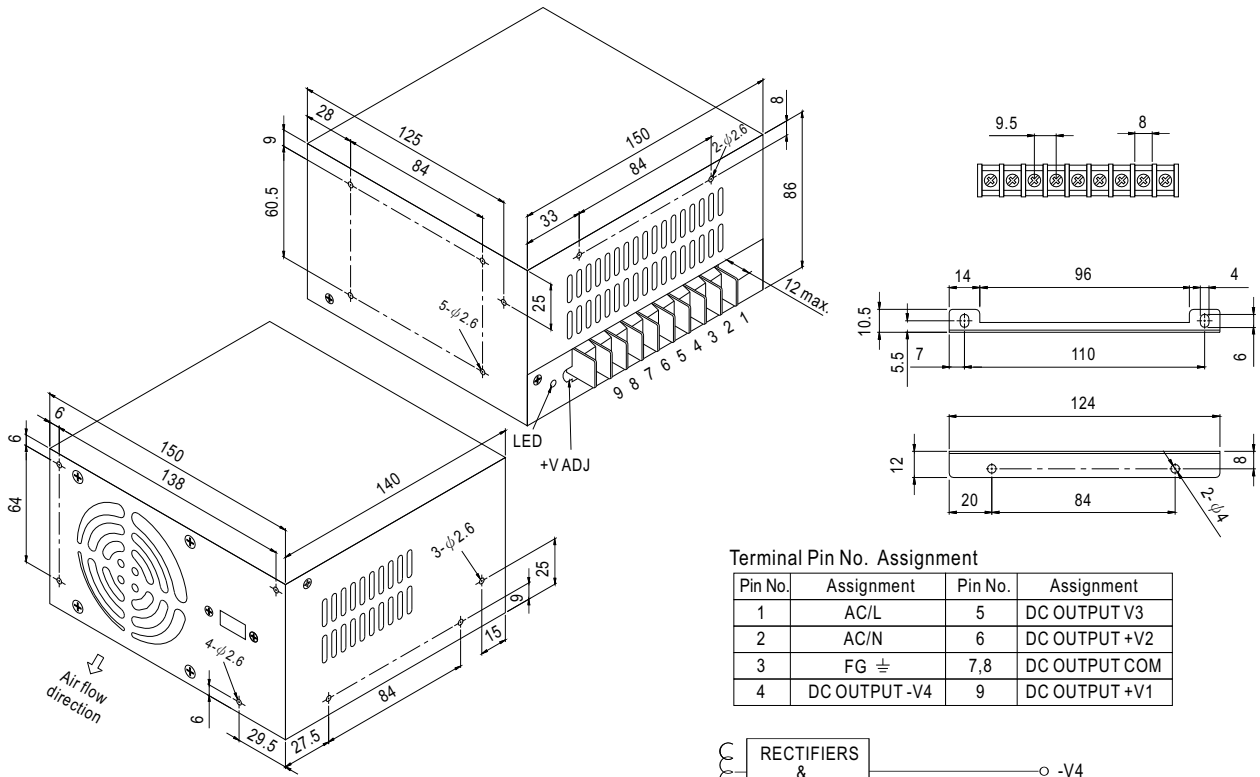


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Q-250 series

Mechanical Specification

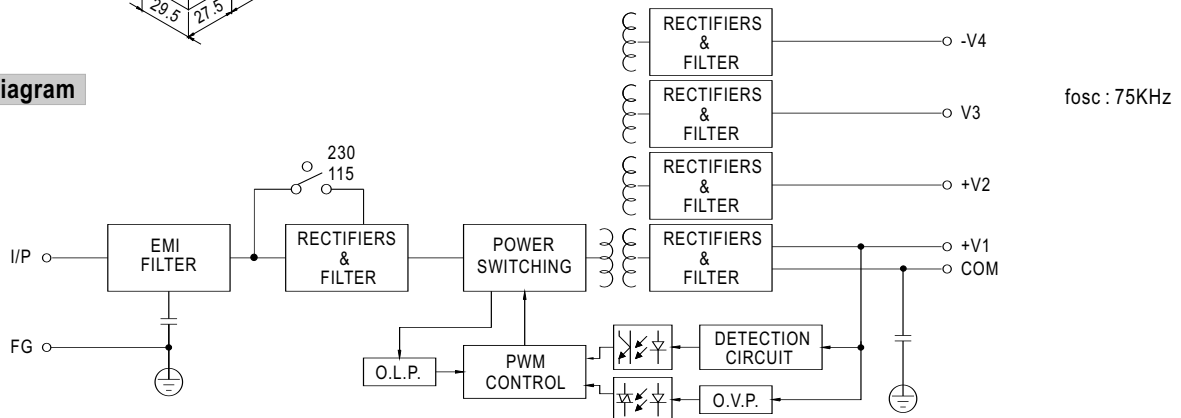
Case No. 907C Unit:mm



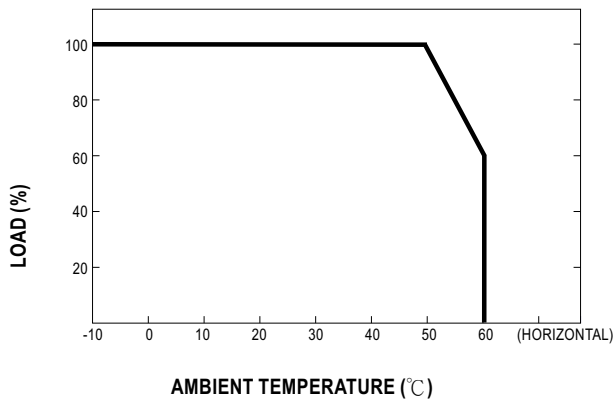
Terminal Pin No. Assignment

| Pin No. | Assignment | Pin No. | Assignment |
|---------|---------------|---------|---------------|
| 1 | AC/L | 5 | DC OUTPUT V3 |
| 2 | AC/N | 6 | DC OUTPUT +V2 |
| 3 | FG \perp | 7,8 | DC OUTPUT COM |
| 4 | DC OUTPUT -V4 | 9 | DC OUTPUT +V1 |

Block Diagram



Derating Curve



Static Characteristics (D,F)

