

Medical



Test & Measurement



Industrial

FEATURES AND BENEFITS

| | |
|---|--|
| 3" x 5" x 1.5" Package | Meets Class B Radiated & Conducted EMI |
| 130W w/air, 100W Convection Cooled | 5V@1A Standby Output |
| Universal Input 90-264VAC | Remote Inhibit |
| Efficiency 87% Typical | >7 Year E-cap Life |
| Approved to CSA/EN/IEC/UL62368, IEC61326-1 | 3 Year Warranty |
| Approved to CSA/EN/IEC/UL60601-1, 3rd Edition | RoHS Compliant |



MODEL SELECTION

| Model Number ^{2,3} | Volts ¹ | | Output Current | | | | | Maximum Output Power | | Ripple & Noise ² | Total Regulation ³ | OVP Threshold |
|-----------------------------|--------------------|------|----------------|------|------------|------|------|----------------------|------------|-----------------------------|-------------------------------|---------------|
| | | | 200LFM air | | Convection | | Peak | 200LFM air | Convection | | | |
| | | | Min | Max | Min | Max | | | | | | |
| GB130QA | V1 | 5V | 1A | 16A | 1A | 12A | 16A | 130W | 100W | 1.0% pk-pk | ±3% | 7.5V max. |
| | V2 | 12V | 0A | 4A | 0A | 3A | 5A | | | 1.0% pk-pk | ±3% | 120%-140% |
| | V3 | -12V | 0A | 1.2A | 0A | 1A | 1.2A | | | 1.0% pk-pk | ±3% | 120%-140% |
| | V4 | 12V | 0A | 1.2A | 0A | 1A | 1.2A | | | 1.0% pk-pk | ±3% | 120%-140% |
| GB130QC ⁴ | V1 | 5V | 1A | 16A | 1A | 12A | 16A | 130W | 100W | 1.0% pk-pk | ±3% | 7.5V max. |
| | V2 | 12V | 0A | 4A | 0A | 3A | 5A | | | 1.0% pk-pk | ±3% | 120%-140% |
| | V3 | -15V | 0A | 1.2A | 0A | 1A | 1.2A | | | 1.0% pk-pk | ±3% | 120%-140% |
| | V4 | 15V | 0A | 1.2A | 0A | 1A | 1.2A | | | 1.0% pk-pk | ±3% | 120%-140% |
| GB130QD ⁴ | V1 | 5V | 1A | 16A | 1A | 12A | 16A | 130W | 100W | 1.0% pk-pk | ±3% | 7.5V max. |
| | V2 | 24V | 0A | 3A | 0A | 2A | 5A | | | 1.0% pk-pk | ±3% | 120%-140% |
| | V3 | -12V | 0A | 1A | 0A | 1.2A | 1.2A | | | 1.0% pk-pk | ±3% | 120%-140% |
| | V4 | 12V | 0A | 1A | 0A | 1.2A | 1.2A | | | 1.0% pk-pk | ±3% | 120%-140% |
| GB130QE ⁴ | V1 | 5V | 1A | 16A | 1A | 12A | 16A | 130W | 100W | 1.0% pk-pk | ±3% | 7.5V max. |
| | V2 | 24V | 0A | 3A | 0A | 2A | 5A | | | 1.0% pk-pk | ±3% | 120%-140% |
| | V3 | -15V | 0A | 1.2A | 0A | 1A | 1.2A | | | 1.0% pk-pk | ±3% | 120%-140% |
| | V4 | 15V | 0A | 1.2A | 0A | 1A | 16A | | | 1.0% pk-pk | ±3% | 120%-140% |
| GB130QP | V1 | 5V | 1A | 16A | 1A | 10A | 16A | 130W | 100W | 1.0% pk-pk | ±3% | 7.5V max. |
| | V2 | 24V | 0.5A | 5A | 0.5A | 4A | 5A | | | 1.7% pk-pk | +10%/-5% | 120%-140% |
| | V3 | -12V | 0A | 1.2A | 0A | 1A | 1.2A | | | 1.0% pk-pk | ±3% | 120%-140% |
| | V4 | 12V | 0A | 2A | 0A | 2A | 1.2A | | | 1.0% pk-pk | ±3% | 120%-140% |

Notes:

- 5V output is adjustable with +/-10% range. Other output voltages available, consult factory.
- Measured with noise probe directly across output terminals, and load terminated with 0.1µF ceramic and 47µF low ESR capacitors. Ripple & Noise of V2 at no load is 2% maximum. All specifications are typical at 230Vac, full load, at 25°C ambient unless noted.
- Total Regulation is defined as the maximum deviation from the nominal voltage for all steady state conditions of initial voltage setting, input line voltage, and output load.
- Contact factory for availability of specific models.



INPUT

| | |
|---------------------------------|---|
| AC Input | 100-240Vac, -20, +10%, 47-63Hz, 1Ø |
| Input Current | 115Vac: TBDA , 230Vac: TBDA |
| Inrush Current | 264Vac, cold start: will not exceed 75A |
| Input Fuses | F1, F2: TBDA, 250Vac fuses provided on all models |
| Leakage Current Earth: Patient: | <290µA@264Vac, 60Hz, NC <100µA@264Vac, 60Hz, NC, <500uA, SFC |
| Efficiency | 87% typical at 230Vac |

ENVIRONMENT

| | |
|-----------------------|--|
| Vibration | Operating: 0.003g ² /Hz, 1.5grms overall, 3 axes, 10 min/axis Non-Operating: 0.026g ² /Hz, 5.0grms overall, 3 axes, 1 hr/axis |
| Dimensions | W: 4.0" x L: 6.0" x H: 1.5" |
| Weight | TBDg |
| Turn On Time | Less than 2 sec. @115Vac (inversely proportional to input voltage and thermistor temperature) |
| Hold-up Time | 16mS typical at 110W, 120Vac input |
| Operating Temperature | -20°C to +70°C |
| Temperature Derating | Derate output power linearly above 50°C to 50% at 70°C |
| Storage Temperature | -40°C to +85°C |
| Altitude | Operating: -500 to 15,000 ft. Non-operating: -500 to 40,000 ft. |
| Relative Humidity | 5% to 95%, non-condensing |

Notes:

- Specifications are for convection rating at factory settings at 115 Vac input, 25°C ambient unless otherwise stated.
- For DC input an external DC safety rated fuse must be used.

AUXILIARY SIGNALS

| | |
|-------------------|---|
| AC Power Fail | During normal operation, stays HIGH. Signal goes LOW with at least 6mS warning before loss of DC output from AC failure. |
| Remote Inhibit | Via switch closure |
| DC OK | During normal operation, this signal is logic HIGH. Signal will go LOW for output less than 90% (typical) of nominal. Green LED will light on PCB top side during normal operation. |
| 5V Standby Output | 5V@ 1.0A output, always present when AC input is applied to the unit. |

OUTPUT

| | |
|-----------------------|---|
| Output Power | 130W continuous with 200 lfm airflow, 100W convection cooled – See chart for specific voltage model ratings. |
| Ripple and Noise | See models chart |
| Output Voltage | See models chart |
| Voltage Adjustability | +/-10% from nominal on 5V output |
| Turn On Time | Less than 2 sec. @115Vac (inversely proportional to input voltage and thermistor temperature) |
| Hold-up Time | 16mS typical at 110W, 120Vac input |
| Switching Frequency | PFC: 0.9 typical |
| Transient Response | 500µS typ. for return to within 0.5% of nominal, 50% load step. $\Delta i/\Delta t < 0.2A/\mu S$. Max Volt Deviation = 3% |

SAFETY

| | |
|------------------|---|
| Safety Standards | IEC/UL61326-1 IEC/UL/CSA62368 DEMKO EN62368 |
|------------------|---|

RELIABILITY

| | |
|------------------|--|
| MTBF | 250,000 hours, 25°C Ambient, 110Vac input |
| E-Cap Life | >7 Years in use condition of 40°C ambient, at 12h/day, 261 days/year. Additional information on other use profiles available on request. |
| Minimum Load | See models chart |
| Total Regulation | See models chart |

PROTECTION

| Parameter | Conditions/Description | Min | Nom | Max | Units |
|----------------------------|--|----------------------------------|-----|-----|---------|
| Input Fuse | TBD A/250V internal fuse in both line & neutral | Not user accessible | | | |
| Input Transient Protection | 4KV(CM) and 2KV(DM) surge | | | 4 | KV (CM) |
| Short Circuit Protection | Provided - no damage will occur if the output is shorted. | Hiccup Mode | | | |
| Overload Protection | 150%-300% above rating for V2, V3, & V4 110%-200% for V1. | Hiccup Mode | | | |
| Overvoltage Protection | Latching Type, recycle AC input to reset | See models chart for trip ranges | | | |
| Shock | Operating: Half-sine, 20gpk, 10ms, 3 axes, 6 shocks total Non-Operating: Half-sine, 40 gpk, 10 ms, 3 axes, 6 shocks total | | | | |



EMI/EMC COMPLIANCE

| | |
|--|--|
| Conducted Emissions | EN55011/22 Class B, FCC Part 15, Subpart B, Class B with 6db margin |
| Radiated Emissions | EN55011/22 Class B; FCC Part 15, Subpart A, Class B |
| Common Mode Noise: High Frequency (100Khz -20 Mhz) | <50mA pk-pk, 6mA rms CM current. See Application Note. |
| Common Mode Noise: Low Frequency (50-120 Hz) | <50mA pk-pk, 6mA rms CM current. See Application Note. |
| Static Discharge Immunity | EN55024/IEC61000-4-2, Level 4, 8kV Contact Discharge, 15kV air discharge, Criteria A ¹ |
| Radiated RF Immunity | EN55022/IEC61000-4-3, Level 3, 10V/m, Criteria A ¹ |
| EFT/Burst Immunity | EN55024/IEC61000-4-4, Level 3, 4kV (PS Output), Criteria A; 2kV (signal outputs), Criteria B ¹ |
| Line Surge Immunity | EN55024/IEC61000-4-5, Level 3, 1kV diff., 2kV Common-Mode, Criteria A ¹ Level 4, 2kV diff., 4kV Common-mode, Criteria B ¹ |
| Conducted RF Immunity | EN55022/IEC61000-4-6, Level 3, 10V/m, Criteria A ¹ |
| Power Frequency Magnetic Field Immunity | EN55024/IEC61000-4-8, Level 4, 30A/m, Criteria A ¹ |
| Voltage Dip Immunity | EN55024/IEC61000-4-11, Dips: 100%, 10ms; 30%, 500ms; 60%, 100ms; Interruptions: 100%, 5000mS; Performance Criteria A, A, B & B ¹ |
| Line Harmonic Emissions | EN55024/IEC61000-3-2, Class A. |
| Flicker Test | EN55024/IEC61000-3-3 |

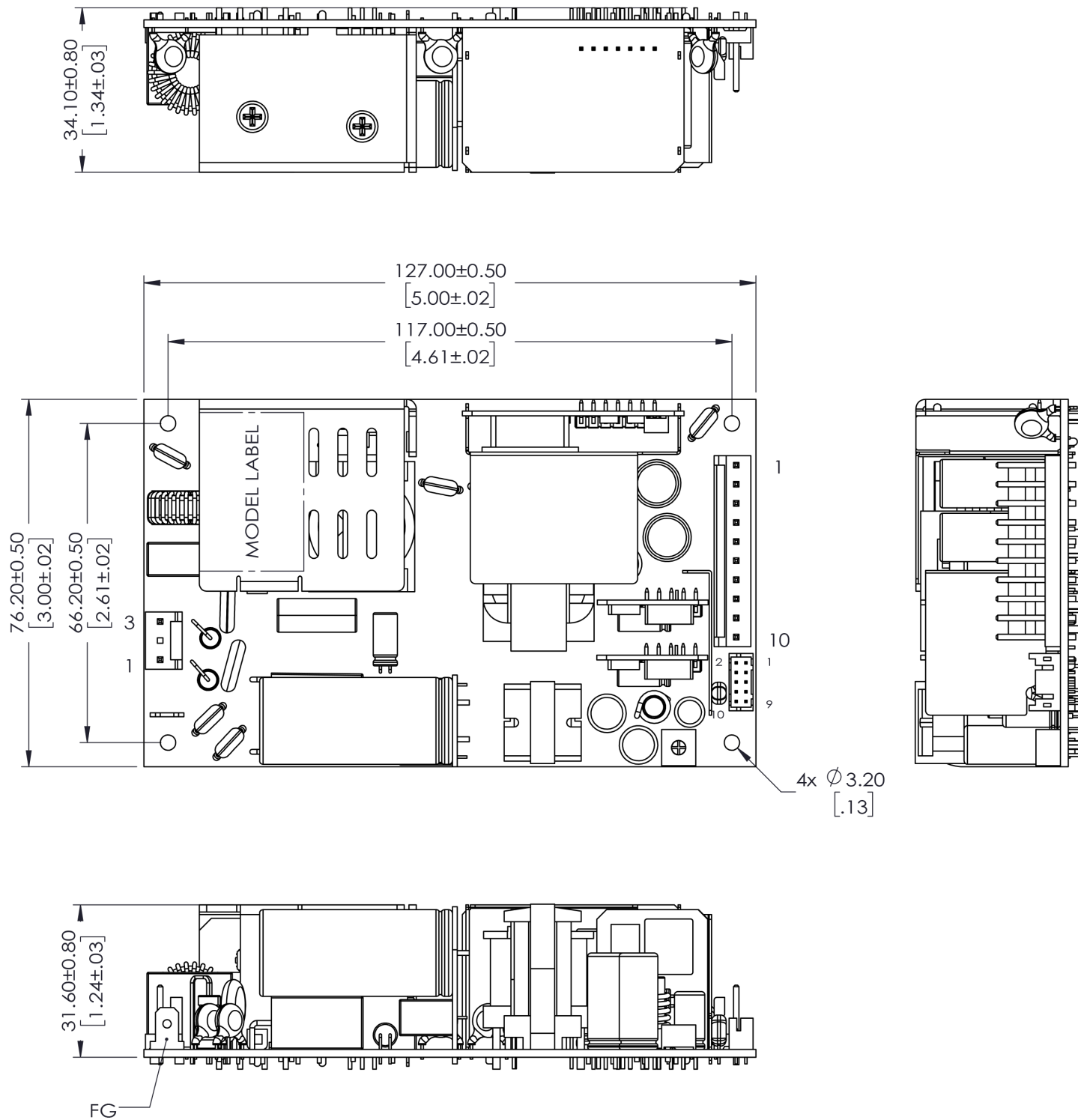
Notes:

Performance criteria are based on EN55024. According to the standards, performance criteria are defined as following:

1. Normal performance during and after the test
2. Temporary degradation, self-recoverable
3. Temporary degradation, operator intervention required to recover the operation
4. Permanent damage



MECHANICAL DRAWING



Notes:

1. All dimensions in inches (mm), tolerance is ± 0.02 ".
2. Mounting holes should be grounded for EMI purpose
3. This power supply requires mounting on metal standoffs 0.20" (5 m) in height.



CONNECTOR INFORMATION

| Input Connector J1 | DC Output Connector J2 | Signal Connector J3 |
|---|---|---|
| PIN 1) AC GROUND PIN 2) EMPTY PIN 3) AC NEUTRAL PIN 4) EMPTY PIN 5) AC LINE | PIN 1) +V1 PIN 5) RTN PIN 9) V2 PIN 13) V4 PIN 2) +V1 PIN 6) RTN PIN 10) PF PIN 3) +V1 PIN 7) RTN PIN11) V3 PIN 4) RTN PIN 8) V2 PIN12) KEY | PIN 1) DC OK PIN 2) RTN PIN 3) INHIBIT PIN 4) 5V Standby |
| Connector: TE/AMP P/N 640445-5 Mating Connector: TE/AMP P/N 640250-5 Pins= 770476-1 | Connector: TE/AMP P/N 1-640445-3 Mating Connector: TE/AMP P/N 1-640250-3 Pins = 770476-1 | Connector: TE/AMP 640456-4 Mating Connector: TE/AMP 640441-4 |

ISOLATION SPECIFICATIONS

| Parameter | Conditions/Description | Min | Nom | Max | Units |
|--------------------------------|------------------------|------|-----|-----|-------|
| Insulation Safety Rating | Input/Ground | 1800 | - | - | Vac |
| | Input/Output | | | | |
| | Output/Ground | | | | |
| Electric Strength Test Voltage | Input/Ground | 4000 | - | - | Vac |
| | Input/Output | | | | |
| | Output/Ground | | | | |

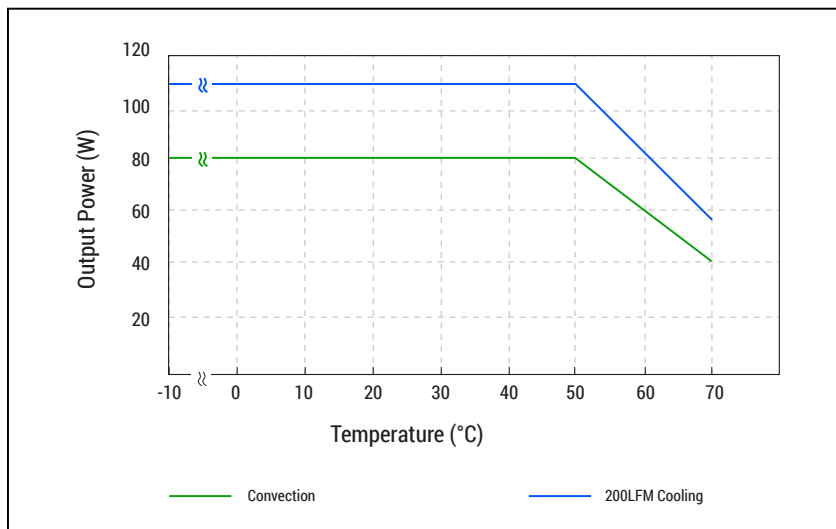
LEAKAGE CURRENT

| Parameter | Conditions/Description | Max |
|-----------------------|------------------------------|-------------|
| Earth Leakage Current | Normal Condition (NC) | 290 μ A |
| | Single Fault Condition (SFC) | 420 μ A |
| Touch Current | Normal Condition (NC) | 90 μ A |
| | Single Fault Condition (SFC) | 170 μ A |

CHARACTERISTIC CURVES

Output vs. Temperature

100W convection cooled and 130W continuous with 200 LFM airflow. Derate output power to 50% at 70C.



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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