

FEATURES

- Medical 60601-1 Safety Approvals
- Battery Charger Output-Lead Acid, or Lithium
- Small 5 x 3 x 1.38" Package
- Class I, Class II Construction Compatible
- High Efficiency - 90% Typical At Full Load
- Remote On/Off, Power Fail, Remote Sense
- 5VSD @ 0.5A Output & Fan Output 12V 0.4A
- Universal AC Input With Active PFC
- EN55011 / FCC Part 15J Class B Emissions
- 3 Year Warranty

INPUT SPECIFICATIONS

Input Voltage	90-264 VAC (Universal)
Input Frequency	47-63Hz
Input Current	3.0A _{RMS} at 115VAC / 1.5A _{RMS} at 230VAC
Inrush Current	<80A @ 240 VAC, Cold Start
Power Factor	>0.95
Earth Leakage Current	<250µA @ 264VAC (Class I)
Patient Leakage Current	<100µA @ 264VAC
Input Protection	Internal T5A / 250V Fuse (Line & Neutral)

OUTPUT SPECIFICATIONS

Output Voltage	See Table
Line Regulation	±0.5%
Load Regulation	±2% For Main & 5VSD @ ; ±10% For Fan
Minimum Load	None
Transient Response	±5%, 50% step-load, slew rate 1A/µS
Ripple / Noise	1% pk-pk typical
Turn-On Delay	3 seconds max @ 115VAC
Hold-Up Time	>20ms at 115VAC Input (Full Load)
Over-Voltage	110-140% Latching
Over-Load	120-150% (Hiccup Mode, Auto-Recovery)
Short Circuit	Hiccup Mode
Over-Temperature	Auto-Recovery

STATUS & CONTROL

Remote On/Off	TTL High=Shut down main output
Power Fail	TTL Low=Failure 12ms Warning Time
Standby Output	5VSD @ 500mA
Fan Output	12V 400mA
Remote Sense	Totally Compensates Up To 0.4V

GENERAL SPECIFICATIONS

Efficiency	90% typical at 115/230 VAC, full load
Isolation	Input to Output: 4000 VAC, 2xMOPP Input to Ground: 1500 VAC (Glass I), 1xMOPP Output to Ground: 1500 VAC(Glass I), 1xMOPP
MTBF	300K Hours, Mil-217F at 25 °C, full load
Weight	360g

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	0°C ~ +40°C
Derating	2.5%/°C > 40°C, up to 50°C max
Storage Temperature	-40°C ~ +80°C
Operating Humidity	5~95% (non-condensing)
Operating Altitude	3000M (max)
Shock	294m/s ² , 11ms on 3 axes
Vibration	10-500Hz, 19.6m/s ² (2G), 20mins on 3 axes

EMC & SAFETY

Emissions	EN55011, FCC Part J15, Class B, Conducted EN55011, FCC Part J15, Class B, Radiated
Harmonic Current	EN61000-3-2 Class A
Voltage Flicker	EN61000-3-3
ESD	EN61000-4-2, 6kV contact, 8kV Air Discharge
EFT/Burst	EN61000-4-4, Level 3, Criterion A
Surge	EN61000-4-5, Installation Class3, Criterion A
Conducted Immunity	EN61000-4-6, 3V _{RMS} , Criterion A
Radiated Immunity	EN61000-4-3, 3V/m, Criterion A
Magnetic Field	EN61000-4-8, 3A/m, Criterion A
Dips & Interruptions	EN61000-4-11, 0% 10ms, 40% 100ms, 70% 500ms, 0% 5000ms; Criterion A/B/C
Safety Approvals	IEC 60601-1, 3rd Edition ANSI / AAMI ES60601-1 CSA C22.2 No 60601-1 EN60601-1, 3rd Edition CE Mark



MODELS	MAIN OUTPUT VOLTAGE	OUTPUT CURRENT ¹⁾ (CONVECTION)	OUTPUT CURRENT ²⁾ (FORCED-AIR)	CHARGER OUTPUT	STANDBY OUTPUT	FAN OUTPUT
MCP150-12	12V	12.5A	16.67A	16.8V 1.0A	5V 500mA	12V 0.4A
MCP150-19	19V	7.89A	10.53A	16.8V 1.0A	5V 500mA	12V 0.4A
MCP150-24	24V	6.25A	8.33A	16.8V 1.0A	5V 500mA	12V 0.4A
MCP150-28	28V	5.36A	7.14A	16.8V 1.0A	5V 500mA	12V 0.4A
MCP150-48	48V	3.13A	4.17A	16.8V 1.0A	5V 500mA	12V 0.4A

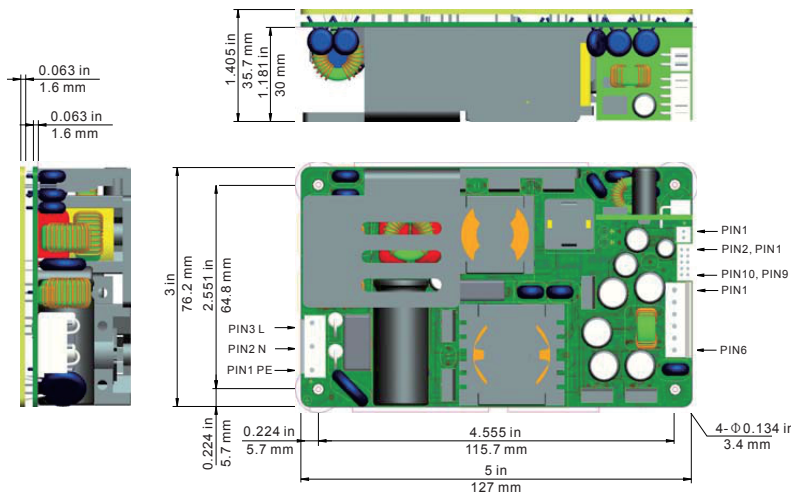
Note: 1) These rated currents are given with charger current is zero. When charger is working, the main output should be derated to 130W at convection cooled or 180W at forced-air cooled.

2) Rated Current with 1.2 m/s (15CFM) Forced- Air Flow.

Naming rules: MCP150-XX-abc; MCP150 series name; XX=output voltage;

a=A for class I, B for class II; bc for customer product or not use.

OUTLINE DRAWING



AC INPUT

JST P/N: B3P5-VH (LF)(SN)
Mates With: JST VHR-5N

Pin 1 Earth Ground

Pin 3 Line

Pin 5 Neutral

Pin 2, Pin 4 Removed

DC OUTPUT

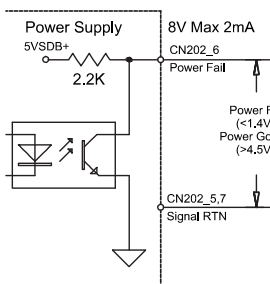
JST P/N: B6P-VH (LF)(SN)
Mates With: JST VHR-6N

Pin 1, 2, 3 Output VDC

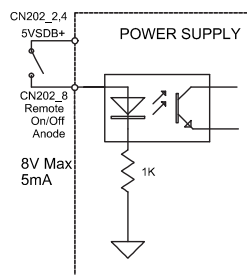
Pin 4, 5, 6 Return

SIGNAL CONFIGURATION

Power Fail



Remote On/Off



CHARGER CONNECTOR

JST P/N: S5B-XH-A;
Mates With: JST XHP-5

Pin 1 Charger Output +

Pin 2 Charger Output Return

Pin 3 Temperature

Pin 4 1 D +

Pin 5 1 D -

SIGNAL CONNECTOR

JST P/N : B10B-PHDSS
Mates With : JST PHDR-10VS

1 5VSDB Return

2 5VSDB

3 5VSDB Return

4 5VSDB

5 Return

6 PF

7 Remote on/off (Cathode)

8 Remote on/off (Anode)

9 Remote Sense -

10 Remote Sense +

CHARGER STATUS CONNECTOR

JST P/N: S2B-XH-A;
Mates With: JST XHP-2

Pin 1 LED+

Pin 2 GND

FAN CONNECTOR

Landwin P/N: 2511P0200T
Mates With 2600S0200

Pin 1 Fan Output +

Pin 2 Fan Return

SIGNALS

Power Fail TTL output, goes high 100-500ms after main output when AC applied, goes low 4ms min.(typical 12ms) before loss of main output after AC failure.

Remote On/Off TTL logic level, high level to shut down main output.

NOTES