

FEATURES

- 60950-1 & Medical 60601-1 Safety Approvals
- Small 5 x 3 x 1.5" Package
- Class I, Class II Construction Compatible
- High Efficiency - 91.5% typical at full load
- EN55011 / EN55022 / FCC Part 15J Class B Emissions
- Medical type BF Rating
- 3 Year Warranty

INPUT SPECIFICATIONS

| | |
|--------------------------------|---|
| Input Voltage | 85-264 VAC (Universal) |
| Input Frequency | 47-63Hz |
| Input Current | 2.5A _{RMS} at 115VAC / 1.2A _{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 T5.0A / 250V Fuse (Line & Neutral) |

OUTPUT SPECIFICATIONS

| | |
|---------------------------|---------------------------------------|
| Output Voltage | See Table |
| Line Regulation | ±0.5% |
| Load Regulation | ±2% |
| 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 Full Load |
| Over-Voltage | 110-140% Latching |
| Over-Load | 120-150% (Hiccup Mode, Auto-Recovery) |
| Short Circuit | Hiccup Mode |
| Over-Temperature | Auto-Recovery |

GENERAL SPECIFICATIONS

| | |
|-------------------|--|
| Efficiency | 91%min at 115VAC/230VAC, full load |
| Isolation | Input to Output: 4000 VAC, 2xMOPP Input to Ground (Class I): 1500 VAC, 1xMOPP Output to Ground (Class I): 1500 VAC, 1xMOPP |
| MTBF | 300K Hours, Mil-217F at 25 °C, full load |
| Weight | 430g |

ENVIRONMENTAL SPECIFICATIONS

| | |
|------------------------------|---|
| Operating Temperature | 0°C ~ +40°C |
| Derating | 1.67%/°C, > 40°C, up to 70°C max |
| Storage Temperature | -40°C ~ +80°C |
| Operating Humidity | 5~95% (non-condensing) |
| Operating Altitude | 3000M (max) |
| Shock | 294m/s ² , 10ms on 3 axes |
| Vibration | 10-500Hz, 19.6m/s ² (2G), 20mins on 3 axes |

EMC & SAFETY

| | |
|---------------------------------|---|
| Emissions | EN55022 / EN55011 FCC J15, Class B, Conducted EN55022 / EN55011 FCC 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 |

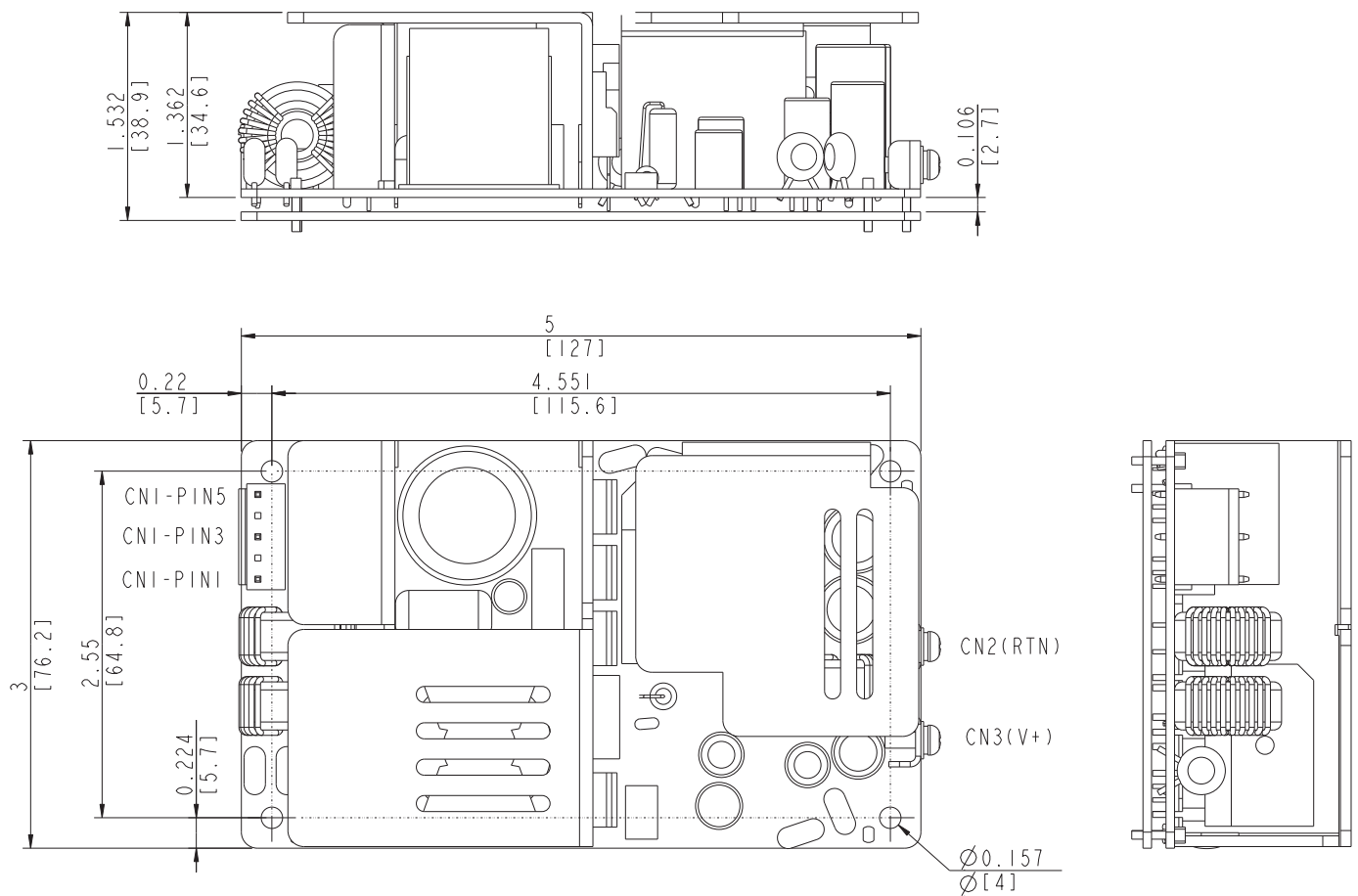
| | |
|-------------------------|---|
| Safety Approvals | CE Mark IEC 60950-1, 3rd Ed & IEC 60601-1, 3rd Ed ANSI / UL 60950-1 & ANSI / AAMI ES60601-1 CSA C22.2 No 60950-1 & No 60601-1 EN60950-1, 3rd Ed & EN60601-1, 3rd Ed |
|-------------------------|---|



| MODELS | MAIN OUTPUT VOLTAGE | OUTPUT CURRENT | RIPPLE & NOISE (MAX) | MAX TOTAL REGULATION |
|---------------------------|---------------------|----------------|----------------------|----------------------|
| MKP199C/MKP199M-12 | 12V | 16.67A | 120mV | ±3% |
| MKP199C/MKP199M-19 | 19V | 10.52A | 190mV | ±3% |
| MKP199C/MKP199M-24 | 24V | 8.33A | 240mV | ±3% |
| MKP199C/MKP199M-28 | 28V | 7.14A | 280mV | ±3% |
| MKP199C/MKP199M-48 | 48V | 4.16A | 480mV | ±3% |

Naming rules :MKP199y-XX-ABC; MKP199 series name; y=C or M (They are identical); 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: B5P-VH
 Mates With: JST VHR-5N

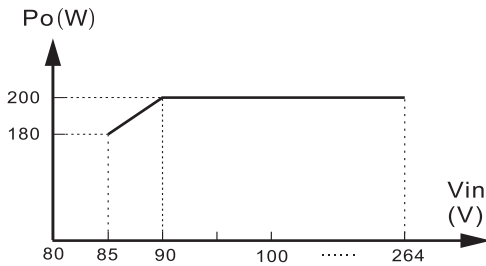
| | |
|--------------|--------------|
| Pin 1 | Line |
| Pin 3 | Neutral |
| Pin 5 | Earth Ground |
| Pin 2, Pin 4 | Removed |

DC OUTPUT

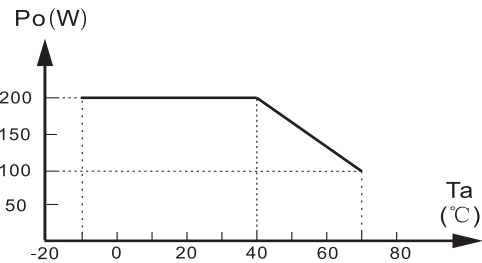
Terminals with 6-32 inches Screw Pan HD
 Mates With: 16 AWG wire crimped to ring Tongue
 Terminal AMP: 8-31886-1

| | |
|----------|------------|
| CN3(V+) | Output VDC |
| CN2(RTN) | Return |

OUTPUT POWER VS INPUT VOLTAGE



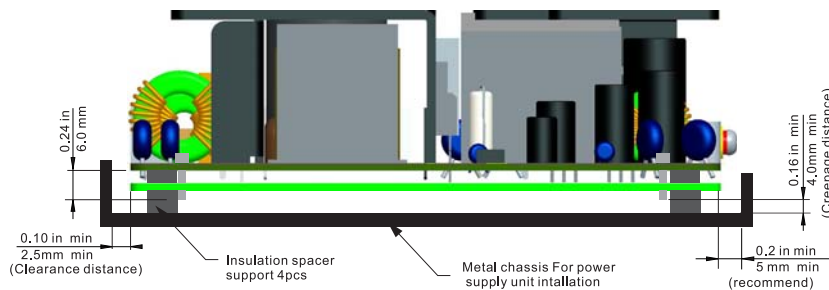
OUTPUT POWER VS AMBIENT TEMPERATURE



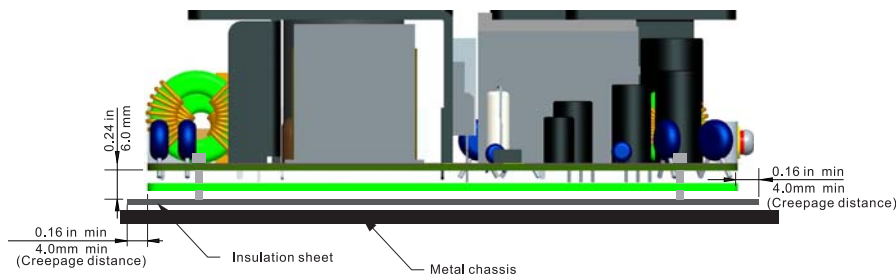
CLEARANCE DISTANCE AND CREEPAGE DISTANCE FOR ASSEMBLY IN ME EQUIPMENT

A. Class II construction & the metal chassis is accessible part or electrically connected to accessible part

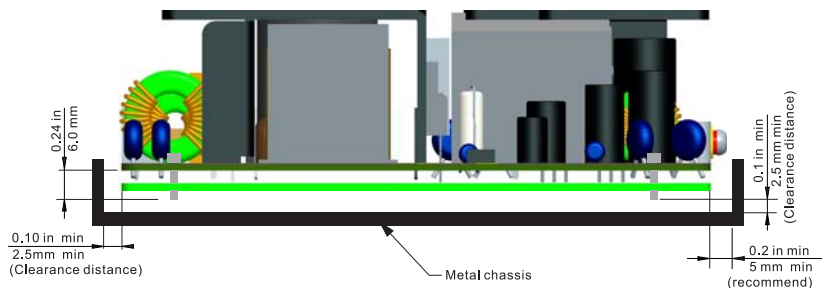
1. Installed on metal chassis



2. Not Installed on metal chassis with insulation sheet



3. Not Installed on metal chassis without insulation sheet



B. Class I construction

The bottom side of the shield board in the power supply is connected to PE, no clearance or creepage distance requirement here. But be careful if there are side walls on the metal chassis, the clearance/creepage distance between side wall and the power supply are 2.5mm min/4.0mm min, and recommended 3.2 mm/4mm.