



- Universal AC input
- Low leakage current $\leq 0.18\text{mA}$
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fixed switching frequency at 100KHz
- Free air convection for 140W and forced air convection for 200W
- UL60601-1 medical safety approved
- With power good and fail signal output
- Built-in remote ON-OFF control
- Built-in remote sens function



| Model Number | Output Volts | Output Amps(25CFM) | Ripple & Noise | Convection | Line Reg | Load Reg | Volt Tolerance |
|--------------|--------------|--------------------|----------------|------------|----------|----------|----------------|
|--------------|--------------|--------------------|----------------|------------|----------|----------|----------------|

SINGLE OUTPUT

| | | | | | | | |
|------------|---------------|-----------|--------------|-----------|-------------|-------------|-------------|
| MPS200-3.3 | 3.3 Volts(DC) | 40 Amps | 80mV pk-pk | 28 Amps | $\pm 0.5\%$ | $\pm 1.0\%$ | $\pm 2.0\%$ |
| MPS200-5 | 5 Volts(DC) | 40 Amps | 80mV pk-pk | 28 Amps | $\pm 0.5\%$ | $\pm 1.0\%$ | $\pm 2.0\%$ |
| MPS200-12 | 12 Volts(DC) | 16.7 Amps | 100mV pk-pk | 11.7 Amps | $\pm 0.5\%$ | $\pm 1.0\%$ | $\pm 2.0\%$ |
| MPS200-15 | 15 Volts(DC) | 13.4 Amps | 100mV pk-pk | 9.4 Amps | $\pm 0.5\%$ | $\pm 1.0\%$ | $\pm 2.0\%$ |
| MPS200-24 | 24 Volts(DC) | 8.4 Amps | 150mV pk-pk | 5.9 Amps | $\pm 0.5\%$ | $\pm 1.0\%$ | $\pm 1.0\%$ |
| MPS200-48 | 48 Volts(DC) | 4.2 Amps | 2000mV pk-pk | 3.0 Amps | $\pm 0.5\%$ | $\pm 1.0\%$ | $\pm 1.0\%$ |

DUAL OUTPUT

| | | | | | | | |
|----------|--------------|---------|-------------|----------|-------------|-------------|-------------|
| MPD-200A | 5 Volts(DC) | 20 Amps | 80mV pk-pk | 15 Amps | $\pm 0.5\%$ | $\pm 1.0\%$ | $\pm 2.0\%$ |
| | 12 Volts(DC) | 8 Amps | 120mV pk-pk | 5.4 Amps | $\pm 2.0\%$ | $\pm 4.0\%$ | +8, -5% |
| MPD-200B | 5 Volts(DC) | 20 Amps | 80mV pk-pk | 15 Amps | $\pm 0.5\%$ | $\pm 1.0\%$ | $\pm 2.0\%$ |
| | 24 Volts(DC) | 4 Amps | 180mV pk-pk | 2.7 Amps | $\pm 2.0\%$ | +4, -6% | $\pm 6.5\%$ |



MPS/D/T/Q200 series

200W 1~4 Output for Medical Type

| Model Number | Output Volts | Output Amps(25CFM) | Ripple & Noise | Convection | Line Reg | Load Reg | Volt Tolerance |
|----------------------|---------------|--------------------|----------------|------------|----------|----------|----------------|
| TRIPLE OUTPUT | | | | | | | |
| MPT-120A | 5 Volts(DC) | 20 Amps | 80mV pk-pk | 15 Amps | ±0.5% | ±1.0% | ±2.0% |
| | 12 Volts(DC) | 7.5 Amps | 120mV pk-pk | 5.0 Amps | ±1.0% | ±5.0% | ±8.0% |
| | -5 Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |
| MPT-120B | 5 Volts(DC) | 20 Amps | 80mV pk-pk | 15 Amps | ±0.5% | ±1.0% | ±2.0% |
| | 12 Volts(DC) | 6.0 Amps | 120mV pk-pk | 4.4 Amps | ±1.0% | ±5.0% | ±8.0% |
| | -12Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |
| MPT-120C | 5 Volts(DC) | 20 Amps | 80mV pk-pk | 15 Amps | ±0.5% | ±1.0% | ±2.0% |
| | 15 Volts(DC) | 4.7 Amps | 150mV pk-pk | 3.3 Amps | ±1.0% | ±5.0% | ±8.0% |
| | -15 Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |
| MPT-120D | 5 Volts(DC) | 20 Amps | 80mV pk-pk | 15 Amps | ±0.5% | ±1.0% | ±2.0% |
| | 24 Volts(DC) | 3.0 Amps | 180mV pk-pk | 2.2 Amps | ±1.0% | ±5.0% | ±8.0% |
| | 12 Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |

QUAD OUTPUT

| | | | | | | | |
|----------|---------------|----------|-------------|----------|-------|-------|-------|
| MPQ-200B | 5 Volts(DC) | 15 Amps | 80mV pk-pk | 12 Amps | ±0.5% | ±1.0% | ±2.0% |
| | 12 Volts(DC) | 7.0 Amps | 120mV pk-pk | 5.3 Amps | ±1.0% | ±5.0% | ±8.0% |
| | -5 Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |
| | -12 Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |
| MPQ-200C | 5 Volts(DC) | 15 Amps | 80mV pk-pk | 12 Amps | ±0.5% | ±1.0% | ±2.0% |
| | 15 Volts(DC) | 5.0 Amps | 150mV pk-pk | 4.0 Amps | ±1.0% | ±5.0% | ±6.0% |
| | -5 Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |
| | -15 Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |
| MPQ-200D | 5 Volts(DC) | 15 Amps | 80mV pk-pk | 12 Amps | ±0.5% | ±1.0% | ±2.0% |
| | 24Volts(DC) | 3.0 Amps | 180mV pk-pk | 2.3 Amps | ±1.0% | ±5.0% | ±8.0% |
| | 12 Volts(DC) | 2.0 Amps | 300mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |
| | -12 Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |
| MPQ-200E | 5 Volts(DC) | 15 Amps | 80mV pk-pk | 12 Amps | ±0.5% | ±1.0% | ±2.0% |
| | 24 Volts(DC) | 2.7 Amps | 180mV pk-pk | 2.1 Amps | ±1.0% | ±5.0% | ±8.0% |
| | 15 Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |
| | -15 Volts(DC) | 2.0 Amps | 80mV pk-pk | 1.0 Amps | ±0.5% | ±1.0% | ±5.0% |



200W 1~4 Output for Medical Type

MPS/D/T/Q200 series

INPUT SPECIFICATIONS

| | |
|----------------------|--|
| Input Voltage Range | 90-264VAC / 127-370 Volts(DC) |
| Frequency Range | 47-440 Hz |
| Inrush Current, typ: | cold start <25 Amps @ 115VAC Input 40 Amps @ 230VAC |
| Input Current | 3.5 Amps max @ 115VAC 1.6 Amps max @ 230VAC |
| Power Factor @ FL | PF>0.95/230VAC PF>0.98/115VAC |
| Leakage current | |
| heart leakage | < 0.18mA / 264VAC |
| patient leakage | < 0.1mA / 264VAC |

OUTPUT SPECIFICATIONS

| | |
|-----------------------------|---|
| Voltage and Current | See Selection Chart |
| Line Regulation | See Selection Chart |
| Load Regulation | See Selection Chart |
| Voltage Tolerance (Note 2) | See Selection Chart |
| Ripple/Noise (Note 1) | See Selection Chart |
| Hold Up Time @ FL | 16mS @ 230VAC 16mS @ 115VAC |
| Setup, Rise Time @ FL: | |
| | 1000mS, 20mS / 230VAC |
| | 3000mS, 20ms / 115VAC |
| Over Temperature Protection | TSW1 Temp ≥ 95°C, shutdown auto recover |
| Over Voltage Protection | 5Volts only:115~135%, shutdown |
| Over Current Protection | Hiccup type 120~160% auto recover |
| Peak Load (Note 3) | 120% of output min. |
| Min load | |
| Single O/P | 0% |
| Multi O/P | 20% |
| DC Volt Adj | -5%~10% rated output volt by potential meter |

GENERAL SPECIFICATIONS

| | |
|-----------------------|---|
| Safety | UL60601-1 / UL60950-1 TUV EN60601-1 / TUV EN60950-1 IEC60601-1 approved |
| Insulation Resistance | ≥ 100MΩ |

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted

| | |
|------------------|---|
| EMI | Compliance to EN55011, EN55022 Class B |
| Harmonic Current | Compliance to EN61000-3-2,-3 |
| Efficiency | 81% typ. |
| Isolation | |
| | 4000VAC Input - Output |
| | 1500VAC Input - Ground |
| | 1500VAC Output- Ground |
| EMS | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204 |
| Remote Control | RC+/RC-: 0~0.8Volts(DC) = Power On 4~10Volts(DC) = Power Off |
| Power Good/Fail | 500ms/1ms |

ENVIRONMENTAL SPECIFICATIONS

| | |
|-------------------------|---|
| Oper. Temperature | -20°C to +70°C (See Derate Curve) |
| Storage Temperature | -40°C to +85°C, 10~90% RH |
| Relative Humidity | 20 to +90% RH |
| Temperature Coefficient | 0.04% / °C (0-50°C) |
| MTBF | 262.1KHrs min, MIL-HDBK-217F(25°C) |
| Vibration | 10~500Hz, 2G10min./1cycle, period for 60min. each along X, Y, Z axes |

PHYSICAL SPECIFICATIONS

| | |
|-------------|----------------------|
| Size | |
| Millimeters | 177.8 x 107.2 x 35.5 |
| Inches | 7" x 4.22" x 1.4" |
| Weight | 23.28 oz (660g) |

NOTE

1. Ripple and Noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47 uf parallel capacitor.
2. Tolerance: includes set up tolerance, line regulation and load regulation.
3. 33% Duty cycle max within every 30S. Average output power should not exceed the rated power.
4. Derating may be needed under low inpt voltages. Please check the derating curve for more details.

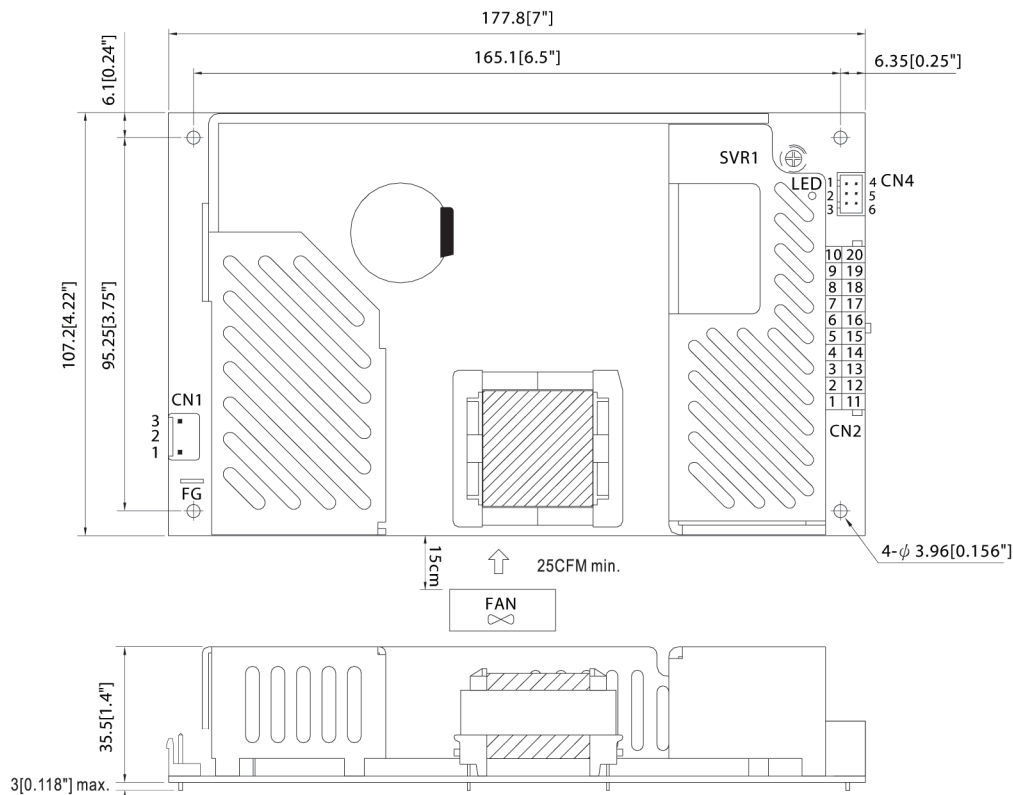
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■ Mechanical Specification(MPS-200)

Unit:mm



AC Input Connector (CN1) : JST B3P-VH or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|--------------------------|-----------------------------------|
| 1 | AC/N | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2 | No Pin | | |
| 3 | AC/L | | |

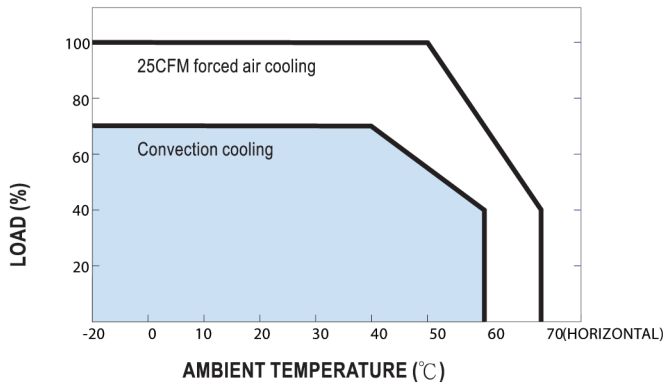
DC Output Connector (CN2) : MOLEX 5566-20r or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|------------|--------------|-----------------------------|-----------------------------|
| 1~5,11~15 | DC OUTPUT -V | MOLEX 5557 or equivalent | MOLEX 5556 or equivalent |
| 6~10,16~20 | DC OUTPUT +V | | |

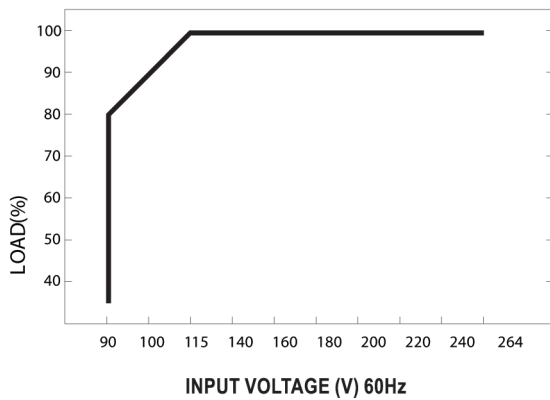
DC Output Connector (CN4) : TKP DH2I-2*3 or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|------------------------------|--------------------------|
| 1 | PG | TKP DH2-2*3 or equivalent | TKP DHT or equivalent |
| 2 | RS- | | |
| 3 | GND | | |
| 4 | RC+ | | |
| 5 | RS+ | | |
| 6 | RC- | | |

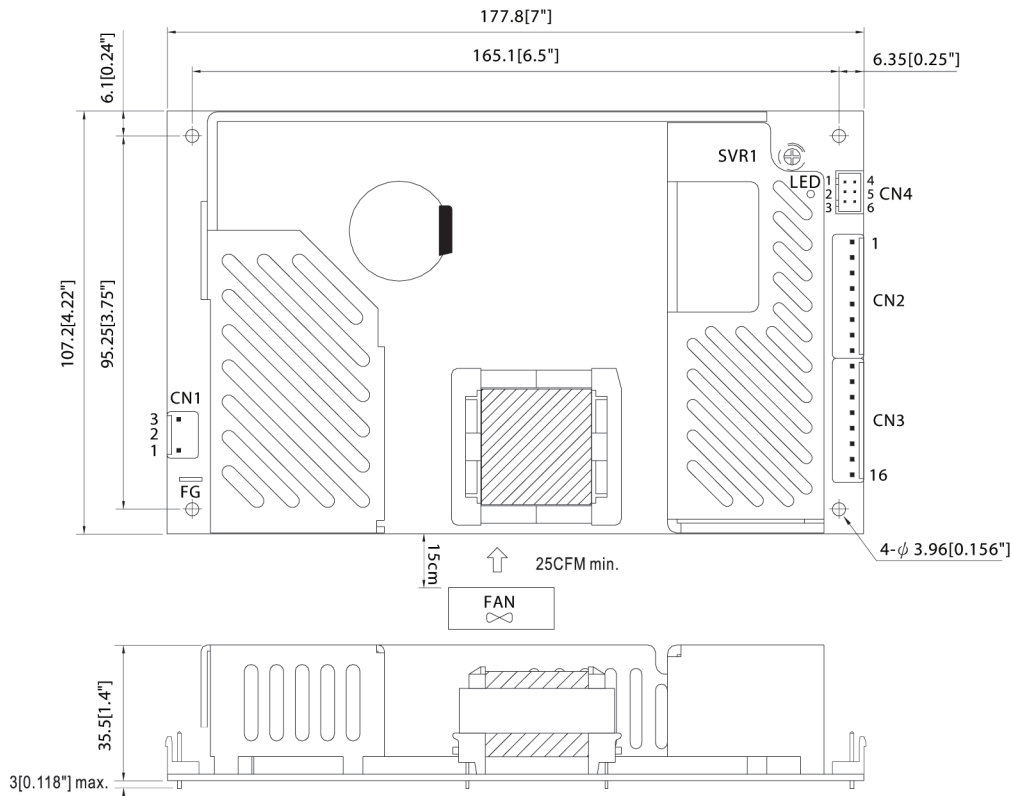
Derating Curve (MPS-200)



Static Characteristics (MPS-200)



■ Mechanical Specification(MPD/T/Q-200)



AC Input Connector (CN1) : JST B3P-VH or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|-----------------------|--------------------------------|
| 1 | AC/N | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2 | No Pin | | |
| 3 | AC/L | | |

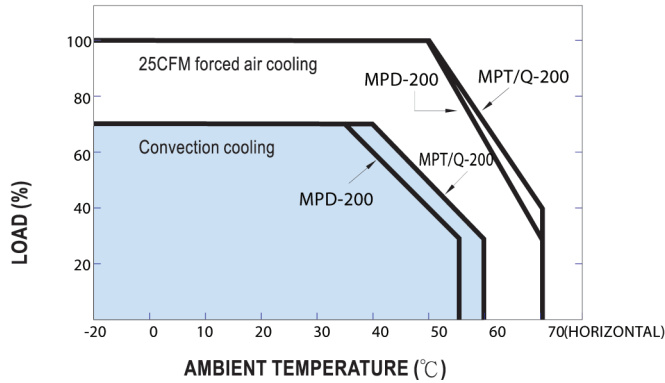
DC Output Connector (CN2,3) : JST B8P-VH*2 or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|-----------------------|--------------------------------|
| 1,2,3,4 | V1 | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 5~11 | COM | | |
| 12,13 | V2 | | |
| 14 | V3 | | |
| 15 | No pin | | |
| 16 | V4 | | |

DC Output Connector (CN4) : TKP DH2I-2*3 or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|---------------------------|-----------------------|
| 1 | PG | TKP DH2-2*3 or equivalent | TKP DHT or equivalent |
| 2 | RS- | | |
| 3 | GND | | |
| 4 | RC+ | | |
| 5 | RS+ | | |
| 6 | RC- | | |

Derating Curve (MPD/T/Q-200)



Static Characteristics (MPD,T,Q-200)

