

TPMPU51 SERIES

50W Desk Top Type
Medical Power Supplies

Features:

- Wide Operating Voltage 90 to 264 VAC, 47 to 63 Hz
- IEC-320-C14 Input Inlet
- Single to Triple Output
- Optional Output Connector (See page appendix)
- Over Voltage and Over Load protection
- Class I
- ANSI/AAMI ES 60601-1: 2005(UL/cUL 3rd Edition)
EN 60601-1:2006 (TUV/T-mark 3rd Edition)
- Input to Output : 2MOPP
- 3 year warranty



Electrical Characteristics:

| | | | |
|-------|---|--|------------------|
| Vin | Safety Approvals | Input Voltage Range | 100~240VAC |
| | | Operate Voltage Range | 90~264VAC |
| fin | | Input Frequency | 47~63Hz |
| Po | | Output Power Range | See rating chart |
| Vo | | Output Voltage Range | See rating chart |
| Io | | Output Current Range | See rating chart |
| Iil | Input Current (Low Line) | Io=Full load, Vin=100VAC | 0.91~1.04A |
| | | Io=Full load, Vin=240VAC | 0.43~0.53A |
| Iih | Input Current (High Line) | Io=Full load, 25°C, Cool start, Vin=115VAC | 35A (max.) |
| | | Io=Full load, 25°C, Cool start, Vin=230VAC | 70A (max.) |
| Irr | Low Line Inrush Current | Io=Full Load, Vin=230VAC | 75~88% |
| | | | |
| Eff | Efficiency | Io=Full Load | 0.5~1% |
| | | | |
| REG-i | Line Regulation | Vin=230VAC | 3~7% |
| REG-o | Load Regulation | | 112~132% |
| OVP | Over Voltage Protection | | 110~150% |
| OCP | Over Current Protection | | 4mS (max.) |
| Ttr | Time of Transient Response | Io=Full Load to Half Load, Vin=100VAC | 16mS (min.) |
| Th | Hold-Up Time | Io=Full Load, Vin=110VAC | 0.3~2S |
| Ts | Start Up Time | Io=Full Load, Vin=100VAC | 1% (max.) |
| Vp-p | Ripple & Noise(Peak to Peak) | Full Load, Vin=90VAC | 0.25mA (typ.) |
| Ilk | Safety Ground Leakage Current | Vin=240VAC/60Hz | ±0.04%/°C |
| TC | Temperature Coefficient | All output | Up to 3000m |
| OA | Operating Altitude | | See rating chart |
| Pno | No-Load Power Consumption | No load, Vin=230VAC | 6321VDC (min.) |
| Vps | Dielectric Withstanding Voltage | Primary to secondary | 2121VDC (min.) |
| Vpg | Dielectric Withstanding Voltage for Primary to PE | Primary to PE | 50MΩ (min.) |
| Ris | Isolation Resistance | Test Voltage=500VDC | |

Note: The Ripple & Noise which is under 3.3VDC at 2% max.

Environmental

| | | |
|------|---|--------------------|
| To | Operating Temperature | See derating curve |
| Ts | Storage Temperature | -40~85°C |
| Ho | Operating Humidity | 0~95% |
| Hr | Storage Humidity | 0~95% |
| MTBF | Operating Temperature at 25°C, Calculated per MIL-HDBK-217F | 0.1M Hrs (min.) |
| Pd | Derate linearly from 100% load at 50°C to 50% load at 70°C | |

Application:

- Blood Pressure system
- Portable medical devices
- ECG machine

Safety Approvals:

UL US CB CE



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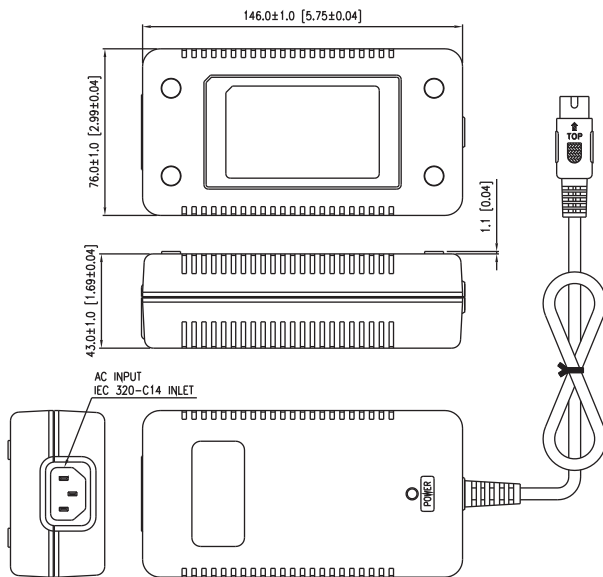
Output Voltage And Current Rating Chart (Single Output) :

| Model Number | Output Voltage | Output Current | Total Regulation | Max. Output Power | Pno (max.) |
|--------------|----------------|----------------|------------------|-------------------|------------|
| TPMPU51-101 | 3 ~ 5 VDC | 10.0 ~ 8.00 A | 5% | 40W | 2W |
| TPMPU51-102 | 5 ~ 6 VDC | 8.00 ~ 6.66 A | 5% | 40W | 2W |
| TPMPU51-103 | 6 ~ 8 VDC | 7.00 ~ 5.25 A | 5% | 42W | 3W |
| TPMPU51-104 | 8 ~ 11 VDC | 5.63 ~ 4.00 A | 4% | 45W | 3W |
| TPMPU51-105 | 11 ~ 13 VDC | 4.00 ~ 3.46 A | 3% | 45W | 3W |
| TPMPU51-106 | 13 ~ 16 VDC | 3.46 ~ 2.81 A | 3% | 45W | 3W |
| TPMPU51-107 | 16 ~ 21 VDC | 3.12 ~ 2.38 A | 3% | 50W | 3W |
| TPMPU51-108 | 21 ~ 27 VDC | 2.30 ~ 1.85 A | 2% | 50W | 4W |
| TPMPU51-109 | 27 ~ 33 VDC | 1.85 ~ 1.51 A | 2% | 50W | 4W |
| TPMPU51-110 | 33 ~ 40 VDC | 1.51 ~ 1.25 A | 2% | 50W | 5W |
| TPMPU51-111 | 40 ~ 50 VDC | 1.25 ~ 1.00 A | 2% | 50W | 6W |

Output Voltage And Current Rating Chart (Multi Output) :

| Model Number | Output #1 | | | | Output #2 | | | | Output #3 | | | | Max. Output Power | Pno (max.) |
|--------------|-----------|-------|-------|--------|-----------|-------|-------|--------|-----------|-------|-------|--------|-------------------|------------|
| | Vonom | Iomin | Iomax | Regmax | Vonom | Iomin | Iomax | Regmax | Vonom | Iomin | Iomax | Regmax | | |
| TPMPU51-200 | +3.3V | 0.5A | 5A | 7% | +12V | 0.2A | 2A | 5% | | | | | 40W | 4W |
| TPMPU51-201 | +5V | 0.5A | 5A | 5% | +12V | 0.2A | 2A | 5% | | | | | 42W | 4W |
| TPMPU51-202 | +5V | 0.5A | 5A | 5% | +15V | 0.15A | 1.5A | 6% | | | | | 42W | 4W |
| TPMPU51-203 | +5V | 0.5A | 5A | 5% | +24V | 0.1A | 1A | 5% | | | | | 42W | 4W |
| TPMPU51-204 | +3.3V | 0.5A | 5A | 7% | +5V | 0.2A | 2A | 5% | | | | | 26.5W | 3W |
| TPMPU51-209 | +12V | 0.3A | 3A | 5% | | | | | -12V | 0A | 1A | 5% | 42W | 4W |
| TPMPU51-210 | +15V | 0.2A | 2A | 5% | | | | | -15V | 0.1A | 1A | 5% | 42W | 4W |
| TPMPU51-300 | +3.3V | 0.5A | 5A | 7% | +12V | 0.4A | 2A | 5% | -12V | 0.1A | 0.8A | 5% | 42W | 5W |
| TPMPU51-301 | +5V | 0.5A | 5A | 5% | +12V | 0.2A | 2A | 5% | -5V | 0A | 0.8A | 5% | 42W | 4W |
| TPMPU51-302 | +5V | 0.5A | 5A | 5% | +12V | 0.2A | 2A | 5% | -12V | 0.1A | 0.8A | 5% | 42W | 4W |
| TPMPU51-303 | +5V | 0.5A | 5A | 5% | +15V | 0.4A | 2A | 6% | -15V | 0.1A | 0.8A | 5% | 42W | 4W |
| TPMPU51-304 | +5V | 0.5A | 5A | 5% | +24V | 0.2A | 1A | 5% | -24V | 0A | 0.5A | 5% | 42W | 6W |
| TPMPU51-305 | +5V | 0.5A | 5A | 5% | +24V | 0.1A | 1A | 5% | -12V | 0A | 0.8A | 5% | 42W | 5W |
| TPMPU51-306 | +3.3V | 0.5A | 5A | 7% | +12V | 0.4A | 2A | 5% | -5V | 0.1A | 0.8A | 5% | 42W | 5W |

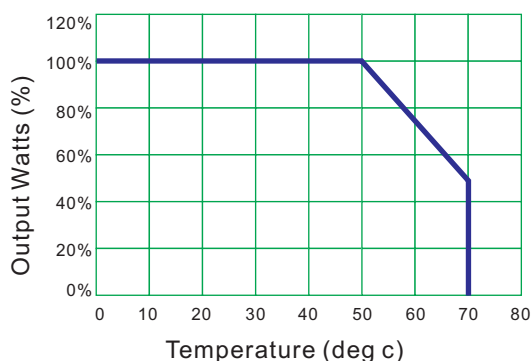
Mechanical Specifications:



Note:

1. Dimensions are shown in mm.
2. Weight: 510~560gs approx.
3. Optional output connector:
See page Appendix.

Derating Curve :



1. Operating Temperature: 0 to 70°C
2. Derate linearly from 100% load at 50°C to 50% load at 70°C

