TRUMPower

TMC100 Series

100 Watts Medical & ITE Switching Power Supplies

FEATURES

- Compact Size 2" x 4" x 1.26"
- Ultra High Power Density 10W/cubic inch
- 90~132 VAC or 180~264 VAC Full Range Input
- Low Earth Leakage Current
- Conducted EMI Class B



INPUT SPECIFICATIONS

Input Voltage Range ..... 90~132 VAC or 180~264 VAC
Input Frequency ..... 47~63Hz
Input Current ..... 1.9A rms @ 100~120 VAC
1.1A rms @ 200~240 VAC
Inrush Current ..... 40A @ 115 VAC or 80A @ 230 VAC, at 25°C cold start
Earth Leakage Current ..... 150µA max. @ 264 VAC, 63Hz

OUTPUT SPECIFICATIONS

Output Voltage/Current ..... See models list
Tolerance ..... ±2%
Minimum Load ..... Not required
Ripple and Noise* ..... 150mV peak to peak on 5V model; 1% peak to peak on other models
Overvoltage Protection ..... Provided on output; set at 110-140% of its nominal output voltage
Overcurrent Protection ..... All outputs protected to short-circuit conditions
Temperature Coefficient ..... ±0.04%/°C max.
Transient Response ..... Max. excursion of 4% or better on all models, recovering to 1% of final value within 500µs after a 25% step load change

* Measured with 20MHz bandwidth at rated line voltage and output load ranges, with a 10µF tantalum capacitor in parallel with a 0.1µF ceramic capacitor across the output.

GENERAL SPECIFICATIONS

Switching Frequency 100KHz
Efficiency ..... 88~90% @ 230 VAC full load
Hold-up Time ..... 12ms minimum at 110 VAC
Line Regulation ..... ±0.2% max. at full load
Operating Temperature ..... -10°C to +70°C
Derating ..... Derate from 100% at +50°C linearly to 50% at +70°C
Cooling ..... Convection
Storage Temperature ..... -40°C to +85°C
Relative Humidity ..... 5% to 95% non-condensing
Withstand Voltage ..... 4000 VAC from input to output
1500 VAC from input to ground
500 VAC from output to ground
MTBF ..... 270K hours minimum at full load, 25°C ambient, calculated per MIL-HDBK-217F

MODELS LIST

Product No.	Output Voltage	Max. Current	Max. Output Power
TMC100-S05	5V	20A	100W
TMC100-S12	12V	8.34A	100W
TMC100-S15	15V	6.7A	100W
TMC100-S18	18V	5.56A	100W
TMC100-S24	24V	4.2A	100W
TMC100-S28	28V	3.58A	100W
TMC100-S36	36V	2.78A	100W
TMC100-S48	48V	2.1A	100W

Notes: 1. Safety approvals are for PCB form only.
2. Add suffix "C" to order unit with cover fitted, e.g. TMC100-S18C, etc.

STANDARDS & COMPLIANCES

EN55011, EN55022 ..... Class B conducted and radiated
FCC ..... Class B conducted and radiated
VCCI ..... Class B conducted and radiated
EN 61000-3-2 ..... Harmonic distortion, Class A
EN 61000-3-3 ..... Line flicker
EN 61000-4-2 ..... ESD, ±8 KV air and ±6 KV contact
EN 61000-4-3 ..... Radiated immunity, 3V/m
EN 61000-4-4 ..... Fast transient/burst, ±2 KV
EN 61000-4-5 ..... Surge, ±1 KV diff., ±2 KV com.
EN 61000-4-6 ..... Conducted immunity, 3 Vrms
EN 61000-4-8 ..... Magnetic field immunity, 3A/m
EN 61000-4-11 ..... Voltage dip immunity, 30% reduction for 500ms (criteria A @ 230 VAC, criteria B @ 100 VAC), 60% reduction for 100ms (criteria B), >95% reduction for 10ms (criteria A)
Safety Standards ..... UL 60601-1, EN 60601-1, CSA C22.2 No. 601.1, UL 60950-1, EN 60950-1, CSA C22.2 No. 60950-1
Agency Approvals ..... UL, cUL, TUV, CE, CB
Other Compliances ..... RoHS

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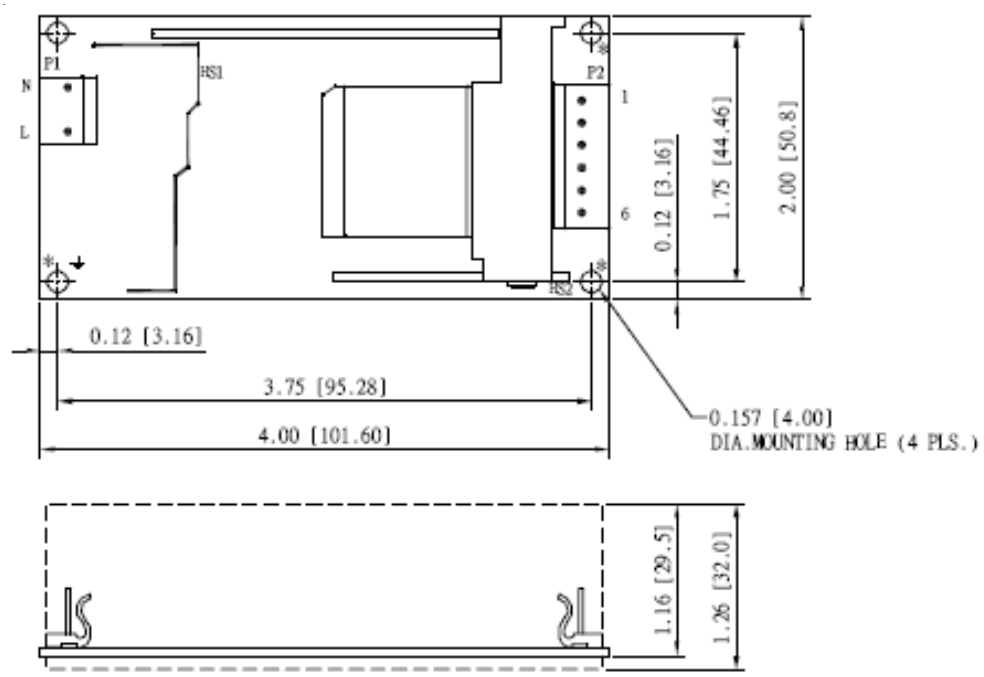
MECHANICAL SPECIFICATIONS



NOTES:

1. Dimensions: inches [mm]
2. Tolerance: 0.02 [0.5] maximum
3. Connector P1: Molex header 09-65-2038 or equivalent, mating with Molex housing 09-50-1031 or equivalent.
4. Connector P2: Molex header 09-65-2068 or equivalent, mating with Molex header 09-50-1061 or equivalent.
5. To ensure compliance with level B emissions, connect the three marked mounting holes (*) with metallic standoffs to chassis.
6. Weight: 190 grams (0.44 lbs.) approx.

CONNECTOR

DC OUTPUT CONNECTOR	
PIN	**FUNCTION**
1	RETURN
2	RETURN
3	RETURN
4	+V1
5	+V1
6	+V1

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