TGM250 Series
Medical & ITE Grade 250 Watts GaN Power Adapters

FEATURES

- GaN FET Based Compact Design
- 50% Size Reduction with 11 W/in³ Power Density
- 91-93% Average Efficiency
- Compliant with DoE Level VI
- C14 (Class I) & C18 (Class II), 2 X MOPP
- IEC/UL/CSA 60601-1, 60601-1-11 & 62368-1 Approved
- Class II Certified for Use in Home Healthcare Environment

INPUT SPECIFICATIONS

- Input Voltage Range ............ 100-240 VAC
- Input Frequency ................... 50-60 Hz
- Input Current ........................3.5A max. @ 100 VAC/240 VAC
- Inrush Current ......................120A max. @ full load,
                                  ............................................ at 25°C cold start
- Touch Current ......................100 µA max. @ 264 VAC
- Leakage Current ..................250 µA max. @ 264 VAC

OUTPUT SPECIFICATIONS

- Output Power Ratings .........See models list
- No Load Power Cons. ..........0.21W typical
- Line Regulation ....................±0.5% max.
- Load Regulation ....................±5% max.
- Ripple and Noise* ...............1% Vp-p max. of output @ full load
- Over Voltage Protection .......Set @ 150%; Latch off
- Over Current Protection .......Set @ 170%; Auto-recovery
- Short Circuit Protection .......Shut down; Auto-recovery
- Thermal Shutdown .............. Protected to over-temp. conditions
- Temperature Coefficient......±0.04%/°C max.
- Transient Response ..............0.5 ms for 50% load change typical

GENERAL SPECIFICATIONS

- Power Factor ......................>0.90 typical @ full load
- Efficiency .........................88% min. @ full load
- Switching Frequency ..........250 KHz.
- Hold-Up Time ......................10 ms min. @ full load
- Operating Altitude ..............5,000 meters max.
- Operating Temperature .........0°C to +40°C
- Derating ......................Derate from 100% at +40°C linearly
                              to 50% at +60°C
- Storage Temperature ..........-20°C to +80°C
- Operating Humidity ..........20% to 80%, non-condensing
- Storage Humidity ..............10% to 90%, non-condensing
- Withstand Voltage ..............4,000 VAC, input to output (2 MOPP)
                              1,500 VAC, input to ground (1 MOPP)
- MTBF ..........................300,000 hours minimum at full load,
                              25°C ambient, calculated per Telcordia SR-332

MODELS LIST

<table>
<thead>
<tr>
<th>Product No. (1)</th>
<th>Output Voltage</th>
<th>Maximum Output Current</th>
<th>Maximum Output Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>TGM250-12</td>
<td>12V</td>
<td>19A</td>
<td>228W</td>
</tr>
<tr>
<td>TGM250-19</td>
<td>19V</td>
<td>13.2A</td>
<td>250W</td>
</tr>
<tr>
<td>TGM250-24</td>
<td>24V</td>
<td>10.4A</td>
<td>250W</td>
</tr>
<tr>
<td>TGM250-48</td>
<td>48V</td>
<td>5.2A</td>
<td>250W</td>
</tr>
<tr>
<td>TGM250-56</td>
<td>56V</td>
<td>4.48A</td>
<td>250W</td>
</tr>
</tbody>
</table>

Note: 1) Add suffix "-4" to the P/N for models come with IEC 320/C14 AC inlet, "-F" for IEC 320/C18 inlet, e.g. TGM250-12-4, TGM250-12-F, etc.

STANDARDS & COMPLIANCE

IEC/EN 60601-1-2 Ed. 4.0. EMC & Immunity Performance
EN 55011, 55024, 55032 .. Class B, conducted & radiated
FCC, VCCI ...................... Harmonic distortion, Class A & D
EN 61000-3-3 .................... Line flicker
EN 61000-4-2 .................... ESD, ±15 KV air and ±8 KV contact
EN 61000-4-3 .................... Radiated immunity, 10 V/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, 10 Vrms
EN 61000-4-8 .................... Magnetic field immunity, 30 A/m
EN 61000-4-11 ................... Voltage dips,
                               30% reduction for 500ms,
                               60% reduction for 100ms,
                               >95% reduction for 10ms

Safety Standards ............... IEC 60601-1 (Ed. 3.1),
                              ANSI/AMI ES 60601-1-2012,
                              CAN/CSA-C22.2 No. 60601-1-14,
                              IEC/EN/UL 62368-1 (2nd. Ed.);
                              For Class II only:
                              IEC/EN 60601-1-6:2015,
                              CAN/CSA-C22.2 60601-1-6:11,
                              IEC 60601-1:11:2015,
                              ANSI/AMI/HA60601-1-11:2015,
                              CAN/CSA-C22.2 60601-11:2015

Agency Approvals .............. UL, cUL, TUV/GS, PSE, CE, CB
Other Compliance .............. RoHS, Energy Star 2.0, ErP Stage 2,
                              DoE Level VI, CoC Tier 2, NRCan &
                              GEMS Level VI

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## MECHANICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>12V Output</th>
<th>19V-56V Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1(+)</td>
<td>P1(+)</td>
</tr>
<tr>
<td>P2(+)</td>
<td>P4(-)</td>
</tr>
<tr>
<td>P3(+)</td>
<td>P5(-)</td>
</tr>
<tr>
<td>P4(-)</td>
<td>P6(-)</td>
</tr>
</tbody>
</table>

Notes:
1. Unit: mm
2. Weight: ~855 grams approx.
4. Mating connector: Molex P/N: 39-01-2066 with male terminal #5558, #5566, #5569 or equivalent.
5. Length of output cable: 1200mm

![C14 Inlet (Class I)](image1)
![C18 Inlet (Class II)](image2)