Versatile Through-Hole Planar Transformers

FEATURES
- Higher power density levels versus traditional planar designs
- Designed to meet MIL-PRF-27 requirements
- Minimal board area footprint
- Easily customized to meet design-specific requirements
- Operating frequencies from 100 kHz to 500 kHz
- Split primary design to allow for efficient 120 V or 380 V operation
- Overmolded windings for ruggedized applications
- Minimal parasitic variation
- Operating temperature range -55 °C to +130 °C, power derating above 105 °C
- MTPL design; PATENT(S): www.vishay.com/patents

APPLICATIONS
- Off-line and PFC-derived switchmode power supplies
- Full-bridge / half-bridge converters from 150 W to 300 W
- Industrial control, and alternative energy applications
- Markets include avionics, industrial, military, and medical

ABSOLUTE MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>LIMITS</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dielectric withstand voltage</td>
<td>Pri - sec, 5 s</td>
<td>1500</td>
<td>V AC</td>
</tr>
<tr>
<td></td>
<td>Sec - sec, 5 s</td>
<td>500</td>
<td>V AC</td>
</tr>
<tr>
<td>Total power dissipation (1)</td>
<td>T_A = 105 °C</td>
<td>3</td>
<td>W</td>
</tr>
<tr>
<td>Power</td>
<td></td>
<td>150 to 300</td>
<td>W</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>Continuous</td>
<td>-55 to +130</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>Continuous</td>
<td>-65 to +155</td>
<td>°C</td>
</tr>
<tr>
<td>Frequency</td>
<td></td>
<td>100 to 500</td>
<td>kHz</td>
</tr>
<tr>
<td>Size (L x W x H)</td>
<td></td>
<td>30 x 26 x 17</td>
<td>mm</td>
</tr>
<tr>
<td>Terminals</td>
<td></td>
<td>Through hole</td>
<td></td>
</tr>
</tbody>
</table>

Notes
(1) Derate per the graph for temperatures above 105 °C

STANDARD ELECTRICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>OUTPUT VOLTAGE (V)</th>
<th>MAGNETIZING INDUCTANCE MIN. (μH) (1)</th>
<th>MAGNETIZING INDUCTANCE MAX. (μH) (2)</th>
<th>LEAKAGE INDUCTANCE MAX. (μH) (2)</th>
<th>INTERWINDING CAPACITANCE MAX. (pF)</th>
<th>TRANSFER RATIO PRI : SEC</th>
<th>DCR (mΩ) (3)</th>
<th>RATED CURRENT (A) (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTPL-2516-S12V</td>
<td>12</td>
<td>450</td>
<td>1.70</td>
<td>120</td>
<td>0.176</td>
<td>23.0</td>
<td>20 to 4.5</td>
<td>8/11</td>
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<tr>
<td>MTPL-2516-S15V</td>
<td>15</td>
<td>450</td>
<td>2.00</td>
<td>120</td>
<td>0.214</td>
<td>28.0</td>
<td>12/12</td>
<td>16.25</td>
</tr>
<tr>
<td>MTPL-2516-S24V</td>
<td>24</td>
<td>450</td>
<td>1.30</td>
<td>120</td>
<td>0.333</td>
<td>23.0</td>
<td>25/25</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Notes
(1) 100 mV at 100 kHz, across 2.3 to 4.5
(2) 100 mV at 100 kHz across 2.3 to 4.5, short 7 through 12
(3) T_A = 25 °C
(4) Current rated for 40 °C temperature rise, secondaries in parallel
**DIMENSIONS** in inches

![Dimensions Diagram]

**TEMPERATURE RISE VS. POWER DISSIPATION (W)**

![Temperature Graph]

For 90 V to 270 V operation tie 2, 3, and 4.5. For 380 V operation, tie 3 and 4.
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