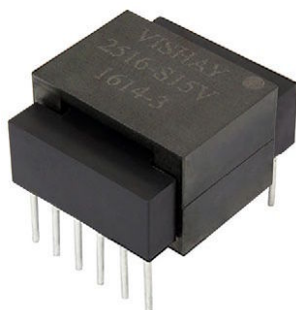


## Versatile Through-Hole Planar Transformers



### 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
- Patent pending

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

#### Note

<sup>(1)</sup> Derate per the graph for temperatures above 105 °C

| STANDARD ELECTRICAL SPECIFICATIONS |                    |                                                 |                                             |                                    |                          |                         |         |         |                                  |
|------------------------------------|--------------------|-------------------------------------------------|---------------------------------------------|------------------------------------|--------------------------|-------------------------|---------|---------|----------------------------------|
| PART NUMBER                        | OUTPUT VOLTAGE (V) | MAGNETIZING INDUCTANCE MIN. (μH) <sup>(1)</sup> | LEAKAGE INDUCTANCE MAX. (μH) <sup>(2)</sup> | INTERWINDING CAPACITANCE MAX. (pF) | TRANSFER RATIO PRI : SEC | DCR (mΩ) <sup>(3)</sup> |         |         | RATED CURRENT (A) <sup>(4)</sup> |
|                                    |                    |                                                 |                                             |                                    |                          | 2.3 to 4.5              | 12 to 8 | 11 to 7 |                                  |
| MTPL-2516-S12V                     | 12                 | 450                                             | 1.70                                        | 120                                | 0.176                    | 23.0                    | 8       | 8       | 22.0                             |
| MTPL-2516-S15V                     | 15                 | 450                                             | 2.00                                        | 120                                | 0.214                    | 28.0                    | 12      | 12      | 16.25                            |
| MTPL-2516-S24V                     | 24                 | 450                                             | 1.30                                        | 120                                | 0.333                    | 23.0                    | 25      | 25      | 12.5                             |

#### Notes

<sup>(1)</sup> 100 mV at 100 kHz, across 2.3 to 4.5

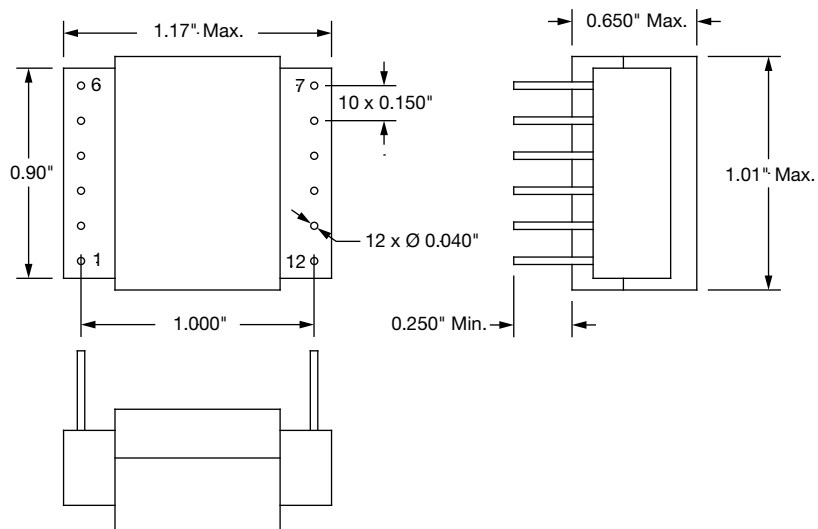
<sup>(2)</sup> 100 mV at 100 kHz across 2.3 to 4.5, short 7 through 12

<sup>(3)</sup> T<sub>A</sub> = 25 °C

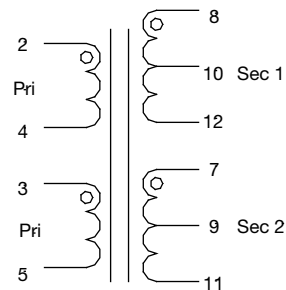
<sup>(4)</sup> Current rated for 40 °C temperature rise, secondaries in parallel



## DIMENSIONS in inches

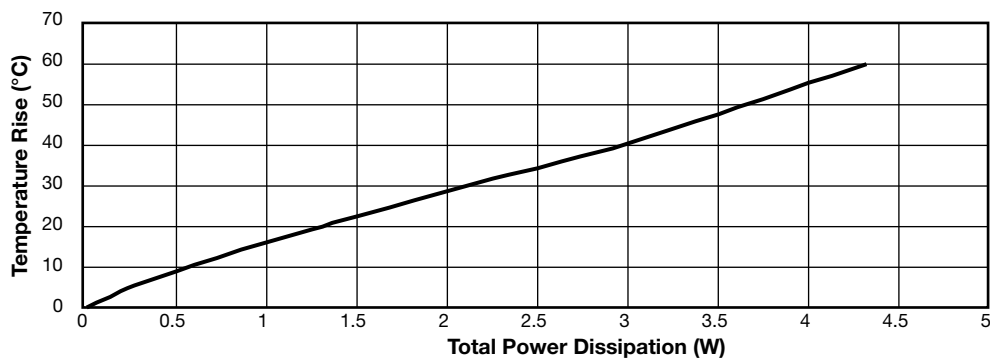


### Schematic



For 90 V to 270 V operation tie 2.3 and 4.5.  
For 380 V operation tie 3.4.

## TEMPERATURE RISE VS. POWER DISSIPATION (W)





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