

## Vishay Custom Magnetics

# **Versatile Through-Hole Planar Transformers**



ABSOLUTE MAXIMUM RATINGS										
PARAMETER	CONDITIONS	LIMITS	UNITS							
Dielectric withstand voltage	Pri - sec, 5 s	1500	V <sub>AC</sub>							
	Sec - sec; 5 s	500	$V_{AC}$							
Total power dissipation (1)	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

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

### **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

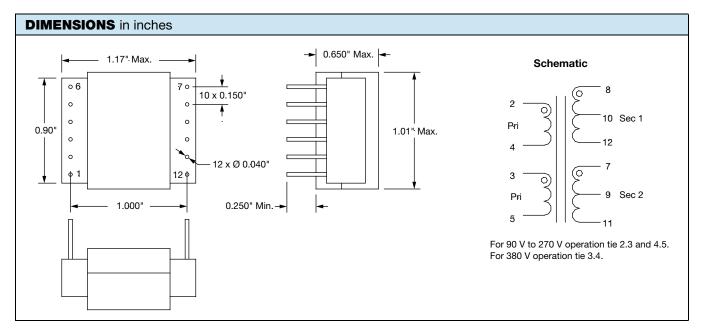
STANDARD ELECTRICAL SPECIFICATIONS										
PART NUMBER	OUTPUT VOLTAGE (V)	MAGNETIZING INDUCTANCE MIN. (μΗ) <sup>(1)</sup>	LEAKAGE INDUCTANCE MAX. (μΗ) <sup>(2)</sup>	INTERWINDING CAPACITANCE MAX. (pF)	TRANSFER RATIO PRI : SEC	DCR (m $\Omega$ ) <sup>(3)</sup>		(	RATED	
						2.3 to 4.5	12 to 8	11 to 7	CURRENT (A) <sup>(4)</sup>	
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	

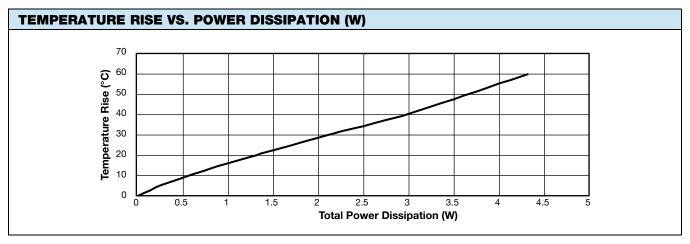
### Notes

- (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)  $T_A = 25 \, ^{\circ}C$
- (4) Current rated for 40 °C temperature rise, secondaries in parallel



# Vishay Custom Magnetics







# **Legal Disclaimer Notice**

Vishay

## **Disclaimer**

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.