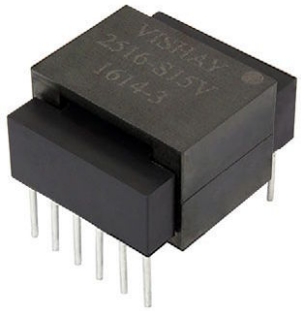
Versatile Through-Hole Planar Transformers



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_{AC}
	Sec - sec; 5 s	500	V_{AC}
Total power dissipation (1)	T_A = 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

STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	OUTPUT VOLTAGE (V)	MAGNETIZING INDUCTANCE MIN. (µH) (1)	LEAKAGE INDUCTANCE MAX. (µH) (2)	INTERWINDING CAPACITANCE MAX. (pF)	TRANSFER RATIO PRI : SEC	DCR (mΩ) (3)			RATED CURRENT (A) (4)
						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

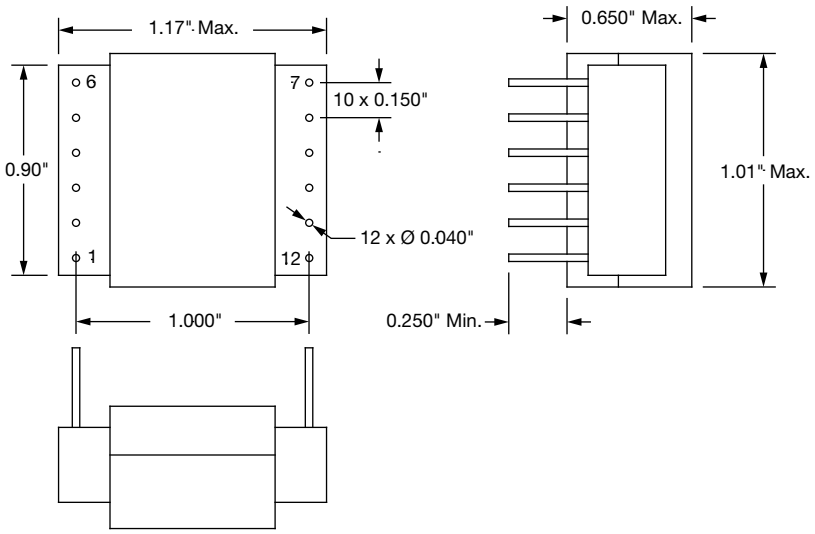
(1) 100 mV at 100 kHz, across 2.3 to 4.5

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

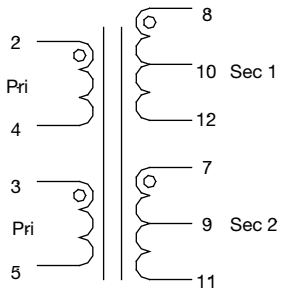
(3) T_A = 25 °C

(4) Current rated for 40 °C temperature rise, secondaries in parallel

DIMENSIONS in inches



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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