

### www.vishay.com

## Vishay Custom Magnetics

# **Space Grade Planar Transformers**



ABSOLUTE MAXIMUM RATINGS				
PARAMETER	CONDITIONS	LIMITS	UNITS	
Dielectric withstand	Pri - sec, 5 s	1500	$V_{AC}$	
voltage	Sec - sec; 5 s	500	$V_{AC}$	
Power (1)(2)		150	W	
Operating temperature (3)	Continuous	-55 to +130	°C	
Storage temperature	Continuous	-65 to +155	°C	
Frequency		80 to 300	kHz	
Mass		37	g	

#### **Notes**

- (1) Secondary current rated for 20 °C temperature rise
- (2) Derating dependent
- (3) Derated per total output power vs. temperature graph

#### **FEATURES**

- MIL-STD-981 class S compliant
- Higher power density levels versus traditional planar designs
- · Easily customized to meet design-specific requirements
  - Operating voltage
  - Inductance
  - Power
  - Package size customized height
  - Custom screening options available
- Operating frequencies from 80 kHz to 300 kHz
- · Over molded windings for ruggedized applications
- Operating temperature range -55 °C to +130 °C
- MIL-PRF-27 grade 5, temperature class S
- MIL-STD-981 family 03 power transformer
- MTPL design; PATENT(S): www.vishay.com/patents

#### **APPLICATIONS**

- High reliability Space Grade switch mode power supplies
- Flyback converters, forward converters

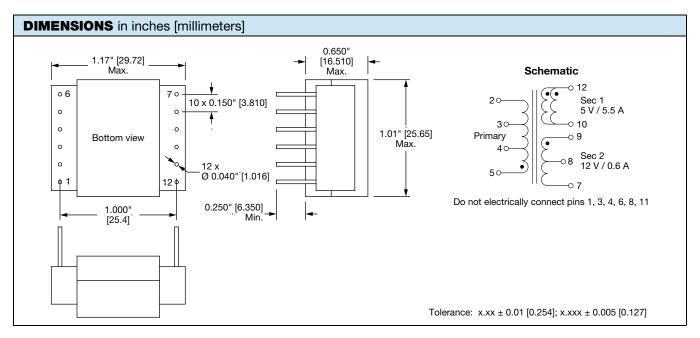
STANDARD ELECTRICAL SPECIFICATIONS (part number specific)												
DART NUMBER (1)	VOLTAGE SEC.	OUTPUTO		OPERATING FREQUENCY (kHz)	MAGNETIZING INDUCTANCE MIN. ± 10 % (μH) <sup>(2)</sup>	LEAKAGE	DCR (mΩ) <sup>(2)</sup>		TURNS	ОИТРИТ	POWER	
							PRI.	SEC.	SEC. 2	RATIO	POWER (W) <sup>(3)</sup>	POWER DISSIPATION (W)
SGTPL-2516-0001(P/S)	22 to 36	5 / 5.5	12 / 0.6	250	30	0.5	41	4.3	27	7.0 : 2.0 : 4.5	35	1.0

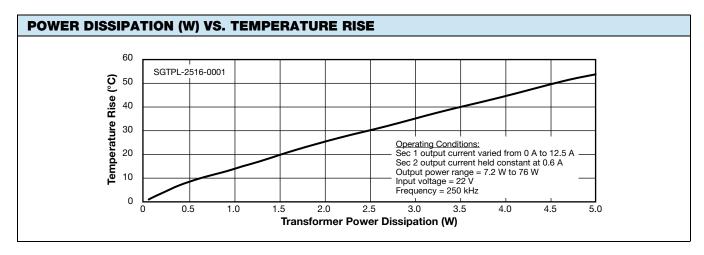
#### Notes

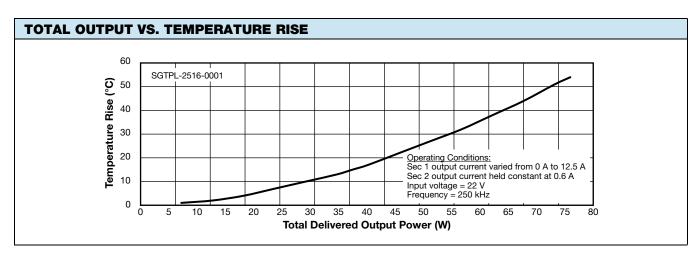
- (1) (P/S) = screening code; P = production level (EDU), S = MIL-STD-981, flight with full group A & B screening
- (2) Ratings at 25 °C ambient
- (3) Secondary current rated for 20 °C temperature rise
- (4) All parts screened to P level are intended for design validation testing only



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MIL-STD-981 COMPLIANCE: S VERSION PARTS ONLY				
Vibration	MIL-STD-202, test method 201			
Shock	Shock testing per MIL-STD-202, test method 213, test condition I			
Dielectric withstand voltage	MIL-STD-981 table VI, MIL-PRF-27 4.7.9.1, and MIL-STD-202, test method 301			
Insulation resistance	MIL-STD-981 table VI, MIL-PRF-27 4.7.11, and MIL-STD-202, test method 302 test condition B - 500 V <sub>DC</sub> , minimum resistance: 10 G $\Omega$			
Burn in	Per Mil-STD-981, 96 h at rated load and max. temperature			
Life test	Per MIL-STD 981			
Radiographic inspection	100 % of delivered lot			



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