

SIZE 125 Power Capacity 200 to 1400W

Description

The Payton **SIZE 125** provides a patented planar isolation solution (creepage and clearance of 8.0 mm) for low to medium power applications providing high efficiency, low EMI, excellent repeatability, low profile and weight with an operating temperature range of -40°C to +130°C.



U.S.A Patent No. 5010314
European Patent No. 0476114B1

1. Transformer Application

POWER CAPACITY	DIMENSIONS (mm)	TYPICAL WEIGHT	DIELECTRIC ISOLATION	OPERATING VOLTAGE	OPERATING CURRENT (RMS)
200W, forward at 150 kHz 1400W, full bridge at 1MHz	L = 40-80 W = 32 H = 8-30	50 gr.	Up to 5k Vrms	500 Vpeak max.	100 A max.

Typical efficiency: 97-99%

Recommended frequency range: 100 kHz – 2.5 MHz.

Topologies:

Full bridge; Half bridge; Push-Pull; Forward; Flyback; Boost; Buck; Resonant topologies (in order of preference).

Mounting Options: a. Horizontal b. Vertical c. SMT

2. Inductor Application

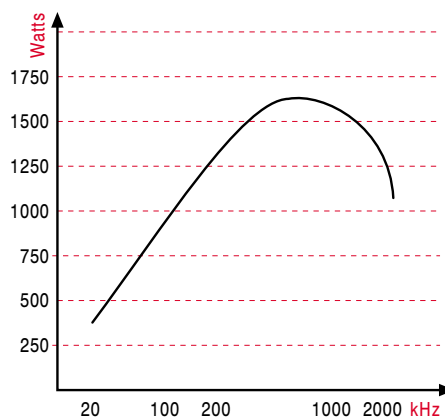
STANDARD A_L (nH/t ²)	1600	1000	630	400	315	160
TYPICAL VALUE OF MAX. Amper Turns	22	39	65	103	129	236

A_L values not listed are available upon request.

3. Typical Thermal Impedance For Different Cooling Conditions

NATURAL COOLING (Hot Spot - Air)	BLOWING AIR 3m/sec (Hot Spot - Air)	ONE SIDE HEATSINK (Hot Spot - Heatsink)	TWO SIDE HEATSINK (Hot Spot - Heatsink)
13°/W	8°/W	4°/W	2°/W

Power Capacity vs. Frequency*



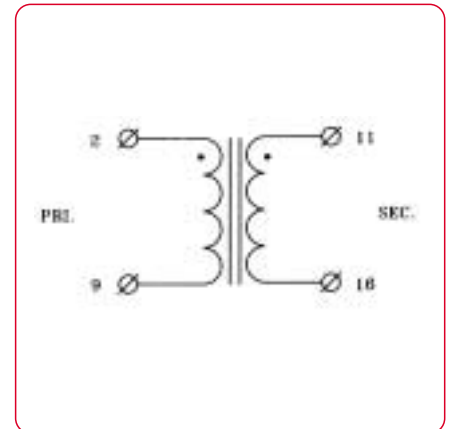
*For single output DC to DC full bridge transformer with turns ratio of 2.

EXAMPLE

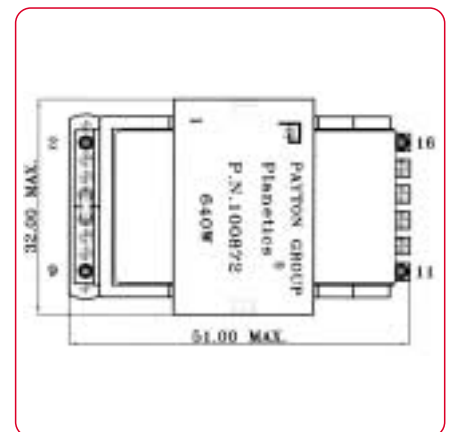
Transformer Type T125 AC P.N. 100872

This T125AC-14-6, high power, high frequency, small dimensional planar transformer is developed for a high power AC-DC converter and may be used in UPS applications, providing the following specifications:

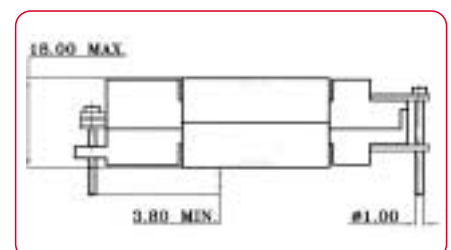
Transformer Specifications	
Total output power	640 W (51 Vdc/12.5 Adc)
Operating frequency	100 kHz
Input voltage range	140 - 250 Vdc
Topology	Full Bridge
Max. volt-Sec. product	1201 V- μ sec
Duty cycle	0.87 max.
Primary current	5.52 Arms max.
Primary to Sec. ratio (Sec. current, max - 11.66 Arms)	14 : 6
Dielectric strength pri. to sec. +core sec. to core	3750 Vrms 500 Vdc
Ambient temperature	-40°C to +85°C
Total losses (with 85°C heat sink)	7.5 W
Hot spot temperature (with 85°C heat sink)	115°C max.
Weight	70 gr.



ELECTRICAL DIAGRAM



TOP VIEW



SIDE VIEW

(All dimensions are given in mm.)