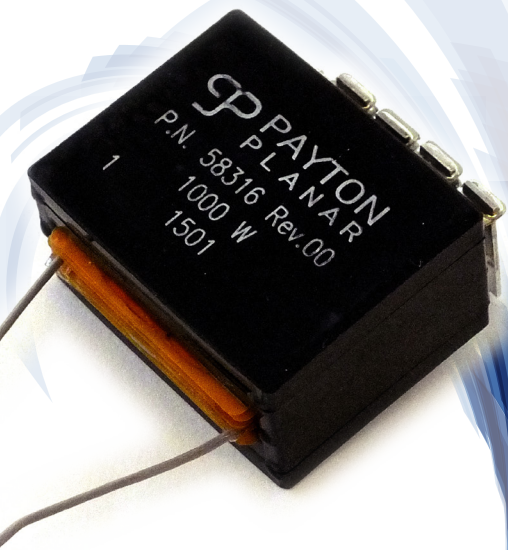


SIZE 541



Power Capacity 250W to 2.1kW



Description

Payton SIZE 541 provides planar solution for medium to high power applications such as providing high efficiency, low EMI, excellent repeatability, low profile and weight with an operating temperature range of -40°C to +130°C.

1. Transformer Application

POWER CAPACITY	DIMENSIONS (mm)	TYPICAL WEIGHT	DIELECTRIC ISOLATION	OPERATING VOLTAGE	OPERATING CURRENT (RMS)
250W, half bridge at 60 kHz 2.1kW, full bridge at 150 kHz	L=42-80 W=43 H= 10-38	90 gr.	Up to 4k Vrms	500 Vpeak max.	150 A max.

Typical efficiency: 97-99%

Recommended frequency range: 100 kHz – 1.0 MHz.

Topologies:

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

Mounting Options: a. Horizontal, b. Vertical

2. Inductor Application

STANDARD A_L (nH/t ²)	1600	1000	630	400	315	250	160
TYPICAL VALUE OF MAX. Amper Turns	37	64	122	163	206	270	385

A_L values not listed are available upon request.

3. Typical Thermal Impedance For Different Cooling Conditions

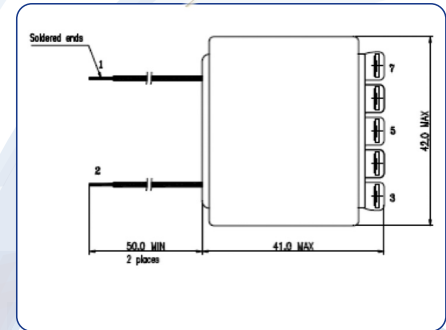
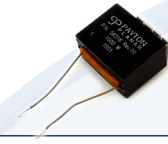
NATURAL COOLING (Hot Spot - Air)	BLOWING AIR 3m/sec (Hot Spot - Air)	ONE SIDE HEATSINK (Hot Spot - Heatsink)	TWO SIDES HEATSINK (Hot Spot - Heatsink)
12°C/W	6.5°C/W	3.6°C/W	1.8°C/W

Transformer Type T541 AC P.N. 516632

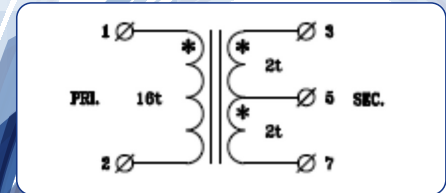
This T541AC-16-4C, high power, high input voltage, high frequency, small dimensional planar transformer is developed for a high power density DC-DC converter, providing the following specifications:

Transformer Specifications

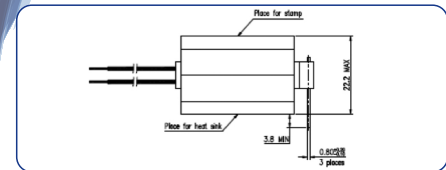
Total output power	1008 W (48Vdc @ 21Adc)
Operating frequency	250-500 kHz
Input voltage range	260 - 410 V.
Topology	Full bridge, LLC
Max. Volt-Sec. product	2X776V- μ Sec
Duty cycle	2x0.5
Primary current	3.5 Arms Sinusoidal
Sec. current	17.5Arms
Primary to Half Sec. ratio	16 : 2
Dielectric strength	
pri. to sec.+core	3000 Vdc
sec. to core	500 Vdc
Ambient temperature	-40°C to +85°C
Total losses	
(With 60°C heat sink)	8W
Hot spot temperature	
(With 60°C heat sink)	120°C
Weight	120 gr.



TOP VIEW



ELECTRICAL DIAGRAM



SIDE VIEW

(All dimensions are given in mm.)