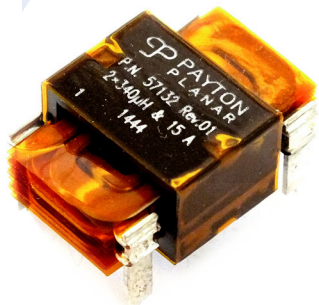


## SIZE 50

Power Capacity 50 to 400W



### Description

Payton SIZE 50 provides a planar solution for low to medium power applications (such as telecommunication) 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)
50W, forward at 150 kHz 400W, full bridge at 300 kHz	L=28-45 W=22 H=6-11	25 gr.	500 Vdc - 4k Vrms	400 Vpeak max.	50 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

### 2. Inductor Application

STANDARD $A_L$ (nH/t <sup>2</sup> )	1600	1000	630	400	315	250	160
TYPICAL VALUE OF MAX. Amper Turns	11	22	37	69	79	101	150

$A_L$  values not listed are available upon request.

### 3. Typical Thermal Impedance For Different Cooling Conditions

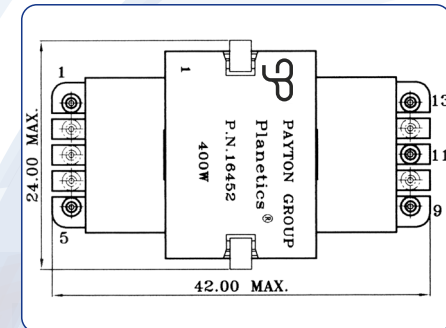
NATURAL COOLING (Hot Spot - Air)	BLOWING AIR 3m/sec (Hot Spot - Air)	ONE SIDE HEATSINK (Hot Spot - Heatsink)	TWO SIDES HEATSINK (Hot Spot - Heatsink)
23°C/W	13°C/W	7°C/W	3.5°C/W

## Transformer Type T50 DC P.N. 16452

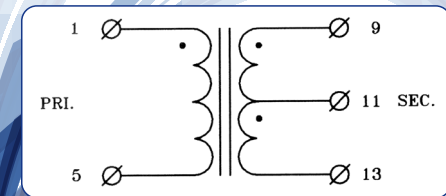
This T050DC-4-6C, medium power, high frequency, small dimensional planar transformer is developed for a high power density DC-DC converter, providing the following specifications:

### Transformer Specifications

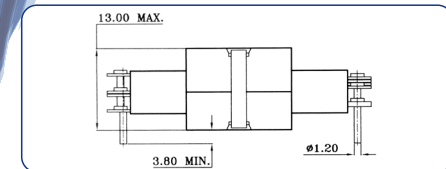
Total output power	400 W (28 Vdc/14.3 Adc)
Operating frequency	200 kHz
Input voltage range	38.3 - 60 Vdc
Topology	Full Bridge
Max. Volt-Sec. product	141.8 V- $\mu$ Sec
Duty cycle	2*0.375
Primary current	13.58 Arms max.
Primary to half Sec. 1 ratio (sec. current, max - 11.27 Arms)	4 : 3
Dielectric strength pri. to sec.+core sec. to core	500 Vrms
Ambient temperature	80°C
Total losses (With 70°C heat sink)	4.2W
Hot spot temperature (With 70°C heat sink)	105°C max.
Weight	25 gr.



TOP VIEW



ELECTRICAL DIAGRAM



SIDE VIEW

(All dimensions are given in mm.)