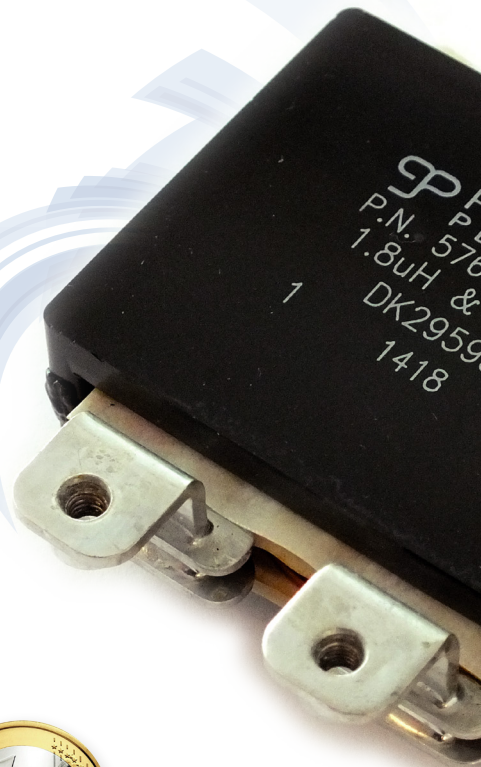


## SIZE 564

Power Capacity 1.8 to 7.5 kW



### Description

Payton SIZE 564 provides planar solution for high power applications (such as welding, induction heating etc.) 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)
1.8kW, full bridge w. current doubler at 100 kHz	L = 55-110 W = 65-90	500 gr.	Up to 4k Vrms	1000 Vpeak max.	800 A max.
7.5kW, full bridge at 250 kHz	H = 15-45				

Typical efficiency: 97-99%

Recommended frequency range: 50 kHz – 2.0 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 <sup>2</sup> )	1600	1000	630	400	315	250	160
TYPICAL VALUE OF MAX. Amper Turns	102	157	272	410	485	620	757

$A_L$  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)
5.2°C/W	3.1°C/W	2°C/W	1°C/W

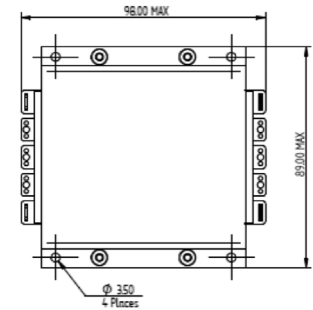


## Transformer Type T564 P.N. 513508

This T564DC-10-13, high power, high input voltage, small dimensional planar transformer is developed for a high power density DC-DC converter, providing the following specifications:

### Transformer Specifications

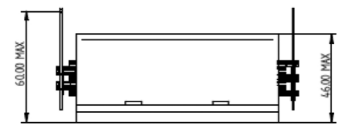
Total output power	7500W (250Vdc@30Adc - 430Vdc@17.4Adc)
Operating frequency	70 kHz
Input voltage range	375 - 480 V
Topology	Full bridge, ZVS.
Max. Volt-Sec. product	4734V- $\mu$ sec
Duty cycle	0.888
Primary current	42.3-24.6 Arms
Primary to Sec. ratio	10 : 13
Dielectric strength pri. to sec.+core	2700 Vdc
sec. to core	2700 Vdc
Ambient temperature	-40°C to +105°C
Total losses (With 75°C heat sink)	60W
Hot spot temperature (With 75°C heat sink)	135°C
Weight	600 gr.



TOP VIEW



ELECTRICAL DIAGRAM



SIDE VIEW

(All dimensions are given in mm.)