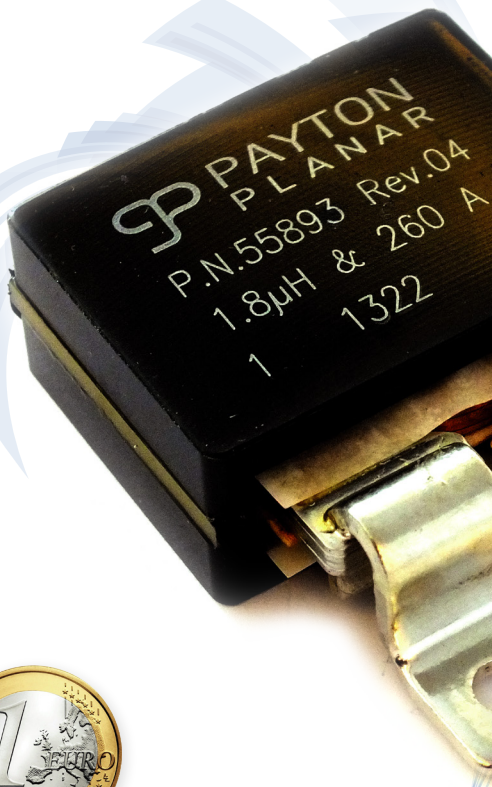


## SIZE 551



Power Capacity 500W to 3.5kW



### Description

Payton SIZE 551 provides planar solution for 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)
500W, Push-Pull at 100 kHz 3.5kW, full bridge at 250 kHz	L = 52-95 W = 53-78 H = 13-30	200 gr.	Up to 4k Vrms	700 Vpeak max.	150 A max.

Typical efficiency: 97-99%

Recommended frequency range: 80 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 <sup>2</sup> )	1600	1000	630	400	315	250	160
TYPICAL VALUE OF MAX. Amper Turns	58	100	180	268	333	420	586

$A_L$  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)
7°C/W	4°C/W	2.6°C/W	1.3°C/W

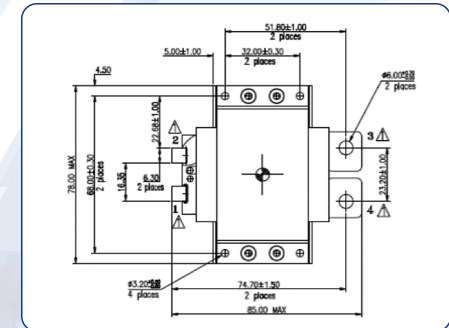


## Transformer Type T551 AC P.N. 513696

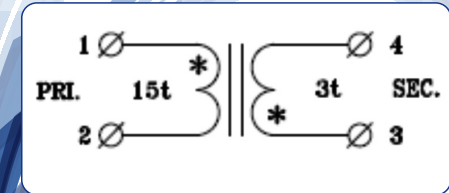
This T551DC-15-3, high power, high input voltage, small dimensional planar transformer is developed for a high power density DC-DC converter, providing the following specifications:

### Transformer Specifications

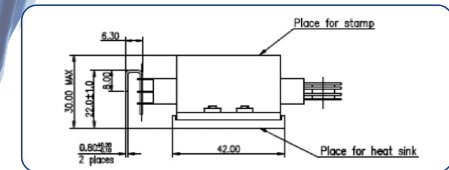
Total output power	2596 W (16 Vdc@156 Adc)
Operating frequency	72 kHz
Input voltage range	195 - 435V
Topology	Full bridge ZVS, with current doubler
Volt-Sec. product	2252V- $\mu$ Sec
Operating Duty cycle	0.84
Primary current (for 92% power supply effic.)	19.3 Arms
Sec. current	90 Arms
Primary to Sec. ratio (sec. current - 118 Arms)	15 : 3
Dielectric strength pri. to sec.+core	2700 Vdc
sec. to core	2700 Vdc
Ambient temperature	-40°C to +105°C
Total losses (With 65°C heat sink)	38W
Hot spot temperature (With 65°C heat sink)	145°C
Weight	350 gr.



TOP VIEW



ELECTRICAL DIAGRAM



SIDE VIEW

(All dimensions are given in mm.)