

SIZE 80

Power Capacity 200 to 1000W



Description

Payton SIZE 80 provides a planar solution for medium 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)
200W, forward at 150 kHz 1000W, full bridge at 1 MHz	L=36-48 W=34 H=8-14	45 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

2. Inductor Application

STANDARD A_L (nH/t ²)	1600	1000	630	400	315	160
TYPICAL VALUE OF MAX. Amper Turns	15	30	50	85	103	206

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)
16°C/W	10°C/W	5°C/W	2.5°C/W

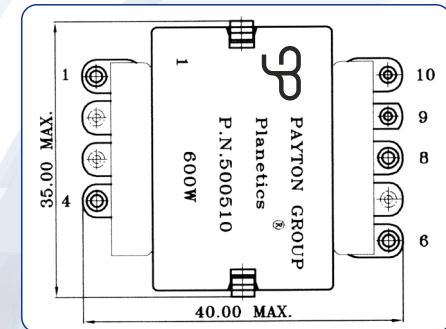


Transformer Type T80 AC P.N. 500510

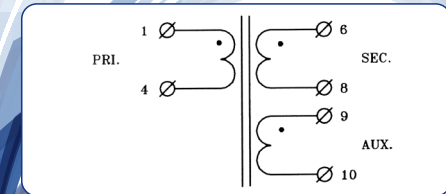
This T080DC-3-2-1, medium power, high frequency, small dimensional planar transformer is developed for a high power density DC-DC converter and may be used in UPS applications, providing the following specifications:

Transformer Specifications

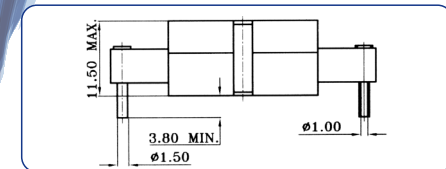
Total output power	600 W (12V/50A; 12V/0.05A)
Operating frequency range	200 kHz
Input voltage range	45 - 55 V
Topology	Full Bridge, ZVT with current doubler
Max. Volt-Sec. product	0.809
Duty cycle	181.5 V- μ Sec
Primary current	18.36 Arms (18.36 Apeak)
Primary inductance	48 μ H \pm 30%
Primary Leakage inductance, max.	100nH
Primary to Sec. ratio	3 : 2
Primary to Aux. ratio	3 : 1
Dielectric strength	
pri. + aux. to sec.	1500 Vdc
pri. + aux. + sec. to core	750 Vdc
Ambient temperature	-40°C to +60°C
Total losses	
(With 1.5 m/sec. blowing air)	4.8 W
Hot spot temperature	
(With 1.5 m/sec. blowing air)	115°C max.
Weight	45 gr.



TOP VIEW



ELECTRICAL DIAGRAM



SIDE VIEW

(All dimensions are given in mm.)