



Description

Payton SIZE 14 provides a planar solution for low 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	. Transformer Application							
POWER CAPACITY	DIMENSIONS (mm)	TYPICAL WEIGHT	DIELECTRIC ISOLATION	OPERATING VOLTAGE	OPERATING CURRENT (RMS)			
5W, flyback at 100 kHz 15W, forward at 500 kHz	L=15-20 W=15 H=5-7	5 gr.	Up to 750 Vrms	100 Vpeak max.	10 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/t²)	630	400	315	160	100	63
TYPICAL VALUE OF MAX. Amper Turns	5	9.5	12.5	31	45	88

A_I values not listed are available upon request.

3. Typical Thermal Impedance For Different Cooling Conditions

NATURAL COOLING	BLOWING AIR 3m/sec	ONE SIDE HEATSINK	TWO SIDES HEATSINK
(Hot Spot - Air)	(Hot Spot - Air)	(Hot Spot - Heatsink)	(Hot Spot - Heatsink)
65°C/W	40°C/W	20°C/W	



Inductor Type I14 P.N. 16728

This $I14-50\mu H/1.5A$, high frequency, small dimensional planar inductor is developed for a high power density DC-DC converter, providing the following specifications:

Inductor Specifications

Inductance L

Operating frequency

DC current

Peak of ripple current

Peak of total current

Dielectric strength

Ambient temperature

Total losses (Natural cooling)

Hot spot temperature (Natural cooling)

Weight

 $50~\mu H \pm 10\%$

175-225 kHz

1.5 Adc max.

0.15 Apeak max.

1.65 Apeak max.

500 Vdc

 -10° C to $+50^{\circ}$ C

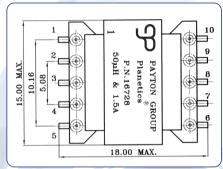
0.4 W

75°C max.

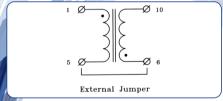
3.5 gr.



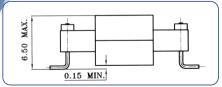








ELECTRICAL DIAGRAM



SIDE VIEW

(All dimensions are given in mm.)