

SIZE 40 Power Capacity 25 to 140W



Payton SIZE 40 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 $+130^{\circ}$ C.

1. Transformer Application						
POWER CAPACITY	DIMENSIONS		DIELECTRIC	OPERATING	OPERATING	
	(mm)	WEIGHT	ISOLATION	VOLTAGE	CURRENT (RMS)	
30W, flyback at 100 kHz 140W, forward at 350 kHz	L = 19-27 W = 20	10-14 gr.	Up to 1000 Vrms	150 Vpeak max.	25 A max.	
	H=6-12					

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)	1000	630	400	315	160	100
TYPICAL VALUE OF MAX. Amper Turns	10	18	30	40	82	124

 ${\rm A}_{\rm L}$ 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)
36°C/W	21°C/W	14°C/W	7°C/W



EXAMPLE



Inductor Type I40 P.N. 18822

This I40-2.4 μ H/20A, high frequency, small dimensional planar inductor is develped for a high power density DC-DC converter, providing the following specifications:

Inductor Specifications

Inductance L	$2.4~\mu\text{H}\pm10\%$
Operating frequency	100-400 kHz
DC current	20 Adc max.
Peak of ripple current	2 Apeak max.
Peak of total current	22 Apeak max.
Dielectric strength	500 Vdc
Ambient operating temperature	-10°C to +50°C
Total losses (Natural cooling)	1.0 W
Hot spot temperature (Natural cooling)	85°C max.
Weight	11 gr.

