SIZE 500

RoHS compliant

Power Capacity 500 W to 5 kW

U.S.A Patent No. 5010314
European Patent No. 0476114B1

Description

CoilMaster SIZE 500 provides a patented planar isolation solution for high power applications providing high efficiency, low EMI, excellent repeatability, low profile and weight with an operating temperature range of -40℃ to +130℃

1. Transformer Application					
POWER CAPACITY	DIMENSION (mm)	TYPICAL WEIGHT	DIELECTRIC ISOLATION	OPERATING VOLTAGE	OPERATING CURRENT (RMS)
500 W, forward at 50 kHz 5 kW, full bridge at 200 kHz	L=80~120 W=60~90 H=10~30	400 gr.	500 Vdc - 4k Vrms	700 Vpeak Max.	200 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).

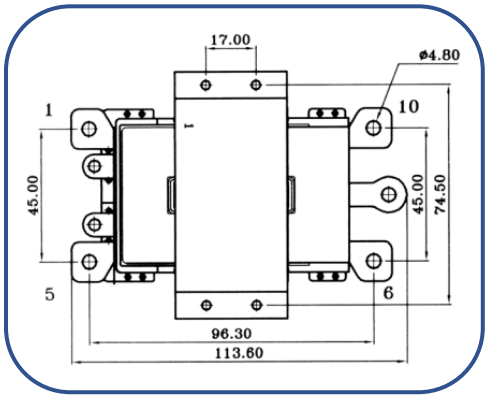
Mounting Options : a Horizontal, b. Vertical

2. Inductor Application							
Standard A_L (nH/t^2)	1600	1000	630	400	315	250	160
Typical value of Max. Amper Turns	51	87	157	233	290	365	510

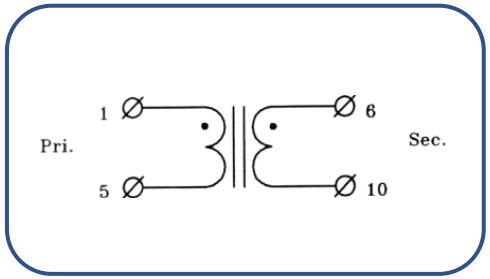
A_L values not listed are available upon request

3. Typical Thermal Impedance for Different Cooling Condition			
NATURAL COOLING (Hot Spot - Air)	BLOWING AIR 3m/sec (Hot Spot - Air)	ONE SIDE HEATSINK (Hot Spot - Heatsink)	TWO SIDE HEATSINK (Hot Spot - Heatsink)
5.4 ℃/W	3.2 ℃/W	2 ℃/W	1 ℃/W

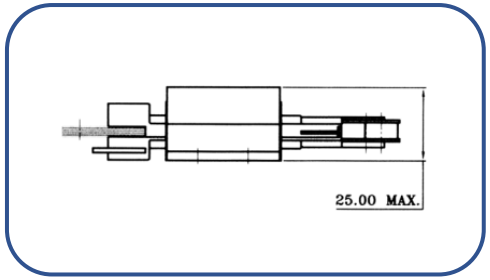
(All dimensions are given in mm.)



TOP VIEW



ELECTRICAL DIAGRAM



SIDE VIEW

Transformer Type T500 AC P.N. 17546

This T500AC-7-2, high power, high input voltage, high frequency, small dimensional planar transformer is developed for a high power density DC-DC converter and may be used in welding application, providing the following specifications:

Transformer Specifications	
Total output power	3900 W (26 Vdc/150 Adc) Welding duty of 50%
Operating frequency	200 kHz
Input voltage range	150 ~ 375 Vdc link.
Topology	Forward with active clamp
Volt-Sec. product	460 V - µSec
Operating Duty cycle	0.618 max.
Primary current (for 90% power supply effic.)	37 Arms (47 a peak)
Primary to Sec. ratio (sec. current - 118 Arms)	3.5 : 1
Dielectric strength pri. to sec. +core sec. to core	 4000 Vrms 1000 Vrms
Ambient temperature	-25 °C to +40 °C
Total losses (With 50°C heat sink)	40 W
Hot spot temperature (With 50°C heat sink)	130 °C
Weight	250 gr.