

Magnetics Test Design Capabilities



APITech produces a broad range of magnetic devices, including a variety of transformers, inductors, chokes, and coils. We specialize in parts requiring customization for applications including energy management, telecommunication systems, automation and motor controls, instrumentation, and many others to fit your particular design.

The engineering team at APITech brings a wealth of experience to help you find the ideal magnetic product for your application. We will help you find a standard part number or develop a custom solution using the design criteria you prefer, from construction (raw materials, winding, and finish) to electrical and mechanical characteristics to circuit function.

	Design Input										Design Variables						
	VOLTAGE	CURRENT	INDUCTANCE	TURNS	TURNS RATIO	DCR	VOLT-AMP RATING	ACCURACY (%)	HI-POT RATING	OTHER	CORE SIZE	CORE SHAPE	CORE MATERIAL	WIRE SIZE	BOBBIN SIZE	TEMP CLASS	LEAD FREE (RoHS)
CURRENT TRANSFORMERS	X	X		X	X	X		X		Burden Resistor	X	X	X	X	X		X
POWER INDUCTOR/CHOKE	X	X		X		X		X	X		X	X	X	X	X	X	X
SWITCH MODE POWER SUPPLY INDUCTOR	X	X	X	X		X		X	X		X	X	X	X	X	X	X
SWITCH MODE POWER SUPPLY TRANSFORMER	X	X			X	X	X		X		X	X	X	X	X	X	X
TOROIDAL POWER TRANSFORMER	X	X			X	X	X	X	X		X		X		X		X
LAMINATE POWER TRANSFORMER	X	X			X	X	X	X	X		X	X	X	X	X	X	X
BROADBAND (RF) TRANSFORMER										IL, Coupling, Frequency	X	X	X	X			X
AIR COIL			X	X									X				X
BANDPASS FILTER	X		X					X	X		X	X	X	X	X	X	X
AUDIO TRANSFORMER					X	X	X	X		Impedance, CMR, THD	X	X	X	X	X		X
VOLTAGE SENSE TRANSFORMER	X				X	X	X	X	X		X	X	X	X	X	X	X
LIGHTING CHOKES	X	X	X								X	X	X		X		X
HEATER COIL						X				Heat Specifics							X
RELAY COIL	X					X		X			X	X	X	X			X
RF COUPLER										IL, Coupling, Frequency	X	X	X	X			X
FIELDDED DIRECTED COIL			X						X	Input Pulse	X	X	X	X			X
FLYBACK TRANSFORMERS		X			X				X		X	X	X	X	X	X	X

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Test Capabilities					
TEST ASPECT	UNITS	MIN	MAX	NOTES	
Inductance (both w/ and w/o bias, up to 50A)	mH			Up to 3MHz	
Leakage Inductance	mH			Up to 3MHz	
DCR (DC Resistance)	Ohms	1m			
ACR (AC Resistance)				Up to 3MHz	
Turns Ratio		1	10000	Up to 3MHz	
Capacitance (Inter-winding)	pF			Up to 3MHz	
Polarity					
Hi-Pot/DWV (Dielectric Withstanding Voltage)	KV		30		
Insertion Loss	dB	0	100	Up to 1500MHz	
Coupling Value	dB		100	Up to 1500MHz	
Returns Loss	dB	0	100	Up to 1500MHz	
Q			80	Up to 200MHz	
Impedance				Up to 3MHz	
Phase				Up to 3MHz	
Resonance				Up to 3MHz	
Longitudinal Balance					
Full Load Testing				Built to Suit	
Filter Shape Factor and Frequency Response					
Hi-Rel, Burn-in and various environmental testing/qualification					

Production Limitations					
Wire Size	X	40	8	Have used larger size copper tubing on some air coils and high power field-focused coils.	

About APITech

APITech combines engineering expertise, innovation, and manufacturing excellence to enable mission-critical solutions. Designed to solve complex problems in signal modulation and transmission, APITech solutions enable high-quality product performance in the military and government, space, commercial, aerospace, security, medical, industrial, and communications industries. Through proven experience and innovation, APITech delivers reliable solutions for the most rugged environments in the world – and beyond. Our team works to understand each customer’s needs at every level, which leads to long-term partnerships with our customers that transcend transactions and projects, helping to drive ongoing value at all levels of an organization.

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