

EC²



HORIZONTAL MOUNT



TOROIDAL POWER INDUCTORS

- Stable powdered iron cores
- Low external magnetic field
- Low DCR
- High core saturation current
- Operation -55 to +125°C

design notes

Toroidal inductors described in this brochure are manufactured of the highest quality raw materials utilizing powdered iron core material; they are provided as semi-encapsulated units with thru-hole leads to realize maximum inductance per unit volume.

These toroidal inductors are designed to provide the utmost in versatility for power applications in computers, filters, instruments, missiles, aircraft, business machines, communications equipment and similar type applications. They are designed for printed circuit board applications; package design provides positive standoff to allow solder fillet formation and flush cleaning of solder-flux residue from under the component after the soldering operation.

These inductors are designed and manufactured to obtain a wide selection of inductance values in the smallest possible package sizes. Copper leads are attached and the toroid is secured to the housing with epoxy resin. Leads are oxygen-free copper per MIL-W-1276 and are tin-plated per MIL-P-81728, semi-bright. Housing material is flame-proof Diallyl Phthalate per MIL-M-14, Type SDG-F,

and the mounting platform is Vectra[®], a liquid crystal polymer plastic meeting the requirements of MIL-M-24519C. Diallyl Phthalate can be used continuously at 450°F; Vectra can be used continuously at 254°C (489°F), has a melt point of 280°C (538°F), and is inherently flame retardant. Both Diallyl Phthalate and Vectra meet the flammability requirements of UL 94V-0.

These toroidal inductors are designed to meet the applicable portions of Specification MIL-C-15305, Grade I, Class B; they are designed for -55 to +125°C operation. Inductors are capable of withstanding 500 V DC @ 50 microamps applied between inductor to case.

Standard inductance tolerance is 10%; however, units can be supplied to closer tolerances on special order. All measurements of inductance are obtained at 1kHz and 1mA rms. Standard inductance values are shown in the following tables. Since inductance varies with AC/DC current values, each end application should be evaluated to ensure proper specification of inductance value. To assist in selecting optimal inductance during prototyping and breadboarding, toroid inductor kits are available. Inductance is measured on HP 4262A and 4284A/42841A LCR Meters. Tabulated current ratings are those calculated to cause a 40°C rise in case temperature.

Marking consists of manufacturer's logo (EC²), part number, terminal identification and date code of manufacture. All marking is applied by Laser Label. Coil termination occurs at pin centered under label and at pin opposite. Pins at 90° locations are no-connection mounting pins.

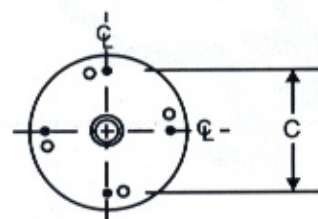
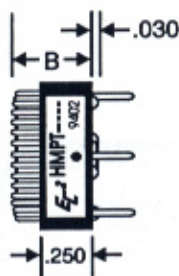
Vectra[®] is a registered trademark of Hoechst Celanese Corporation.

EC²

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A = OUTSIDE DIAMETER B = HEIGHT C = PIN CIRCLE

PART NUMBER TABLE

PART NUMBER	* L (uH)	A	B	C	DCR (ohms)	Rated ϕ Idc (Amps)	Idc for 10% drop in L (Amps)	Idc for 20% drop in L (Amps)	Idc for 30% drop in L (Amps)
HMPT-1.8	1.8	.525	.200	.350	0.02	1.9	0.84	1.39	1.94
HMPT-2.2	2.2	.525	.200	.350	0.02	1.8	0.76	1.26	1.75
HMPT-2.7	2.7	.585	.250	.400	0.03	2.4	1.43	2.39	3.32
HMPT-3.3	3.3	↓	↓	↓	0.03	2.3	1.30	2.16	3.00
HMPT-3.9	3.9				0.03	2.2	1.19	1.99	2.76
HMPT-4.7	4.7				0.04	2.1	1.09	1.81	2.52
HMPT-5.6	5.6				0.04	2.0	0.99	1.66	2.31
HMPT-6.8	6.8				0.04	1.9	0.90	1.50	2.09
HMPT-8.2	8.2	↓	↓	↓	0.05	1.8	0.82	1.37	1.91
HMPT-10	10.0	.585	.250	.400	0.05	1.7	0.74	1.24	1.73
HMPT-12	12.0	.700	.270	.500	0.06	2.0	0.97	1.62	2.26
HMPT-15	15.0	.700	.270	.500	0.07	1.9	0.87	1.45	2.02
HMPT-18	18.0	.700	.270	.500	0.07	1.8	0.80	1.33	1.84
HMPT-22	22.0	.770	.320	.600	0.06	2.3	0.83	1.39	1.93
HMPT-27	27.0	.770	.320	.600	0.06	2.2	0.75	1.25	1.74
HMPT-33	33.0	.820	.350	.650	0.08	2.4	0.90	1.50	2.09
HMPT-39	39.0	.820	↓	.650	0.08	2.3	0.83	1.38	1.92
HMPT-47	47.0	.820		.650	0.09	2.2	0.75	1.26	1.75
HMPT-56	56.0	.937		.750	0.11	2.3	0.78	1.29	1.80
HMPT-68	68.0	.937		↓	0.12	2.1	0.70	1.17	1.63
HMPT-82	82.0	.937	↓	↓	0.14	2.0	0.64	1.07	1.49
HMPT-100	100.0	.937	.350	.750	0.15	1.9	0.58	0.97	1.35
HMPT-120	120.0	1.070	.410	.900	0.17	2.2	0.77	1.28	1.77
HMPT-150	150.0	1.070	.410	.900	0.19	2.1	0.68	1.14	1.59
HMPT-180	180.0	1.070	.410	.900	0.20	2.0	0.63	1.04	1.45
HMPT-220	220.0	1.340	.450	1.100	0.17	2.8	0.75	1.24	1.73
HMPT-270	270.0	1.340	.450	1.100	0.18	2.7	0.67	1.12	1.56
HMPT-330	330.0	1.340	.450	1.100	0.20	2.5	0.61	1.01	1.41
HMPT-390	390.0	1.450	.590	1.250	0.15	3.6	0.78	1.29	1.80
HMPT-470	470.0	1.450	.590	1.250	0.16	3.4	0.71	1.18	1.64
HMPT-560	560.0	1.656	.660	1.450	0.19	3.7	0.84	1.40	1.94
HMPT-680	680.0	1.656	.660	1.450	0.21	3.5	0.76	1.27	1.76
HMPT-820	820.0	2.030	.720	1.800	0.16	4.7	0.83	1.38	1.91
HMPT-1000	1000.0	↓	.720	↓	0.18	4.4	0.75	1.25	1.73
HMPT-1200	1200.0		.750		0.20	4.7	0.84	1.40	1.95
HMPT-1500	1500.0		.750		0.22	4.5	0.75	1.25	1.74
HMPT-1800	1800.0	↓	.750	↓	0.25	4.3	0.69	1.14	1.59

* Nominal L for 0 Idc

ϕ Rated Idc for a 40°C temperature rise

Catalog No. /011594