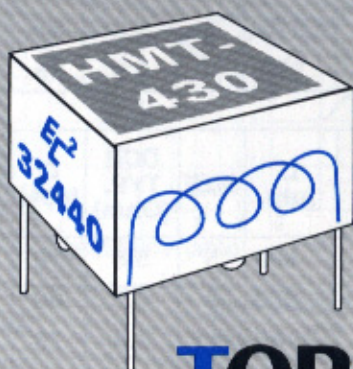


EC²



*Miniature
Low Silhouette*

RF/LOW POWER

TOROIDAL INDUCTORS

- Fully encapsulated design
- High Q
- Low external magnetic field
- Stable powdered iron cores
- High self-resonant frequency

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 square low silhouette units with round leads to realize maximum inductance per unit volume.

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

These inductors are designed and manufactured to obtain minimum distributed capacity, maximum Q, and the highest self-resonant frequency in the smallest possible package size. Copper leads are attached and the unit is encapsulated in the housing with epoxy resin. Leads are oxygen-free copper per MIL-W-1276 and are tinned per MIL-P-81728, semi-bright. Housing material is Vectra[®], a liquid crystal polymer plastic meeting the requirements of MIL-M-

24519C. Vectra can be used continuously at 254°C (489°F), has a melt point of 280°C (538°F), is inherently flame retardant and meets 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. Temperature coefficient of inductance is less than 400ppm/°C over the operating temperature range of -55 to +125°C. Inductors are capable of withstanding 500 V DC @ 50 microamps applied between inductor to case.

Standard inductance tolerance is $\pm 5\%$ for values 2.0uH and above and $\pm 10\%$ for inductances less than 2.0uH; however, units can be supplied to closer tolerances on special order. All measurements of inductance and Q are obtained at frequencies as specified in Specification MIL-C-15305. Standard apparent inductance values are shown in the following tables. Since apparent 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; Q is measured utilizing HP 4342A Q Meter; and self resonant frequency is obtained utilizing a HP 4195A Network Analyzer. Tabulated current ratings are those calculated to cause a 25°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 silkscreen process using epoxy paint in accordance with MIL-STD-130, to meet the permanency of identification required by MIL-STD-202, Method 215.

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

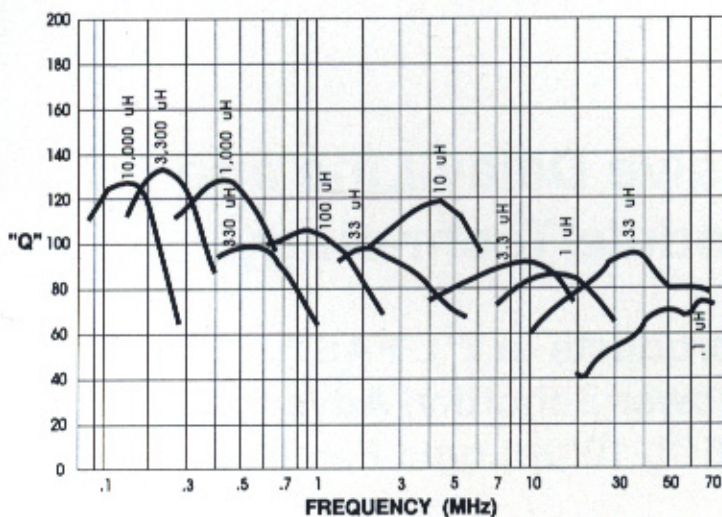
EC²

engineered components company

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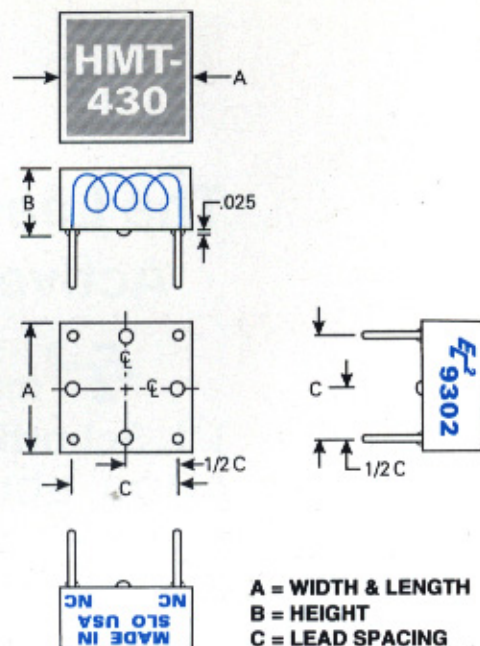
TYPICAL "Q" VS FREQUENCY



L (IN uH)	L AND Q TEST FREQUENCY
.10 to 1.0	25 MHz
1.0 to 10.0	7.9 MHz
10.0 to 100.0	2.5 MHz
100.0 to 1,000.0	790 KHz
1,000.0 and above	250 KHz

PART NUMBER TABLE

PART NUMBER	L (uh)	SIZE	DCR TYP. (Ohm)	Q NOM	SRF TYP. (Mhz)	RATED I _{dc} (mA)
HMT-0.10	.10	1	0.16	55	550	1580
HMT-0.11	.11		0.13	55	540	1750
HMT-0.12	.12		0.14	55	530	1690
HMT-0.13	.13		0.14	57	510	1690
HMT-0.15	.15		0.18	58	490	1490
HMT-0.16	.16		0.18	57	480	1490
HMT-0.18	.18		0.18	57	470	1490
HMT-0.20	.20		0.19	60	450	1450
HMT-0.22	.22		0.19	58	420	1450
HMT-0.24	.24		0.20	60	410	1410
HMT-0.27	.27		0.22	60	390	1350
HMT-0.30	.30	2	0.23	62	360	1320
HMT-0.33	.33		0.23	64	340	1320
HMT-0.36	.36		0.24	63	320	1290
HMT-0.39	.39		0.25	63	310	1260
HMT-0.43	.43		0.26	65	290	1240
HMT-0.47	.47		0.27	65	270	1220
HMT-0.51	.51		0.30	65	260	1150
HMT-0.56	.56		0.30	65	240	1150
HMT-0.62	.62		0.31	62	230	1140
HMT-0.68	.68		0.32	65	210	1120
HMT-0.75	.75	3	0.35	67	200	1070
HMT-0.82	.82		0.36	65	190	1050
HMT-0.91	.91		0.37	65	180	1040



A = WIDTH & LENGTH
B = HEIGHT
C = LEAD SPACING

SIZE	A	B	C
1	.250	.200	.200
2	.300	.200	.250
3	.350	.275	.250
4	.400	.275	.300
5	.500	.275	.400
6	.600	.325	.500

PART NUMBER	L (uh)	SIZE	DCR TYP. (Ohm)	Q NOM	SRF TYP. (Mhz)	RATED I _{dc} (mA)
HMT-1.0	1.0	1	0.26	73	170	1240
HMT-1.1	1.1		0.30	73	160	1150
HMT-1.2	1.2		0.30	75	150	1150
HMT-1.3	1.3		0.30	75	140	1150
HMT-1.5	1.5		0.30	76	130	1150
HMT-1.6	1.6		0.30	82	120	1150
HMT-1.8	1.8		0.40	82	115	1000
HMT-2.0	2.0		0.40	90	110	1000
HMT-2.2	2.2		0.40	87	105	1000
HMT-2.4	2.4		0.50	92	100	890
HMT-2.7	2.7	2	0.50	92	91	890
HMT-3.0	3.0		0.50	92	85	890
HMT-3.3	3.3		0.50	85	80	890
HMT-3.6	3.6		0.50	90	75	890
HMT-3.9	3.9		0.60	85	70	820
HMT-4.3	4.3		0.60	85	66	820
HMT-4.7	4.7		0.60	80	64	820
HMT-5.1	5.1		0.60	76	60	820
HMT-5.6	5.6		0.60	73	57	820
HMT-6.2	6.2		0.60	78	54	820
HMT-6.8	6.8	3	0.60	75	51	760

PART NUMBER	L (uh)	SIZE	DCR TYP. (Ohm)	Q NOM	SRF TYP. (Mhz)	RATED I _{dc} (mA)
HMT-7.5	7.5	2	0.8	84	48	750
HMT-8.2	8.2	↑	0.9	85	45	710
HMT-9.1	9.1	↑	0.9	80	42	710
HMT-10	10	↑	0.9	90	40	710
HMT-11	11	↑	1.0	94	38	670
HMT-12	12	↑	1.1	96	35	640
HMT-13	13	↑	1.1	94	34	640
HMT-15	15	↑	1.2	96	32	610
HMT-16	16	↑	1.2	96	30	610
HMT-18	18	↑	1.3	96	28	590
HMT-20	20	↑	1.4	96	26	570
HMT-22	22	↑	1.5	93	24	550
HMT-24	24	↑	1.5	90	23	550
HMT-27	27	↑	1.6	98	21	530
HMT-30	30	↑	1.7	92	20	510
HMT-33	33	↑	1.8	86	19	500
HMT-36	36	↑	1.9	84	18	490
HMT-39	39	↑	2.0	81	17	470
HMT-43	43	↓	2.0	78	16	470
HMT-47	47	2	2.2	75	15	450

PART NUMBER	L (uh)	SIZE	DCR TYP. (Ohm)	Q NOM	SRF TYP. (Mhz)	RATED I _{dc} (mA)
HMT-51	51	3	2.5	110	14	450
HMT-56	56	↑	2.4	102	13	460
HMT-62	62	↑	2.6	104	12	440
HMT-68	68	↑	2.9	98	12	420
HMT-75	75	↑	3.0	95	11	410
HMT-82	82	↑	3.1	95	10	400
HMT-91	91	↑	3.2	92	10	400
HMT-100	100	↑	3.3	102	9	390
HMT-110	110	↑	3.8	105	9	360
HMT-120	120	↑	3.8	105	8	360
HMT-130	130	↑	3.9	100	8	360
HMT-150	150	↑	4.3	103	7	340
HMT-160	160	↓	4.4	105	7	340
HMT-180	180	3	4.9	103	6	320

PART NUMBER	L (uh)	SIZE	DCR TYP. (Ohm)	Q NOM	SRF TYP. (Mhz)	RATED I _{dc} (mA)
HMT-200	200	4	5.0	100	6	350
HMT-220	220	↑	5.4	100	5	330
HMT-240	240	↑	5.7	100	5	320
HMT-270	270	↑	3.7	110	5	400
HMT-300	300	↓	4.0	88	4	390
HMT-330	330	4	4.1	105	4	380

PART NUMBER	L (uh)	SIZE	DCR TYP. (Ohm)	Q NOM	SRF TYP. (Mhz)	RATED I _{dc} (mA)
HMT-360	360	4	4.3	110	4	370
HMT-390	390	↑	4.6	83	3	360
HMT-430	430	↑	4.8	100	3	350
HMT-470	470	↑	5.0	90	3	350
HMT-510	510	↓	5.2	105	3	340
HMT-560	560	4	5.5	76	3	330

PART NUMBER	L (uh)	SIZE	DCR TYP. (Ohm)	Q NOM	SRF TYP. (Mhz)	RATED I _{dc} (mA)
HMT-620	620	5	5.8	78	2.8	350
HMT-680	680	↑	6.2	80	2.6	340
HMT-750	750	↑	6.4	75	2.5	330
HMT-820	820	↑	6.8	65	2.3	320
HMT-910	910	↑	7.0	65	2.2	320
HMT-1000	1000	↑	7.4	110	2.1	310
HMT-1100	1100	↑	7.8	115	2.0	300
HMT-1200	1200	↑	8.3	115	1.8	290
HMT-1300	1300	↑	8.6	120	1.7	290
HMT-1500	1500	↑	9.3	120	1.6	270
HMT-1600	1600	↑	9.5	125	1.5	270
HMT-1800	1800	↑	10.2	125	1.4	260
HMT-2000	2000	↑	10.8	123	1.3	250
HMT-2200	2200	↑	11.6	120	1.2	250
HMT-2400	2400	↑	12.2	123	1.1	240
HMT-2700	2700	↑	13.1	118	1.0	230
HMT-3000	3000	↑	14.0	118	1.0	220
HMT-3300	3300	↑	14.8	103	0.9	220
HMT-3600	3600	↓	15.6	108	0.8	210
HMT-3900	3900	5	16.6	130	0.8	210

PART NUMBER	L (uh)	SIZE	DCR TYP. (Ohm)	Q NOM.	SRF TYP. (Mhz)	RATED I _{dc} (mA)
HMT-4300	4300	6	15.4	88	0.7	240
HMT-4700	4700	↑	16.1	80	0.7	240
HMT-5100	5100	↑	17.1	75	0.6	230
HMT-5600	5600	↑	18.2	76	0.6	220
HMT-6200	6200	↑	19.4	65	0.5	220
HMT-6800	6800	↑	20.8	65	0.5	210
HMT-7500	7500	↑	21.2	59	0.4	210
HMT-8200	8200	↑	22.8	92	0.4	200
HMT-9100	9100	↓	24.1	86	0.4	190
HMT-10000	10000	6	26.4	58	0.4	180