MAGNETIC CIRCUIT ELEMENTS INC

mce

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E - CORE CHOKES

APPLICATION FEATURES

The BL Series Filter chokes are offered for use in high-frequency DC power supply applications including switching regulators.

The principal feature of this series is relatively low cost provided by the PC bobbin, ferrite E - cores, and open type construction.

High energy storage (LI^2) per unit weight is obtained by optimizing the magnetic circuit. This results in the highest inductance at the maximum rated DC.

The bobbin wound coils (with single windings) also provide higher self-resonant frequency compared to toroidal coils.

PACKAGING CONSIDERATIONS

Parallel windings are used for low inductance parts in the OC package to provide high current ratings. The smaller wires in parallel also minimizes "skin effect" at high frequencies. The multiple windings makes winding practical on small bobbins and permits termination to PC pins. All the pins are left on each part to provide maximum holding strength to the PC board. This makes brackets or special supports rarely necessary and results in less board area and lower installation costs. It is recommended that holes and pads be provided for all the pins of the choke on the PC board. Also, that all pads on each side be connected together. This will provide maximum holding strength and further allow for a design change of units with additional windings without modifying the PC boards.

The OD package with mounting bracket and single winding coils is employed for larger and heavier parts. The bracket mounting facilitates the addition of a PC board stiffener where required

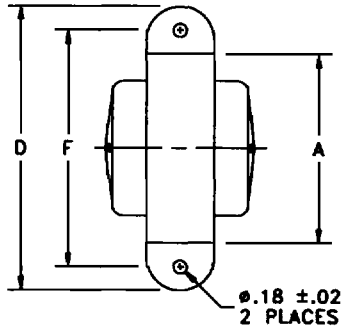
Contact MCE for questions concerning packaging or modified standard parts.

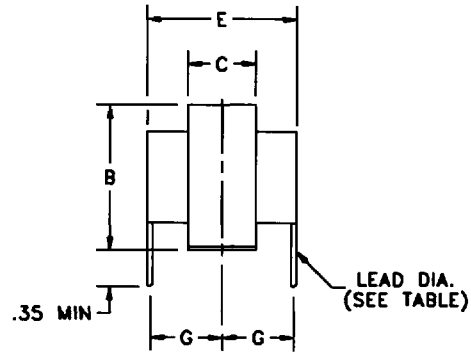
ELECTRICAL SPECIFICATIONS

PART NUMBER	L_o ±15% MILLI-H	DCR ±15% OHMS	DC AMPS MAX	SELF RES. FREQ.-KHZ	LEAD DIA.
OD38BL13	.039	.0083	13	4100	.072
OD38BL14	.062	.013	11	3600	.064
OD38BL15	.10	.021	8.6	2600	.057
OD38BL16	.16	.032	7.0	2100	.051
OD38BL17	.24	.049	5.6	1700	.045
OD38BL18	.39	.077	4.4	1300	.040
OD38BL19	.60	.12	3.6	1000	.036
OD38BL20	.94	.19	2.8	790	.032
OD38BL21	1.5	.30	2.2	650	.029
OD38BL22	2.3	.47	1.8	520	.025
OD38BL23	3.7	.74	1.4	390	.023
OD38BL24	5.9	1.2	1.1	300	.020
OD38BL25	9.2	1.8	.92	240	.018
OD50BL13	.082	.011	13	2800	.072
OD50BL14	.13	.018	10	2100	.064
OD50BL15	.21	.027	8.4	1700	.057
OD50BL16	.34	.043	6.7	1200	.051
OD50BL17	.51	.066	5.4	1000	.045
OD50BL18	.81	.10	4.3	740	.040
OD50BL19	1.3	.16	3.4	610	.036
OD50BL20	2.0	.25	2.7	460	.032
OD50BL21	3.2	.41	2.1	380	.029
OD50BL22	5.1	.65	1.7	300	.025
OD50BL23	8.0	1.0	1.3	230	.023
OD50BL24	13	1.6	1.0	190	.020
OD50BL25	20	2.6	.87	150	.018
OD62BL13	.15	.016	12	1800	.072
OD62BL14	.22	.024	10	1400	.064
OD62BL15	.35	.038	8.2	1000	.057
OD62BL16	.55	.058	6.6	710	.051
OD62BL17	.88	.093	5.2	580	.045
OD62BL18	1.4	.15	4.1	440	.040
OD62BL19	2.2	.23	3.3	370	.036
OD62BL20	3.4	.36	2.6	280	.032
OD62BL21	5.5	.57	2.1	230	.029
OD62BL22	8.7	.91	1.6	190	.025
OD62BL23	14	1.4	1.3	140	.023
OD62BL24	22	2.3	1.0	110	.020
OD62BL25	34	3.6	.85	94	.018
OD75BL10	.085	.0063	24	2000	.100
OD75BL11	.13	.010	19	1700	.091
OD75BL12	.21	.016	15	1400	.081
OD75BL13	.34	.025	12	1000	.072
OD75BL14	.54	.040	9.6	770	.064
OD75BL15	.85	.063	7.6	690	.057
OD75BL16	1.3	.10	6.0	500	.051
OD75BL17	2.1	.16	4.8	410	.045
OD75BL18	3.4	.25	3.8	320	.040
OD75BL19	5.4	.40	3.0	260	.036
OD75BL20	8.5	.63	2.4	200	.032
OD75BL21	13	1.0	1.9	150	.029
OD75BL22	21	1.6	1.5	110	.025
OD75BL23	34	2.5	1.2	94	.023
OD75BL24	54	4.0	.96	72	.020
OD75BL25	85	6.3	.76	56	.018

MECHANICAL SPECIFICATIONS

SIZE	WT. (g)	A MAX	B MAX	C MAX	D MAX	E MAX	F ± .03	G ± .03
OD38	70	1.50	1.28	.50	2.12	1.27	1.76	.53
OD50	114	1.75	1.45	.64	2.43	1.40	2.00	.59
OD62	181	2.00	1.70	.76	2.83	1.52	2.37	.65
OD75	304	2.38	2.02	.90	3.30	1.80	2.81	.79





Also available without a bracket or in a VERTICAL configuration.

NOTES

1. Initial inductance (L_o) is measured at 1 KHz.
2. DC Amps maximum rating is for a 50°C rise.
3. Inductance at MAX DC amps is approximately 90% of L_o.
4. Maximum operating temperature is 130°C.
5. Self-Resonant Frequency is typical and for reference only.
6. Dielectric Withstanding Voltage (winding-to-core) is 1500 VRMS, 60 Hz.
7. All mechanical measurements are in inches.
8. Packaging: Clear acrylic resin impregnated.
9. Leads are hot solder dipped.

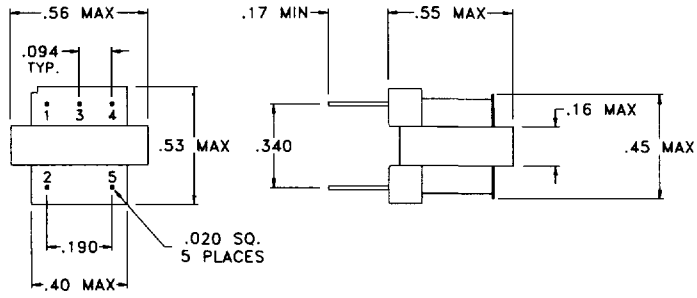
	INIT.	DATE	CAGE	MAGNETIC CIRCUIT ELEMENTS				
PROD.	MP	3-27-96	09349	"E" CORE CHOKES - FERRITE				
ENG.	J.C.	3-27-96						
Q.A.	B.T.	3-27-96	TEST CONDITION 20° ± 5° C	DECIMALS .XX = ± .03 .XXX = ± .005	VOLTS ±5%	FREQUENCY ±5%	SIZE A	DWG. NO. ODBL
REV.	A	3-27-96						

ELECTRICAL SPECIFICATIONS

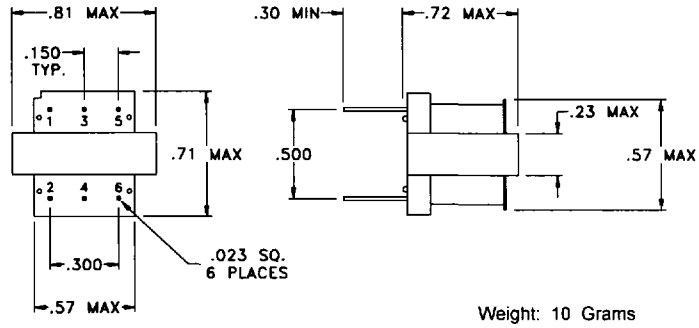
PART NUMBER	L_o ±15% MILLI-H	DCR ±15% OHMS	DC AMPS MAX	SELF RES. FREQ.-KHZ	SCHEM. DIAG.
OC12BL22	.019	.026	4.0	3900	A
OC12BL23	.030	.042	3.2	3900	A
OC12BL24	.048	.065	2.5	3200	A
OC12BL25	.076	.10	2.0	3100	B
OC12BL26	.12	.17	1.6	3700	B
OC12BL27	.19	.26	1.3	2600	B
OC12BL28	.30	.42	1.0	2300	B
OC12BL29	.48	.66	.80	2200	B
OC12BL30	.76	1.1	.63	1700	B
OC12BL31	1.2	1.7	.50	1100	B
OC12BL32	1.9	2.7	.40	880	B
OC12BL33	3.0	4.2	.32	830	B
OC12BL34	4.8	6.8	.25	650	B
OC12BL35	7.6	11	.20	490	B
OC12BL36	12	17	.16	400	B
OC12BL37	19	27	.13	310	B
OC12BL38	30	43	.10	240	B
OC12BL39	48	69	.080	190	B
OC12BL40	76	120	.063	160	B
OC12BL41	120	170	.050	120	B
OC18BL20	.051	.035	5.0	3200	C
OC18BL21	.081	.054	4.0	3000	D
OC18BL22	.13	.085	3.2	3400	D
OC18BL23	.20	.14	2.5	1200	D
OC18BL24	.32	.22	2.0	2100	E
OC18BL25	.51	.35	1.6	1800	E
OC18BL26	.81	.54	1.3	1400	E
OC18BL27	1.3	.85	1.0	1100	E
OC18BL28	2.0	1.4	.80	850	E
OC18BL29	3.2	2.2	.63	670	E
OC18BL30	5.1	3.5	.50	530	E
OC18BL31	8.1	5.4	.40	430	E
OC18BL32	13	8.5	.32	280	E
OC18BL33	20	14	.25	260	E
OC18BL34	32	22	.20	210	E
OC18BL35	51	35	.16	160	E
OC18BL36	81	54	.13	110	E
OC18BL37	130	85	.10	92	E
OC18BL38	200	140	.080	69	E
OC18BL39	320	230	.063	57	E
OC25BL18	.070	.031	6.0	1700	F
OC25BL19	.11	.050	4.8	1000	F
OC25BL20	.18	.080	3.8	930	F
OC25BL21	.28	.13	3.0	1000	G
OC25BL22	.44	.20	2.4	960	G
OC25BL23	.70	.31	1.9	800	G
OC25BL24	1.1	.50	1.5	1100	H
OC25BL25	1.8	.80	1.2	890	H
OC25BL26	2.8	1.3	.95	720	H
OC25BL27	4.4	2.0	.75	530	H
OC25BL28	7.0	3.1	.60	450	H
OC25BL29	11	5.0	.48	340	H
OC25BL30	18	8.0	.38	270	H
OC25BL31	28	13	.30	210	H
OC25BL32	44	20	.24	170	H
OC25BL33	70	31	.19	140	H
OC25BL34	110	50	.15	110	H
OC25BL35	180	80	.12	76	H
OC25BL36	280	140	.095	61	H
OC25BL37	440	210	.075	47	H

MECHANICAL SPECIFICATIONS

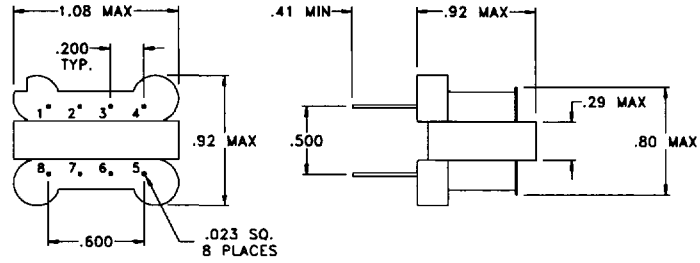
Also available in a VERTICAL configuration with two self leads.



Weight: 3.5 Grams

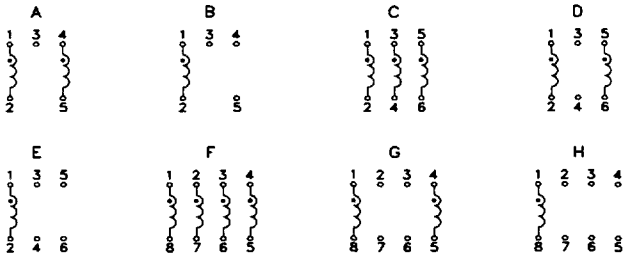


Weight: 10 Grams



Weight: 26 Grams

SCHEMATIC DIAGRAMS



NOTES

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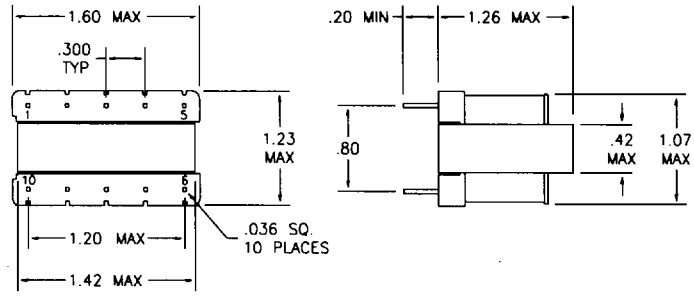
6. Dielectric Withstanding Voltage (winding-to-core) is 1500 VRMS, 60 Hz.
7. All electrical measurements made with multiple windings in parallel.
8. All mechanical measurements are in inches.
9. Packaging: Clear acrylic resin impregnated.
10. Pins are hot solder dipped.

	INIT.	DATE	CAGE	MAGNETIC CIRCUIT ELEMENTS INC.				
PROD.		3-27-96	09349	"E" CORE CHOKES - FERRITE				
ENG.		3-27-96						
Q.A.		3-27-96	TEST CONDITION 20° ± 5° C	DECIMALS .XX = ± .03 .XXX = ± .010	VOLTS ±5%	FREQUENCY ±5%	SIZE A	DWG. NO. OC(12-25)BL
REV.								

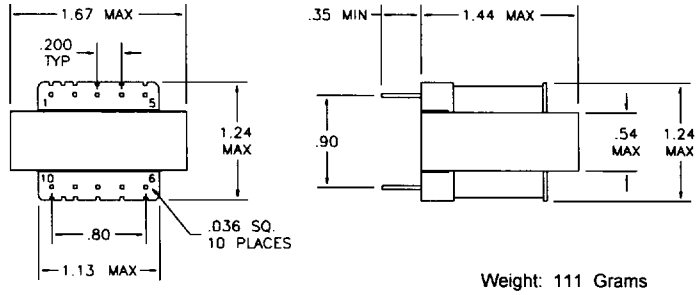
ELECTRICAL SPECIFICATIONS

PART NUMBER	L_o ±15% MILLI-H	DCR ±15% OHMS	DC AMPS MAX	SELF RES. FREQ.-KHZ	SCHEM. DIAG.
OC38BL13	.037	.008	14	>3000	A
OC38BL14	.058	.013	11	1800	B
OC38BL15	.092	.020	9.4	1100	B
OC38BL16	.15	.032	7.4	940	B
OC38BL17	.23	.050	5.9	780	C
OC38BL18	.37	.080	4.7	620	C
OC38BL19	.58	.13	3.6	490	C
OC38BL20	.92	.20	2.9	900	D
OC38BL21	1.5	.32	2.3	660	D
OC38BL22	2.3	.50	1.8	520	D
OC38BL23	3.7	.80	1.4	440	D
OC38BL24	5.8	1.3	1.1	330	D
OC38BL25	9.2	2.0	.94	260	D
OC38BL26	15	3.2	.74	210	D
OC38BL27	23	5.0	.59	160	D
OC38BL28	37	8.0	.47	130	D
OC38BL29	58	13	.36	100	D
OC38BL30	92	20	.29	82	D
OC38BL31	150	32	.23	68	D
OC38BL32	230	50	.18	56	D
OC50BL13	.079	.011	14	>3000	A
OC50BL14	.13	.017	11	990	B
OC50BL15	.20	.026	9.4	580	B
OC50BL16	.32	.042	7.4	440	B
OC50BL17	.50	.066	5.9	410	C
OC50BL18	.79	.11	4.5	370	C
OC50BL19	1.3	.17	3.6	290	C
OC50BL20	2.0	.26	2.9	540	D
OC50BL21	3.2	.42	2.3	430	D
OC50BL22	5.0	.66	1.8	330	D
OC50BL23	7.9	1.1	1.4	270	D
OC50BL24	13	1.6	1.2	210	D
OC50BL25	20	2.6	.94	170	D
OC50BL26	32	4.3	.74	140	D
OC50BL27	50	6.7	.59	100	D
OC50BL28	79	11	.45	82	D
OC50BL29	130	17	.36	66	D
OC50BL30	200	27	.29	51	D
OC62BL12	.086	.010	18	1700	E
OC62BL13	.14	.015	14	1200	F
OC62BL14	.22	.023	11	540	G
OC62BL15	.34	.037	9.4	380	G
OC62BL16	.55	.057	7.5	240	G
OC62BL17	.86	.093	5.9	350	H
OC62BL18	1.4	.15	4.6	250	H
OC62BL19	2.2	.23	3.7	170	H
OC62BL20	3.4	.37	2.9	370	I
OC62BL21	5.5	.57	2.4	280	I
OC62BL22	8.6	.89	1.9	240	I
OC62BL23	14	1.5	1.4	190	I
OC62BL24	22	2.2	1.2	150	I
OC62BL25	34	3.7	.94	110	I
OC62BL26	55	5.7	.75	87	I
OC62BL27	86	9.1	.60	63	I
OC62BL28	140	15	.46	55	I

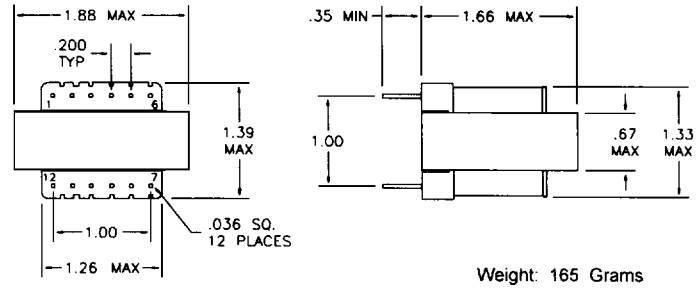
MECHANICAL SPECIFICATIONS



Weight: 69 Grams

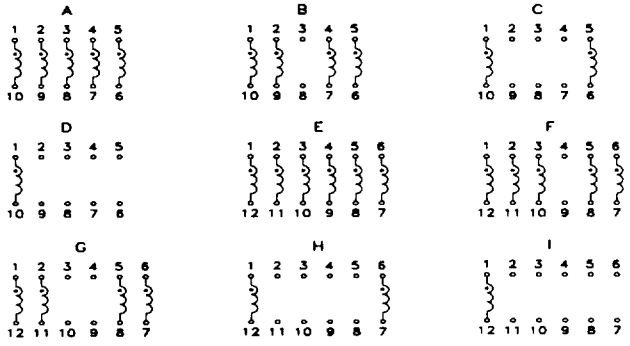


Weight: 111 Grams



Weight: 165 Grams

SCHEMATIC DIAGRAMS



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8. Pins are hot solder dipped.

	INIT.	DATE	CAGE	MAGNETIC CIRCUIT ELEMENTS INC.				
PROD.	MH	7-7-98	09349					
ENG.	JC	7-7-98		"E" CORE CHOKES - FERRITE				
Q.A.	B.T.	7-7-98	TEST CONDITION 20° ± 5° C	DECIMALS (IN.) .XX = ± .03 .XXX = ± .010	VOLTS ±5%	FREQUENCY ±5%	SIZE A	DWG. NO. OC(38-62)BL
REV.								