

302 series

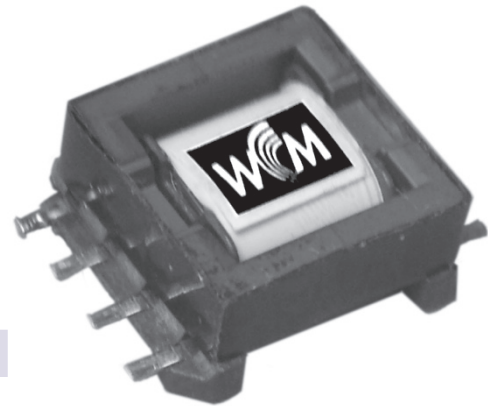
power inductors

PRODUCT DESCRIPTION

West Coast Magnetics' 302 series is designed to be used as a power inductor in switchmode power supply applications. These power inductors combine high current handling capability in a low profile SMD package. This inductor has lower EMI than drum core style inductors. Many part numbers can be used as a coupled inductor to accommodate multiple outputs.

FEATURES - BENEFITS

SMD, Tape and reel – Current to 20 amps –
Low EMI – Multiple inductors in a single package



Product Code	Inductance (μ H) \pm 15%	Schematic	DCR ($m\Omega$) each Winding	DCR ($m\Omega$) Parallel	I_{max} (amps) each Winding ^{a.}	I_{max} (amps) Parallel ^{a.}	I_{max} (amps) L drop limited ^{b.}
302-1	1.3	C	4.4	2.2	7.8	15.5	18.9
302-2	1.8	A	8.6	2.2	3.9	15.5	15.8
302-3	2.5	A	12.5	3.1	3.3	13.1	13.5
302-4	2.5	C	4.4	2.2	7.8	15.5	8.5
302-5	3.2	A	18.3	4.6	2.7	10.7	11.8
302-6	3.6	A	8.6	2.2	3.9	15.5	7.1
302-7	4.9	A	12.5	3.1	3.3	13.1	6.1
302-8	5.0	D	9.0	9.0	7.7	7.7	9.5
302-9	6.4	A	18.3	4.6	2.7	10.7	5.3
302-10	7.2	C	17.3	8.7	3.9	7.8	7.9
302-11	9.8	C	25.3	12.7	3.3	6.5	6.8
302-12	10.0	D	9.0	9.0	7.7	7.7	4.3
302-13	12.8	B	36.6	12.2	2.2	6.6	5.9
302-14	14.4	C	17.3	8.7	3.9	7.8	3.5
302-15	16.2	B	51.9	17.3	1.8	5.5	5.3
302-16	19.6	C	25.3	12.7	3.3	6.5	3.0
302-17	20.0	A	73.0	18.3	1.4	5.4	4.7
302-18	24.2	E	25.1	25.1	4.6	4.6	4.3
302-19	25.6	B	36.6	12.2	2.2	6.6	2.7

Notes:

- This is the RMS current which will generate a 40°C T rise with a maximum 1% current ripple.
- This is the maximum current for no reduction in inductance. Exceeding this value by a factor of 2 will result in an approximate 10% drop in inductance. Beyond this L drops more rapidly.

21 – 50, continued next page →

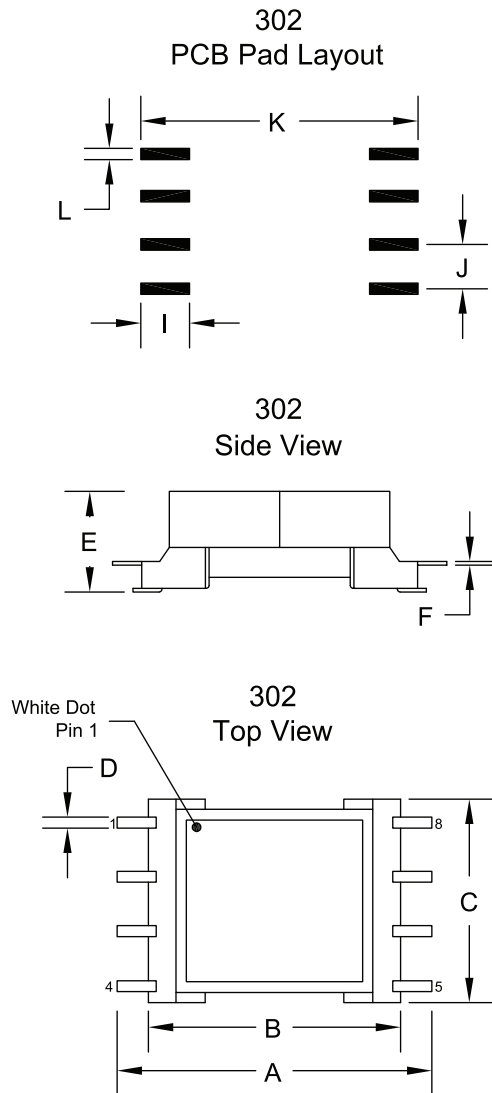
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Product Code	Inductance (μH) $\pm 15\%$	Schematic	DCR ($\text{m}\Omega$) each Winding	DCR ($\text{m}\Omega$) Parallel	I_{max} (amps) each Winding ^{a.}	I_{max} (amps) Parallel ^{a.}	I_{max} (amps) L drop limited ^{b.}
302-20	31.3	E	36.0	36.0	3.80	3.80	3.80
302-21	32.4	B	51.9	17.3	1.80	5.50	2.40
302-22	40.0	A	73.0	18.3	1.40	5.40	2.10
302-23	42.1	E	52.4	52.4	3.20	3.20	3.30
302-24	45.0	D	109.0	109.0	2.20	2.20	3.20
302-25	48.4	E	25.1	25.1	4.60	4.60	1.90
302-26	54.5	D	120.0	120.0	2.10	2.10	2.90
302-27	62.5	E	36.0	36.0	3.80	3.80	1.70
302-28	65.0	E	131.0	131.0	2.00	2.00	2.60
302-29	80.0	E	73.0	73.0	1.90	1.90	2.40
302-30	84.1	E	52.4	52.4	3.20	3.20	1.50
302-31	90.0	D	109.0	109.0	2.20	2.20	1.40
302-32	109.0	D	120.0	120.0	2.10	2.10	1.30
302-33	115.0	D	110.0	110.0	2.20	2.20	2.00
302-34	130.0	E	131.0	131.0	2.00	2.00	1.20
302-35	157.0	D	161.0	161.0	1.80	1.80	1.70
302-36	160.0	E	146.0	146.0	1.90	1.90	1.10
302-37	230.0	D	110.0	110.0	2.30	2.30	0.90
302-38	304.0	E	285.0	285.0	1.40	1.40	1.20
302-39	314.0	D	161.0	161.0	1.80	1.80	0.76
302-40	608.0	E	285.0	285.0	1.40	1.40	0.54
302-41	675.0	D	530.0	530.0	1.00	1.00	0.82
302-42	1350.0	D	530.0	530.0	1.00	1.00	0.37
302-43	1445.0	D	1230.0	1230.0	0.67	0.67	0.56
302-44	2375.0	D	2010.0	2010.0	0.51	0.51	0.43
302-45	2890.0	D	1230.0	1230.0	0.67	0.67	0.25
302-46	3225.0	D	2960.0	2960.0	0.42	0.42	0.37
302-47	3920.0	D	4030.0	4030.0	0.36	0.36	0.34
302-48	4750.0	D	2010.0	2010.0	0.51	0.51	0.19
302-49	6450.0	D	2960.0	2960.0	0.42	0.42	0.17
302-50	7840.0	D	4030.0	4030.0	0.36	0.36	0.15

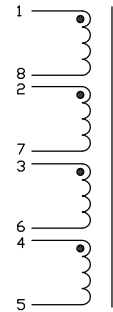
Notes:

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- b. This is the maximum current for no reduction in inductance. Exceeding this value by a factor of 2 will result in an approximate 10% drop in inductance. Beyond this L drops more rapidly.

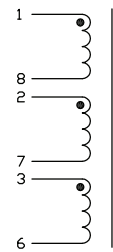
Dimensions: $\frac{\text{inches}}{\text{mm}}$



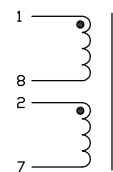
Schematic A



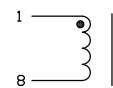
Schematic B



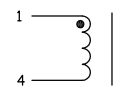
Schematic C



Schematic D



Schematic E



Product Code	A	B	C	D	E	F	I	J	K	L
302	$\frac{0.894}{22.7}$	$\frac{0.736}{18.7}$	$\frac{0.657}{16.7}$	$\frac{0.039}{1.0}$	$\frac{0.315}{8.0}$	$\frac{0.012}{0.3}$	$\frac{0.110}{2.8}$	$\frac{0.150}{3.75}$	$\frac{0.811}{20.6}$	$\frac{0.079}{2.0}$

Note: All materials of construction minimum Class B 130° C rated.