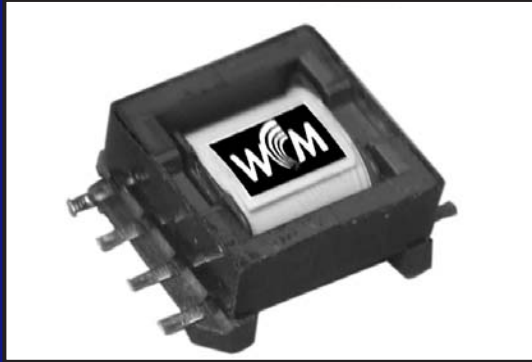


POWER INDUCTORS

WCM 302 Series



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 • Power to 20 amps • Low EMI • Multiple Inductors in a single package.

DESIGN CONSTANTS

Size Code	Inductance $\mu\text{H} \pm 15\%$	Schematic	DCR (m Ω) each winding	DCR (m Ω) parallel	I max (amps) each winding ^a	I max (amps) parallel ^a	I max (amps) L drop limited ^b
302-1	1.3	B	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	B	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
302-20	31.3	E	36.0	36.0	3.8	3.8	3.8
302-21	32.4	B	51.9	17.3	1.8	5.5	2.4
302-22	40.0	A	73.0	18.3	1.4	5.4	2.1
302-23	42.1	E	52.4	52.4	3.2	3.2	3.3
302-24	45.0	D	109.0	109.0	2.2	2.2	3.2
302-25	48.4	E	25.1	25.1	4.6	4.6	1.9
302-26	54.5	D	120.0	120.0	2.1	2.1	2.9
302-27	62.5	E	36.0	36.0	3.8	3.8	1.7
302-28	65.0	E	131.0	131.0	2.0	2.0	2.6

Notes:

- a. This is the RMS current which will generate a 40°C T rise with a maximum 1% current ripple.
- 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.

More part numbers on reverse side →



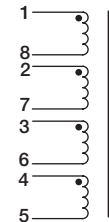
POWER INDUCTORS

WCM 302 Series

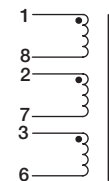
DESIGN CONSTANTS, (cont'd)

Size Code	Inductance $\mu\text{H} \pm 15\%$	Schematic	DCR (m Ω) each winding	DCR (m Ω) parallel	I max (amps) each winding ^a	I max (amps) parallel ^a	I max (amps) parallel ^a	I max (amps) L drop limited ^b
302-29	80.0	E	146.0	146.0	1.9	1.9	2.4	
302-30	84.1	E	52.4	52.4	3.2	3.2	1.5	
302-31	90.0	D	109.0	109.0	2.2	2.2	1.4	
302-32	109.0	D	120.0	120.0	2.1	2.1	1.3	
302-33	115.0	D	110.0	110.0	2.2	2.2	2.0	
302-34	130.0	E	131.0	131.0	2.0	2.0	1.2	
302-35	157.0	D	161.0	161.0	1.8	1.8	1.7	
302-36	160.0	E	146.0	146.0	1.9	1.9	1.1	
302-37	230.0	D	110.0	110.0	2.3	2.3	0.9	
302-38	304.0	E	285.0	285.0	1.4	1.4	1.2	
302-39	314.0	D	161.0	161.0	1.8	1.8	0.76	
302-40	608.0	E	285.0	285.0	1.4	1.4	0.54	
302-41	675.0	D	530.0	530.0	1.0	1.0	0.82	
302-42	1350.0	D	530.0	530.0	1.0	1.0	0.37	
302-43	1445.0	D	1230.0	1230.0	0.67	0.67	0.56	
302-44	2375.0	D	2010.0	1210.0	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	

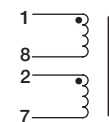
Schematic A



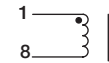
Schematic B



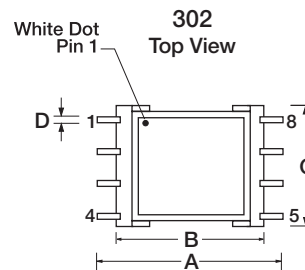
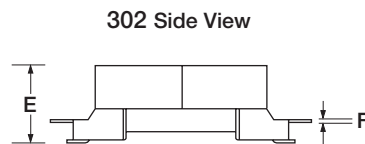
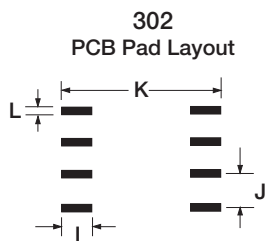
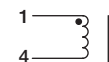
Schematic C



Schematic D



Schematic E



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

Size Code	A	B	C	D	E	F	I	J	K	L
302	$\frac{.894}{22.7}$	$\frac{.736}{18.7}$	$\frac{.657}{16.7}$	$\frac{.039}{1.0}$	$\frac{.315}{8.0}$	$\frac{.012}{0.3}$	$\frac{.110}{2.8}$	$\frac{.150}{3.75}$	$\frac{.811}{20.6}$	$\frac{.079}{2.0}$

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

