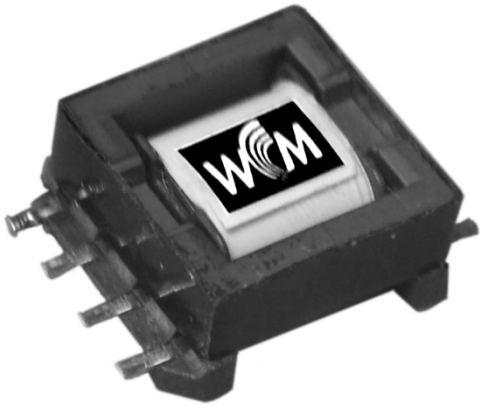
WCM302 Series

Power Inductors

Product Description

West Coast Magnetics' WCM302 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 accomodate multiple outputs.



Features and Benefits

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

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.

Engineering Data

Product Code	Inductance (µH) ± 15%	Schematic	DCR (mΩ) each Winding	DCR (mΩ) Parallel	I max (amps) each Winding a.	I max (amps) Parallel a.	I max (amps) L drop limited b.
WCM302-01	1.3	C	4.4	2.2	7.8	15.5	18.9
WCM302-02	1.8	A	8.6	2.2	3.9	15.5	15.8
WCM302-03	2.5	A	12.5	3.1	3.3	13.1	13.5
WCM302-04	2.5	C	4.4	2.2	7.8	15.5	8.5
WCM302-05	3.2	A	18.3	4.6	2.7	10.7	11.8
WCM302-06	3.6	A	8.6	2.2	3.9	15.5	7.1
WCM302-07	4.9	A	12.5	3.1	3.3	13.1	6.1
WCM302-80	5.0	D	9.0	9.0	7.7	7.7	9.5
WCM302-09	6.4	A	18.3	4.6	2.7	10.7	5.3

Engineering Data Continued

Product Code	Inductance (µH) ± 15%	Schematic	DCR (mΩ) each Winding	DCR (mΩ) Parallel	I max (amps) each Winding a.	I max (amps) Parallel a.	I max (amps) L drop limited b.
WCM302-10	7.2	C	17.3	8.7	3.9	7.8	7.9
WCM302-11	9.8	C	25.3	12.7	3.3	6.5	6.8
WCM302-12	10.0	D	9.0	9.0	7.7	7.7	4.3
WCM302-13	12.8	B	36.6	12.2	2.2	6.6	5.9
WCM302-14	14.4	C	17.3	8.7	3.9	7.8	3.5
WCM302-15	16.2	B	51.9	17.3	1.8	5.5	5.3
WCM302-16	19.6	C	25.3	12.7	3.3	6.5	3.0
WCM302-17	20.0	A	73.0	18.3	1.4	5.4	4.7
WCM302-18	24.2	E	25.1	25.1	4.6	4.6	4.3
WCM302-19	25.6	B	36.6	12.2	2.2	6.6	2.7
WCM302-20	31.3	E	36.0	36.0	3.80	3.80	3.80
WCM302-21	32.4	B	51.9	17.3	1.80	5.50	2.40
WCM302-22	40.0	A	73.0	18.3	1.40	5.40	2.10
WCM302-23	42.1	E	52.4	52.4	3.20	3.20	3.30
WCM302-24	45.0	D	109.0	109.0	2.20	2.20	3.20
WCM302-25	48.4	E	25.1	25.1	4.60	4.60	1.90
WCM302-26	54.5	D	120.0	120.0	2.10	2.10	2.90
WCM302-27	62.5	E	36.0	36.0	3.80	3.80	1.70
WCM302-28	65.0	E	131.0	131.0	2.00	2.00	2.60
WCM302-29	80.0	E	73.0	73.0	1.90	1.90	2.40
WCM302-30	84.1	E	52.4	52.4	3.20	3.20	1.50
WCM302-31	90.0	D	109.0	109.0	2.20	2.20	1.40
WCM302-32	109.0	D	120.0	120.0	2.10	2.10	1.30
WCM302-33	115.0	D	110.0	110.0	2.20	2.20	2.00
WCM302-34	130.0	E	131.0	131.0	2.00	2.00	1.20
WCM302-35	157.0	D	161.0	161.0	1.80	1.80	1.70
WCM302-36	160.0	E	146.0	146.0	1.90	1.90	1.10
WCM302-37	230.0	D	110.0	110.0	2.30	2.30	0.90
WCM302-38	304.0	E	285.0	285.0	1.40	1.40	1.20
WCM302-39	314.0	D	161.0	161.0	1.80	1.80	0.76
WCM302-40	608.0	E	285.0	285.0	1.40	1.40	0.54
WCM302-41	675.0	D	530.0	530.0	1.00	1.00	0.82
WCM302-42	1350.0	D	530.0	530.0	1.00	1.00	0.37

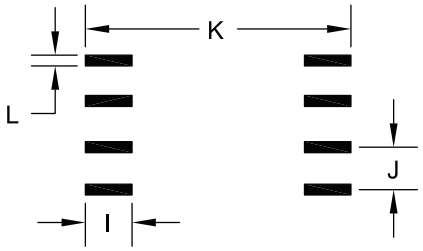
Engineering Data Continued

Product Code	Inductance (µH) ± 15%	Schematic	DCR (mΩ) each Winding	DCR (mΩ) Parallel	I max (amps) each Winding a.	I max (amps) Parallel a.	I max (amps) L drop limited b.
WCM302-43	1445.0	D	1230.0	1230.0	0.67	0.67	0.56
WCM302-44	2375.0	D	2010.0	2010.0	0.51	0.51	0.43
WCM302-45	2890.0	D	1230.0	1230.0	0.67	0.67	0.25
WCM302-46	3225.0	D	2960.0	2960.0	0.42	0.42	0.37
WCM302-47	3920.0	D	4030.0	4030.0	0.36	0.36	0.34
WCM302-48	4750.0	D	2010.0	2010.0	0.51	0.51	0.19
WCM302-49	6450.0	D	2960.0	2960.0	0.42	0.42	0.17
WCM302-50	7840.0	D	4030.0	4030.0	0.36	0.36	0.15

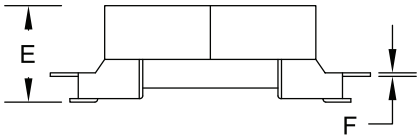
Schematics WCM302 Series

Power Inductors

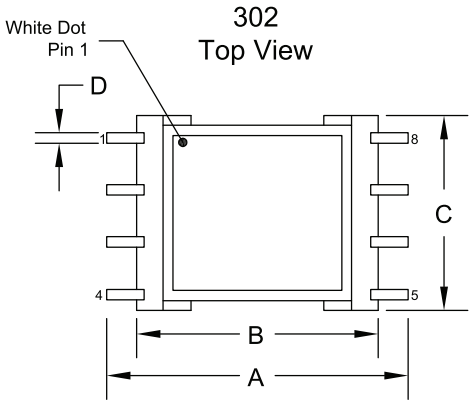
PCB Pad Layout



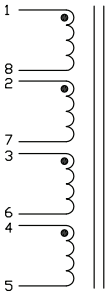
302
Side View



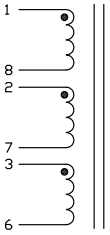
302
Top View



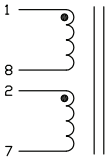
Schematic A



Schematic B



Schematic C



Schematic D

Schematic E

Product Code	A	B	C	D	E	F	I	J	K	L
WCM302	0.894 22.7	0.736 18.7	0.657 16.7	0.039 1.0	0.315 8.0	0.012 0.3	0.110 2.8	0.150 3.75	0.811 20.6	0.079 2.0

Dimensions:

Inches
mm

Note:

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