

# 304 series

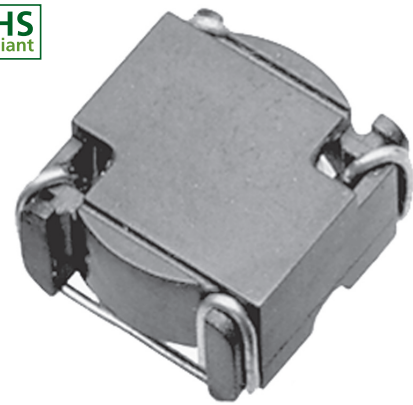
## power inductors

### PRODUCT DESCRIPTION

West Coast Magnetics' 304 high frequency inductors are designed for use as filters in high frequency power supplies. They will handle significant amounts of DC and will attenuate frequencies up to 500 MHz. The winding has been optimized to maximize the inductance and minimize the losses under load. The parts are used in a wide variety of power supply topologies and are ideal for use in computer and related applications.

### FEATURES - BENEFITS

Stable inductance, low losses at high frequency – Very low EMI –  
 Low profile surface mount design – Pick and place compatible –  
 Application specific designs available on request



Product Code	Inductance no DC ( $\mu$ H)	Max DCR (milliohms)	Rated DC Current (amps) <sup>a.</sup>	Nominal Energy Storage at Rated Load ( $\mu$ J) <sup>b.</sup>	Inductance at Rated Load ( $\mu$ H) <sup>b.</sup>	ET at 50 kHz <sup>c.</sup>	ET at 100 kHz <sup>c.</sup>	ET at 250 kHz <sup>c.</sup>	ET at 500 kHz <sup>c.</sup>	Coil Size Code
304-01	8.5	117	0.8	2.4	7.4	10.1	6.8	4.0	2.6	SM 1
304-02	15.8	160	0.8	4.0	12.5	13.8	9.3	5.4	3.6	SM 1
304-03	61.8	370	0.8	16	49.4	41.4	27.5	15.8	10.4	SM 2
304-04	149.5	374	0.8	32	100.2	64.4	42.7	24.5	16.1	SM 2
304-05	291.6	1093	0.8	71	221.6	141.9	93.1	54.5	36.7	SM 5
304-06	3.4	49	1.0	1.6	3.1	6.4	4.3	2.5	1.7	SM 1
304-07	5.1	59	1.0	2.2	4.5	7.8	5.3	3.1	2.0	SM 1
304-08	29.6	158	1.0	13	25.5	28.5	18.9	10.8	7.1	SM 2
304-09	105.9	370	1.0	42	84.7	74.3	49.0	28.6	19.3	SM 4
304-10	190.6	554	1.0	72	144.9	114.8	75.2	44.1	29.6	SM 5

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#### Notes:

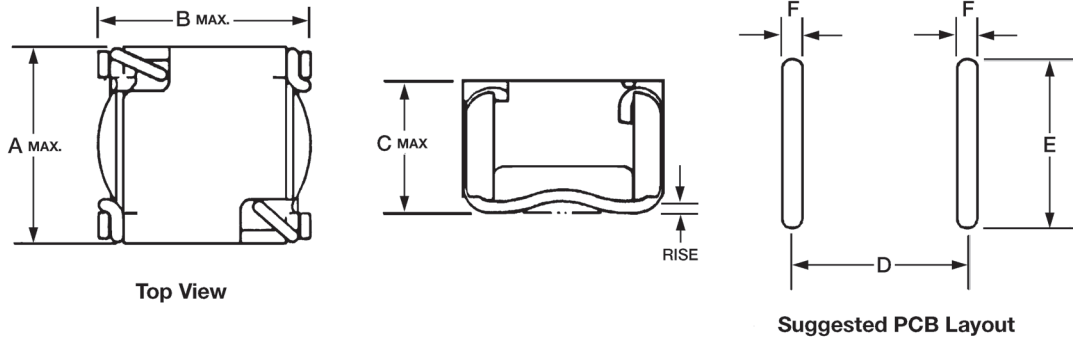
- Current rating for maximum T rise of 40 degrees C.
- Energy storage and inductance at rated load assume ripple current less than 1% of rated DC current.
- Volt Microseconds for 15 degree C T rise due to core losses.

...continued from previous

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304-11	1.8	23	1.4	1.6	1.7	4.6	3.1	1.8	1.2	SM 1
304-12	19.1	86	1.4	15	15.7	23.0	15.3	8.8	5.8	SM 2
304-13	35.6	132	1.4	27	27.8	36.6	24.1	14.1	9.3	SM 3
304-14	64.7	185	1.4	49	49.8	58.1	38.3	22.4	15.1	SM 4
304-15	9.9	40	2.0	16	8.0	16.6	11.0	6.3	4.1	SM 2
304-16	23.7	66	2.0	38	19.0	32.6	21.6	12.5	8.4	SM 3
304-17	40.5	94	2.0	60	30.0	45.9	30.3	17.7	11.9	SM 4
304-18	66.8	135	2.0	94	46.8	68.0	45.0	26.1	17.6	SM 5
304-19	6.9	22	2.8	21	5.2	13.8	9.2	5.3	3.5	SM 2
304-20	11.0	29	2.8	35	9.0	22.2	14.7	8.6	5.7	SM 3
304-21	21.9	45	2.8	62	16.0	33.8	22.3	13.0	8.8	SM 4
304-22	45.2	72	2.8	116	29.8	55.9	37.0	21.5	14.4	SM 5
304-23	3.7	11	4.0	22	2.8	10.1	6.7	3.9	2.5	SM 2
304-24	5.9	15	4.0	35	4.4	14.9	9.8	5.7	3.8	SM 3
304-25	14.0	23	4.0	76	9.5	27.0	17.8	10.4	7.0	SM 4
304-26	20.6	31	4.0	110	13.8	37.8	25.0	14.5	9.8	SM 5
304-27	2.6	6.5	5.7	31	1.9	9.9	6.5	3.8	2.5	SM 3
304-28	5.0	9.2	5.7	59	3.7	16.2	10.7	6.2	4.2	SM 4
304-29	9.5	14	5.7	103	6.4	25.7	17.0	9.9	6.6	SM 5
304-30	16.0	18	5.7	153	9.4	33.2	22.0	12.8	8.6	SM 5

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

## MECHANICAL DIMENSIONS



Size Code	A	B	C	D	E	F
SM 1	<u>.340</u> 8.64	<u>.340</u> 8.64	<u>.270</u> 6.86	<u>.270</u> 6.86	<u>.300</u> 7.62	<u>.060</u> 1.52
SM 2	<u>.485</u> 11.05	<u>.440</u> 11.18	<u>.360</u> 9.14	<u>.360</u> 9.14	<u>.400</u> 10.16	<u>.060</u> 1.52
SM 3	<u>.560</u> 14.22	<u>.565</u> 14.35	<u>.360</u> 9.14	<u>.460</u> 11.68	<u>.520</u> 13.21	<u>.060</u> 1.52
SM 4	<u>.590</u> 14.99	<u>.615</u> 15.62	<u>.400</u> 10.16	<u>.510</u> 12.95	<u>.550</u> 13.97	<u>.060</u> 1.52
SM 5	<u>.670</u> 17.02	<u>.700</u> 17.78	<u>.400</u> 10.16	<u>.590</u> 14.99	<u>.620</u> 15.75	<u>.060</u> 1.52

Dimensions A, B, C are maximum dimensions.

Recommended tolerance on dimensions D, E =  $\pm 0.005/13$

Maximum Rise =  $.010/25$

Moulding: Ryton R4

Rating: UL 94 V0

SMD Pads: Sn96.5/Ag3.0/Cu0.5

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