

FCD series

FCD series (Rev. 4.0)



Various high power surface mountable type inductors provide superior high saturation. The magnetic shielding also protects against radiation.

Features

- * RoHS compliant
- * High saturation open type wire wound power inductor
- * Suitable for large currents
- * Ideal for DC – DC converter applications

Applications

- * Power supply for VTRs
- * OA equipment
- * LCD televisions
- * Notebook PCs
- * Portable communication devices
- * DC / DC converters, etc

Product Identification

FCD 32 - 4R7 M S
 1 2 3 4 5

1. Product Code
2. Size Code: 3.5 * 3.0 * 2.0mm
3. Inductance: 4.7uH
4. Tolerance: M=±20%
5. S: special

Operating & Storage Condition :

Operating Temp. : -55 to +125°C
 Storage Temp. : -25 to +35°C
 Storage Life Time : 12 Months @25°C , RH 70%

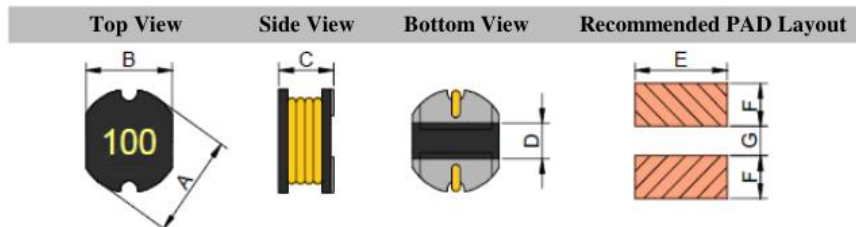
Test Equipment :

- * Wayne kerr 3260B/G LCR Meter
- * Wayne kerr 3265B Bias Current Source

Standard Atmospheric Conditions :

Ambient Temp : 20+/-15°C
 Relative Humidity : 65+/-20%

Dimension & Recommended PAD Layout: [mm]



Size Code	A(±0.3)	B(±0.3)	C(±0.3)	D(ref.)	E(ref.)	F(ref.)	G(ref.)
31	3.5	3.0	1.6	1.2	3.2	1.5	1.0
32	3.5	3.0	2.0	1.2	3.2	1.5	1.0
43	4.5	4.0	3.2	1.2	4.5	2.0	1.0
52	5.8	5.2	2.5	1.2	5.6	2.6	1.1
53	5.8	5.2	3.2	1.2	5.6	2.6	1.1
54	5.8	5.2	4.5	1.3	5.6	2.6	1.1
73	7.8	7.0	3.5	2.1	7.4	3.3	1.7
75	7.8	7.0	5.0	2.1	7.4	3.3	1.7
77	7.8	7.0	7.0	2.1	7.4	3.3	1.7
104	10±0.4	9.0	4.2	2.5	9.6	4.5	2.1
105	10±0.4	9.0	5.5	2.5	9.6	4.5	2.1
106	10±0.4	9.0	6.6	2.5	9.6	4.5	2.1
107	10±0.4	9.0	7.2	2.5	9.6	4.5	2.1
108	10±0.4	9.0	8.0	2.5	9.6	4.5	2.1

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Electrical Characteristics

L Code	L (uH)	DCR(Ω) max./IDC(A) max.													
		FCD 31		FCD 32		FCD 43		FCD 52		FCD 53		FCD 54		FCD 73	
1R0	1.0	0.048	1.60	0.035	3.34	0.033	3.80	0.050	4.20	0.030	4.50	0.020	5.00	0.018	7.00
1R2	1.2			0.044	3.10	0.035	3.60	0.060	4.00	0.030	4.20				
1R5	1.5	0.062	1.55	0.045	3.01	0.039	3.20	0.060	3.70	0.030	4.10	0.025	5.00	0.020	6.00
1R8	1.8			0.054	2.68	0.042	2.91	0.070	3.50	0.030	3.70	0.025	5.00		
2R2	2.2	0.078	1.47	0.059	2.35	0.047	2.60	0.080	3.20	0.030	3.50	0.027	4.50	0.023	5.00
2R7	2.7			0.077	2.01	0.052	2.43	0.100	2.70	0.040	3.20	0.030	3.50		
3R3	3.3	0.126	1.34	0.098	1.83	0.058	2.15	0.120	2.40	0.050	2.80	0.034	3.00	0.025	4.00
3R6	3.6											0.036	3.00		
3R9	3.9	0.140	1.24	0.117	1.64	0.076	1.98	0.140	2.00	0.060	2.60	0.038	3.00		
4R7	4.7	0.158	1.22	0.137	1.50	0.094	1.70	0.150	1.80	0.070	2.50	0.040	3.00	0.039	3.50
5R6	5.6	0.186	1.09	0.157	1.36	0.101	1.60	0.160	1.50	0.080	2.40				
6R8	6.8	0.213	0.96	0.196	1.22	0.117	1.41	0.170	1.40	0.090	2.20	0.080	2.50	0.040	2.80
8R2	8.2	0.238	0.84	0.230	1.09	0.132	1.26	0.200	1.30	0.100	2.00				
100	10	0.307	0.70	0.286	0.95	0.182	1.15	0.230	1.10	0.120	1.80	0.100	1.44	0.080	1.44
120	12	0.372	0.65	0.322	0.88	0.210	1.05	0.250	1.05	0.130	1.75	0.120	1.40	0.090	1.39
150	15	0.466	0.59	0.398	0.82	0.235	0.92	0.300	1.00	0.150	1.70	0.140	1.30	0.100	1.24
180	18	0.515	0.54	0.520	0.76	0.338	0.84	0.350	0.90	0.180	1.60	0.150	1.23	0.110	1.12
220	22	0.656	0.48	0.660	0.63	0.378	0.76	0.400	0.85	0.220	1.50	0.180	1.11	0.130	1.07
270	27	0.774	0.43	0.760	0.62	0.522	0.71	0.500	0.75	0.240	1.40	0.200	0.97	0.150	0.94
330	33	1.021	0.37	0.870	0.56	0.540	0.64	0.550	0.70	0.300	1.10	0.230	0.88	0.170	0.85
390	39	1.122	0.32	1.100	0.51	0.587	0.59	0.650	0.60	0.400	1.00	0.320	0.80	0.220	0.74
470	47	1.509	0.26	1.250	0.47	0.844	0.54	0.750	0.55	0.430	0.90	0.370	0.72	0.250	0.68
560	56	1.675	0.24	1.590	0.42	0.937	0.50	0.950	0.50	0.500	0.85	0.420	0.68	0.280	0.64
680	68	1.919	0.23	1.820	0.38	1.117	0.46	1.200	0.45	0.600	0.80	0.460	0.61	0.330	0.59
820	82	2.644	0.21	2.440	0.34	1.180	0.43	1.400	0.40	0.800	0.65	0.600	0.58	0.410	0.54
101	100	2.870	0.19	2.840	0.31	1.190	0.41	1.750	0.35	0.900	0.60	0.700	0.52	0.480	0.51
121	120	4.084	0.17	3.190	0.28	1.220	0.38	2.000	0.25	1.000	0.58	0.930	0.48	0.540	0.49
151	150	4.774	0.16	4.200	0.16	1.400	0.35	2.600	0.22	1.300	0.43	1.100	0.40	0.750	0.40
181	180	5.699	0.14	5.110	0.15	1.850	0.31	3.000	0.20	1.500	0.41	1.380	0.38	1.020	0.36
221	220	9.000	0.12	7.310	0.14	2.156	0.29	3.700	0.18	2.000	0.38	1.570	0.35	1.200	0.31
271	270			8.240	0.12	2.890	0.26	4.000	0.18	2.500	0.35			1.310	0.29
331	330			10.190	0.10	3.760	0.20	4.200	0.17	3.200	0.28	2.200	0.30	1.500	0.28
391	390					5.500	0.17								
471	470					7.200	0.15					2.800	0.23		
561	560									4.500	0.25	3.000	0.20		
681	680											3.500	0.18		
102	1000	34.0	0.07			11.500	0.08			6.950	0.22	6.240	0.15		
122	1200	35.0	0.057												

* Test Freq.: @100KHz / 0.1V

* Tolerance: K= $\pm 10\%$, M= $\pm 20\%$, N= $\pm 30\%$

* IDC : This indicates the value of current when the inductance is 10% lower than it's initial value at D.C. superimposition or D.C.current when at $\Delta T=40^{\circ}C$, whichever is lower. ($T_a=20^{\circ}C$)

Electrical Characteristics- Continued

L Code	L (uH)	DCR(Ω) max / IDC(A) max.													
		FCD 75		FCD 77		FCD 104		FCD 105		FCD 106		FCD 107		FCD 108	
1R0	1.0	0.013	7.50			0.012	8.70					0.008	9.50		
1R2	1.2	0.015	7.20			0.014	8.00	0.009	8.63						
1R5	1.5	0.016	6.50			0.016	7.48	0.014	8.00						
1R8	1.8	0.020	6.00			0.018	6.80					0.011	8.60		
2R2	2.2	0.023	5.30			0.020	5.40	0.016	7.20			0.012	8.00		
2R7	2.7					0.024	3.20								
3R3	3.3	0.028	4.50			0.028	2.85	0.018	6.50			0.016	6.80		
3R6	3.6														
3R9	3.9	0.030	4.20			0.030	2.80					0.017	6.35		
4R7	4.7	0.045	4.00			0.038	2.75	0.022	4.60			0.019	5.45		
5R6	5.6	0.048	3.60			0.040	2.70	0.024	4.00			0.024	4.30		
6R8	6.8	0.058	3.20			0.042	2.65	0.040	3.60			0.035	3.52		
8R2	8.2	0.070	2.80			0.048	2.60	0.045	3.20			0.045	3.51		
100	10	0.070	2.30			0.050	2.38	0.060	2.58			0.060	3.50		
120	12	0.080	2.00			0.060	2.13	0.070	2.44			0.070	3.40		
150	15	0.090	1.80			0.070	1.87	0.070	2.26	0.060	4.00	0.080	3.10		
180	18	0.100	1.60			0.080	0.73	0.080	2.13			0.090	3.00		
220	22	0.110	1.50	0.095	2.70	0.090	1.60	0.080	1.93			0.100	2.60		
220S	22	0.110	2.60					0.080	3.20						
270	27	0.120	1.30			0.100	1.44	0.100	1.74			0.110	2.40		
330	33	0.130	1.20	0.140	2.40	0.120	1.26	0.110	1.46	0.106	3.00	0.120	2.30	0.100	3.00
330S	33	0.150	2.00					0.110	2.60						
390	39	0.160	1.10			0.150	1.20	0.120	1.36			0.140	2.10		
470	47	0.180	1.10	0.200	2.00	0.170	1.10	0.140	1.26			0.170	1.95	0.117	3.00
470S	47	0.230	1.80					0.160	2.10						
560	56	0.240	0.94			0.200	1.01	0.190	1.15			0.190	1.85		
680	68	0.280	0.85			0.220	0.91	0.210	1.10	0.160	2.50	0.220	1.65	0.240	1.90
680S	68	0.350	1.50					0.210	1.90						
820	82	0.370	0.78			0.250	0.85	0.280	0.98			0.250	1.50		
101	100	0.430	0.72	0.450	1.50	0.340	0.74	0.340	0.95	0.200	1.80	0.350	1.40		
101S	100	0.480	1.20					0.310	1.50						
121	120	0.470	0.66			0.400	0.69	0.370	0.87			0.400	1.30		
121S	120	0.660	1.10												
151	150	0.640	0.58	0.600	1.20	0.540	0.61	0.510	0.74			0.470	1.20		
151S	150	0.680	1.00												
181	180	0.710	0.51			0.620	0.56	0.570	0.70			0.630	1.00		
221	220	0.960	0.49	0.810	1.00	0.720	0.53	0.780	0.65			0.730	0.95		
221S	220	0.980	0.80					0.780	1.00						
271	270	1.110	0.42			0.950	0.45	0.870	0.54			0.970	0.90		
331	330	1.260	0.40			1.100	0.42	1.200	0.50			1.150	0.80		
391	390	1.770	0.36			1.240	0.38	1.340	0.46			1.300	0.75		
471	470	1.960	0.34			1.530	0.35	1.500	0.40			1.480	0.65		
561	560					1.900	0.32	1.900	0.33			1.900	0.60		
681	680	2.480	0.30					2.250	0.30			2.250	0.50		
102	1000	5.000	0.17									3.000	0.46		
122	1200	5.000	0.17									3.500	0.35		

* Test Freq.: @100KHz / 0.1V

* Tolerance: K= $\pm 10\%$, M= $\pm 20\%$, N= $\pm 30\%$

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