

Type SMTDR (1 ~ 820) μ H

- # High power, high saturation
- # Low cost
- # dc ~ dc converters
- # RoHS Compliant



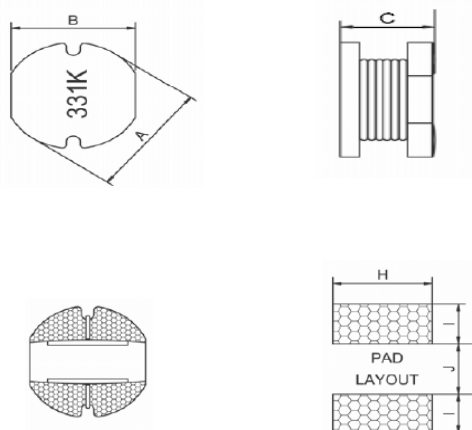
Case dimensions (mm)	A	B	C	H	I	J
SMTDR31	3.5 $\pm$ 0.3	3.0 $\pm$ 0.3	1.1 $\pm$ 0.2	3.5	1.6	0.8
SMTDR32	3.5 $\pm$ 0.3	3.0 $\pm$ 0.3	2.0 $\pm$ 0.3	3.5	0.1.6	0.8
SMTDR43	4.5 $\pm$ 0.3	4.0 $\pm$ 0.3	3.2 $\pm$ 0.3	4.5	1.75	1.5
SMTDR52	5.8 $\pm$ 0.3	5.2 $\pm$ 0.3	2.5 $\pm$ 0.3	5.5	2.15	1.7
SMTDR53	5.8 $\pm$ 0.3	5.2 $\pm$ 0.3	3.0 $\pm$ 0.3	5.5	2.15	1.7
SMTDR54	5.8 $\pm$ 0.3	5.2 $\pm$ 0.3	4.0 $\pm$ 0.35	5.5	2.15	1.7
SMTDR73	7.8 $\pm$ 0.3	7.0 $\pm$ 0.3	3.5 $\pm$ 0.5	7.5	3.0	2.0
SMTDR75	7.8 $\pm$ 0.3	7.0 $\pm$ 0.3	5.0 $\pm$ 0.5	7.5	3.0	2.0
SMTDR104	10.0 $\pm$ 0.3	9.0 $\pm$ 0.3	4.0 $\pm$ 0.5	9.5	3.75	2.5
SMTDR105	10.0 $\pm$ 0.4	9.0 $\pm$ 0.4	5.4 $\pm$ 0.4	9.5	3.75	2.5

Ordering information :

SMT DR105 - 331 K
(1) (2) (3) (4)

- (1) Type: Surface Mountable Type
- (2) Style: DR Core : OD=10mm, HT=5.4mm
- (3) Inductance : 331 for 330 μ H
- (4) Inductance tolerance : "M": $\pm$ 20%; "L": $\pm$ 15%; "K": $\pm$ 10%

SMTDR drawing



TFC Part No.	Inductance L (μH)	Test Freq. (@ 0.1V)	DCR (Ω) max.	Rated Current (A) max.
SMTDR31-2R2M	2.2	100 KHz	0.24	1.20
SMTDR31-3R3M	3.3	100 KHz	0.27	1.08
SMTDR31-4R7M	4.7	100 KHz	0.30	1.00
SMTDR31-6R8M	6.8	100 KHz	0.47	0.80
SMTDR31-8R2M	8.2	100 KHz	0.52	0.76
SMTDR31-100M	10.0	100 KHz	0.55	0.75
SMTDR31-120M	12.0	100 KHz	0.75	0.60
SMTDR31-150M	15.0	100 KHz	0.91	0.50
SMTDR31-220M	22.0	100 KHz	1.20	0.40
SMTDR31-270M	27.0	100 KHz	1.50	0.36

TFC Part No.	Inductance L (μH)	DC resistance (Ω) max.					Rated DC current (A) max.				
		DR32	DR43	DR52	DR53	DR54	DR32	DR43	DR52	DR53	DR54
1R0	1.0	0.045	0.0487		0.03		2.20	2.56		4.50	
1R2	1.2	0.050		0.050	0.03		2.10		4.20	4.20	
1R4	1.4		0.0562					2.52			
1R5	1.5	0.055		0.060	0.03		1.70		4.00	4.10	
1R8	1.8	0.070	0.0637	0.065	0.03		1.65	1.95	3.70	3.70	
2R2	2.2	0.085	0.0712	0.07	0.03		1.60	1.75	3.50	3.50	
2R7	2.7	0.100	0.0787	0.08	0.04		1.40	1.58	3.20	3.20	
3R3	3.3	0.120	0.0862	0.10	0.05		1.04	1.44	2.70	2.80	
3R9	3.9	0.125	0.0937	0.12	0.06		1.00	1.33	2.40	2.60	
4R7	4.7	0.135	0.1087	0.14	0.07		1.00	1.15	2.00	2.50	
5R6	5.6	0.145	0.1257	0.15	0.08		0.95	0.99	1.80	2.40	
6R8	6.8	0.20	0.1312	0.16	0.09		0.95	0.95	1.50	2.20	
8R2	8.2	0.25	0.1462	0.17	0.10		0.92	0.84	1.40	2.00	
100	10.0	0.32	0.182	0.20	0.13	0.10	0.90	1.04	1.30	1.80	1.44
120	12.0	0.35	0.210	0.23	0.16	0.12	0.85	0.97	1.10	1.75	1.40
150	15.0	0.46	0.235	0.25	0.19	0.14	0.75	0.85	1.05	1.70	1.30
180	18	0.52	0.338	0.30	0.21	0.15	0.70	0.74	1.00	1.60	1.23
220	22	0.65	0.378	0.35	0.28	0.18	0.60	0.68	0.90	1.50	1.11
270	27	0.75	0.522	0.40	0.32	0.20	0.55	0.62	0.85	1.40	0.97
330	33	0.92	0.540	0.50	0.38	0.23	0.50	0.56	0.75	1.10	0.88
390	39	1.12	0.587	0.55	0.42	0.32	0.48	0.52	0.70	1.00	0.80
470	47	1.27	0.844	0.65	0.52	0.37	0.45	0.44	0.60	0.90	0.72
560	56	1.50	0.937	0.75	0.56	0.42	0.30	0.42	0.55	0.85	0.68
680	68	2.00	1.117	0.95	0.68	0.46	0.26	0.37	0.50	0.80	0.61
820	82	2.15		1.20	0.82	0.60	0.23		0.45	0.65	0.58
101	100	2.80		1.40	1.10	0.70	0.20		0.40	0.60	0.52
121	120	3.40		1.75	1.20	0.93	0.18		0.35	0.58	0.48
151	150	4.20		2.00	1.50	1.10	0.16		0.25	0.43	0.40
181	180	4.50		2.60	1.80	1.38	0.15		0.22	0.41	0.38
221	220	5.70		3.00	2.00	1.57	0.14		0.20	0.38	0.35
271	270	8.50		3.70	2.90		0.10		0.18	0.35	
331	330	9.50		4.30	3.30		0.09		0.17	0.28	
391				6.00	3.70				0.16	0.260	
471				6.70	4.90				0.15	0.200	

Measuring Frequency :

1.0~8.2μH @ 7.96MHz 0.25V; 10~82μH @ 2.52MHz 0.25V; 100~470μH @ 1kHz 0.25V

Tolerance of Inductance :

SMTDR32 1.0~18μH (M) ± 20%; 22~330μH (K) ± 10%.

SMTDR52 1.2~18μH (M) ± 20%; 22~470μH (K) ± 10%.

SMTDR54 10~27μH (M) ± 20%; 33~220μH (K) ± 10%.

SMTDR43 1.0~27μH (M) ± 20%; 33~68μH (K) ± 10%.

SMTDR53 1.0~18μH (M) ± 20%; 22~470μH (K) ± 10%.

TFC Part No.	L (μ H)	DC resistance (Ω) Max.				Rated DC current (A) max.			
		DR73	DR75	DR104	DR105	DR73	DR75	DR104	DR105
100	10	0.0803	0.07	0.053	0.06	1.44	2.30	2.38	2.60
120	12	0.0897	0.08	0.061	0.07	1.39	2.00	2.13	2.45
150	15	0.104	0.09	0.070	0.08	1.24	1.80	1.87	2.27
180	18	0.111	0.10	0.081	0.09	1.12	1.60	1.73	2.15
220	22	0.129	0.11	0.088	0.10	1.07	1.50	1.60	1.95
270	27	0.153	0.12	0.100	0.11	0.94	1.30	1.44	1.76
330	33	0.170	0.13	0.120	0.12	0.85	1.20	1.26	1.50
390	39	0.217	0.16	0.151	0.14	0.74	1.10	1.20	1.37
470	47	0.252	0.18	0.170	0.17	0.68	1.10	1.10	1.28
560	56	0.282	0.24	0.199	0.19	0.64	0.94	1.01	1.17
680	68	0.332	0.28	0.223	0.22	0.59	0.85	0.91	1.11
820	82	0.406	0.37	0.252	0.25	0.54	0.78	0.85	1.00
101	100	0.481	0.43	0.344	0.35	0.51	0.72	0.74	0.97
121	120	0.536	0.47	0.396	0.40	0.49	0.66	0.69	0.89
151	150	0.755	0.64	0.544	0.47	0.40	0.58	0.61	0.78
181	180	1.022	0.71	0.621	0.63	0.36	0.51	0.56	0.72
221	220	1.200	0.96	0.721	0.73	0.31	0.49	0.53	0.66
271	270	1.306	1.11	0.949	0.97	0.29	0.42	0.45	0.57
331	330	1.495	1.26	1.100	1.15	0.28	0.40	0.42	0.52
391	390		1.77	1.245	1.30		0.36	0.38	0.48
471	470		1.96	1.526	1.48		0.34	0.35	0.42
561	560			1.904	1.90			0.32	0.33
681	680				2.25				0.28
821	820				2.55				0.24

Measuring Frequency :
10~82 μ H @ 2.52MHz 0.25V; 100~330 μ H @ 1kHz 0.25V

Tolerance of Inductance :
SMTDR73 10~470 μ H (K) $\pm$ 10%; 56~330 μ H (K) $\pm$ 10%.
SMTDR75 10~470 μ H (K) $\pm$ 10%.
SMTDR104 10~47 μ H (M) $\pm$ 20%; 56~560 μ H (K) $\pm$ 10%.
SMTDR105 10~39 μ H (M) $\pm$ 20%; 47~820 μ H (K) $\pm$ 10%.

Electrical specification

Inductance range

SMTDR31	2.2 ~ 27.0 μ H	1.4 ~ 0.4A	SMTDR54	10 ~ 220 μ H	1.44 ~ 0.35A
SMTDR32	1.0 ~ 330 μ H	2.2 ~ 0.09A	SMTDR73	10 ~ 330 μ H	1.44 ~ 0.28A
SMTDR43	1.0 ~ 68 μ H	2.56 ~ 0.37A	SMTDR73	10 ~ 330 μ H	1.44 ~ 0.28A
SMTDR52	1.2 ~ 220 μ H	4.2 ~ 0.15A	SMTDR104	10 ~ 560 μ H	2.38 ~ 0.32A
SMTDR53	1.0 ~ 150 μ H	4.5 ~ 0.43A	SMTDR105	10 ~ 820 μ H	2.60 ~ 0.24A

Rated DC Current

It is either the inductance is 10% lower than its initial value in D.C. saturation characteristics r temperature raise becomes $\Delta T=40^{\circ}\text{C}$ ($T_a=20^{\circ}\text{C}$), whichever is lower

Operating temperature

-20 $^{\circ}\text{C}$ to 80 $^{\circ}\text{C}$

Test equipment and set up

L : tested by Agilent 4284A or Agilent 4285A LCR meter
DCR tested by Milli-ohm meter
Electrical specifications at 25 $^{\circ}\text{C}$