

## Data Sheet

**Customer:**

**Product:** Shielded SMD Power Inductor – SCDA Series

**Sizes.:** 2D10/2D15/2D18/3D12/3D15/3D18

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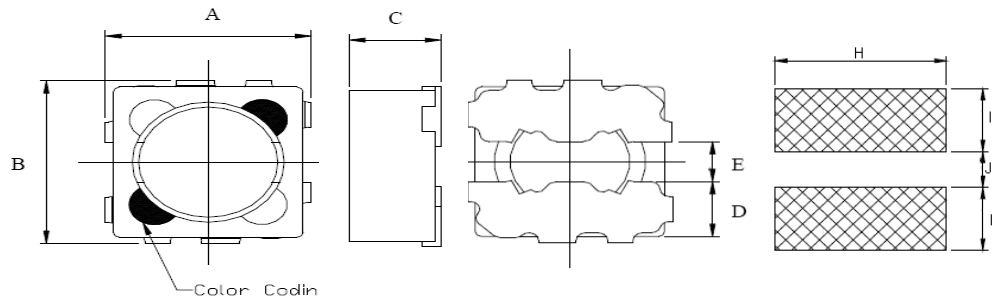
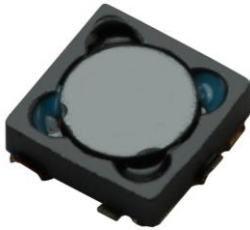
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## Shielded SMD Power Inductor



### ■ Features

- low profile, low RDC, lower resistance and high current handling capacities
- Flat bottom surface ensures secure, reliable mounting
- Magnetically shielded structure that ensures the high-density mounting configurations.

### ■ Applications

- PDA, DSC, PDA And Other Electronic Equipments
- Hard Disk Drives
- Low Profile/ Low Resistance Specifically Suitable For Portable Telephones

### ■ Characteristics

- Saturation Rated Current(IDC): The current when the inductance becomes 10% or 35% lower than its initial value.
- Temperature Rise Current(Irms): For a 25°C rise above 25°C ambient.
- Operating temperature range: -25~105°C

### ■ Dimensions

Unit: mm

Type	A	B	C max.	D	E	H	I	J
SCDA2D10	3.2±0.2	3.2±0.2	1.05	1.1	0.8	3.6	1.4	0.8
SCDA2D15	3.2±0.2	3.2±0.2	1.6	1.1	0.8	3.6	1.4	0.8
SCDA2D18	3.2±0.2	3.2±0.2	1.8	1.1	0.8	3.6	1.4	0.8
SCDA3D12	4.2±0.2	4.2±0.2	1.25	1.3	1.4	4.6	1.6	1.4
SCDA3D15	4.2±0.2	4.2±0.2	1.6	1.3	1.4	4.6	1.6	1.4
SCDA3D18	4.2±0.2	4.2±0.2	1.8	1.3	1.4	4.6	1.6	1.4

### ■ Inductance and rated current ranges

- SCDA2D10 1.2~47μH 1.40~0.18A
- SCDA2D15L 1.0~18μH 1.40~0.30A
- SCDA2D15H 0.47~100μH 3.40~0.24A
- SCDA2D18L 1.0~27μH 1.36~0.22A
- SCDA2D18H 1.0~33μH 3.00~0.47A
- SCDA3D12 1.0~33μH 3.00~0.42A
- SCDA3D15 0.5~47μH 3.90~0.34A
- SCDA3D18 1.0~100μH 3.20~0.26A

– Test equipment:

L: HP4284A Precision LCR meter

DCR: Milli-ohm meter

– Electrical specifications at 25°C

### ■ Product Identification

SCDA	2D15	M	T	L	101
Product Type	Dimensions (AxBxC)	Inductance Tolerance	Packaging Style	Design Code	Inductance
	2D10: 3.2x3.2x1.05 2D15: 3.2x3.2x1.6 2D18: 3.2x3.2x1.8 3D12: 4.2x4.2x1.25 3D15: 4.2x4.2x1.6 3D18: 4.2x4.2x1.8	M: ±20% N: ±30%	T : Tape and Reel	: Standard L: Low Resistance H: High Current	1R1: 1.1μH 470: 47μH 101: 100μH

**Electrical Characteristics**

SCDA2D10 Type(□:Tolerance):

Part No	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
SCDA2D10□T1R2	1.2	N,M	1KHz, 1V	0.070	1.00	1.40	1.50	Black
SCDA2D10□T1R5	1.5	N,M	1KHz, 1V	0.087	1.00	1.36	1.40	Brown
SCDA2D10□T1R8	1.8	N,M	1KHz, 1V	0.097	0.90	1.24	1.35	Red
SCDA2D10□T2R2	2.2	N,M	1KHz, 1V	0.136	0.80	0.97	1.10	Orange
SCDA2D10□T2R7	2.7	N,M	1KHz, 1V	0.127	0.76	0.94	1.10	Yellow
SCDA2D10□T3R3	3.3	N,M	1KHz, 1V	0.175	0.68	0.88	1.00	Green
SCDA2D10□T3R9	3.9	N,M	1KHz, 1V	0.200	0.62	0.84	0.90	Blue
SCDA2D10□T4R7	4.7	N,M	1KHz, 1V	0.274	0.60	0.82	0.85	Violet
SCDA2D10□T5R6	5.6	N,M	1KHz, 1V	0.319	0.54	0.72	0.75	Gray
SCDA2D10□T6R8	6.8	N,M	1KHz, 1V	0.330	0.46	0.60	0.70	White
SCDA2D10□T8R2	8.2	N,M	1KHz, 1V	0.420	0.44	0.58	0.65	Black
SCDA2D10□T100	10	M	1KHz, 1V	0.470	0.42	0.54	0.60	Brown
SCDA2D10□T120	12	M	1KHz, 1V	0.675	0.32	0.44	0.55	Red
SCDA2D10□T150	15	M	1KHz, 1V	0.800	0.30	0.40	0.50	Orange
SCDA2D10□T180	18	M	1KHz, 1V	0.890	0.30	0.38	0.45	Yellow
SCDA2D10□T220	22	M	1KHz, 1V	1.110	0.26	0.32	0.40	Green
SCDA2D10□T270	27	M	1KHz, 1V	1.600	0.24	0.30	0.34	Black
SCDA2D10□T330	33	M	1KHz, 1V	1.600	0.22	0.28	0.34	Blue
SCDA2D10□T470	47	M	1KHz, 1V	2.430	0.18	0.22	0.24	Black

SCDA3D12 Type(□:Tolerance):

Part No	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
SCDA3D12□T1R0	1.0	N,M	1KHz, 1V	0.045	2.30	3.00	2.00	Black
SCDA3D12□T1R2	1.2	N,M	1KHz, 1V	0.048	2.20	2.80	1.90	Brown
SCDA3D12□T1R5	1.5	N,M	1KHz, 1V	0.055	1.90	2.40	1.80	Red
SCDA3D12□T1R8	1.8	N,M	1KHz, 1V	0.073	1.80	2.30	1.75	Orange
SCDA3D12□T2R2	2.2	N,M	1KHz, 1V	0.083	1.70	2.10	1.75	Yellow
SCDA3D12□T2R7	2.7	N,M	1KHz, 1V	0.109	1.40	1.70	1.44	Green
SCDA3D12□T3R3	3.3	N,M	1KHz, 1V	0.118	1.30	1.70	1.40	Blue
SCDA3D12□T3R9	3.9	N,M	1KHz, 1V	0.143	1.26	1.60	1.30	Violet
SCDA3D12□T4R7	4.7	N,M	1KHz, 1V	0.159	1.24	1.58	1.20	Gray
SCDA3D12□T5R6	5.6	N,M	1KHz, 1V	0.213	1.00	1.30	1.00	White
SCDA3D12□T6R8	6.8	N,M	1KHz, 1V	0.224	1.00	1.30	0.96	Black
SCDA3D12□T8R2	8.2	N,M	1KHz, 1V	0.252	0.92	1.14	0.94	Brown
SCDA3D12□T100	10	M	1KHz, 1V	0.327	0.86	1.06	0.90	Red
SCDA3D12□T120	12	M	1KHz, 1V	0.363	0.80	0.98	0.82	Orange
SCDA3D12□T150	15	M	1KHz, 1V	0.516	0.60	0.80	0.64	Yellow
SCDA3D12□T180	18	M	1KHz, 1V	0.625	0.56	0.76	0.60	Green
SCDA3D12□T220	22	M	1KHz, 1V	0.732	0.46	0.64	0.52	Blue
SCDA3D12□T330	33	M	1KHz, 1V	1.165	0.42	0.50	0.42	Violet

**Electrical Characteristics**

SCDA3D15 Type(□:Tolerance):

Part No	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
SCDA3D15□TR50	0.5	N	1KHz, 1V	0.035	3.10	3.90	2.50	Black
SCDA3D15□T1R0	1.0	N,M	1KHz, 1V	0.040	2.30	3.00	2.40	Black
SCDA3D15□T1R2	1.2	N,M	1KHz, 1V	0.043	2.20	2.80	2.34	Brown
SCDA3D15□T1R5	1.5	N,M	1KHz, 1V	0.050	2.00	2.60	2.30	Red
SCDA3D15□T1R8	1.8	N,M	1KHz, 1V	0.055	1.66	2.30	2.10	Orange
SCDA3D15□T2R2	2.2	N,M	1KHz, 1V	0.071	1.60	2.20	2.00	Yellow
SCDA3D15□T2R7	2.7	N,M	1KHz, 1V	0.078	1.40	2.00	1.60	Green
SCDA3D15□T3R3	3.3	N,M	1KHz, 1V	0.087	1.34	2.00	1.60	Blue
SCDA3D15□T3R9	3.9	N,M	1KHz, 1V	0.100	1.20	1.80	1.50	Violet
SCDA3D15□T4R7	4.7	N,M	1KHz, 1V	0.137	1.14	1.60	1.40	Gray
SCDA3D15□T5R6	5.6	N,M	1KHz, 1V	0.147	1.06	1.46	1.20	White
SCDA3D15□T6R8	6.8	N,M	1KHz, 1V	0.170	1.00	1.40	1.15	Black
SCDA3D15□T8R2	8.2	N,M	1KHz, 1V	0.195	0.94	1.28	1.10	Brown
SCDA3D15□T100	10	M	1KHz, 1V	0.228	0.90	1.16	1.02	Red
SCDA3D15□T120	12	M	1KHz, 1V	0.275	0.88	1.08	0.90	Orange
SCDA3D15□T150	15	M	1KHz, 1V	0.340	0.64	0.86	0.72	Yellow
SCDA3D15□T180	18	M	1KHz, 1V	0.380	0.60	0.82	0.68	Green
SCDA3D15□T220	22	M	1KHz, 1V	0.495	0.54	0.74	0.65	Blue
SCDA3D15□T270	27	M	1KHz, 1V	0.735	0.50	0.70	0.55	Violet
SCDA3D15□T330	33	M	1KHz, 1V	0.890	0.46	0.58	0.48	Gray
SCDA3D15□T390	39	M	1KHz, 1V	1.000	0.40	0.56	0.42	White
SCDA3D15□T470	47	M	1KHz, 1V	1.150	0.34	0.52	0.35	Black

SCDA3D18 Type(□:Tolerance):

Part No	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
SCDA3D18□T1R0	1.0	N,M	1KHz, 1V	0.038	2.60	3.20	2.40	Black
SCDA3D18□T1R2	1.2	N,M	1KHz, 1V	0.044	2.40	3.00	2.20	Brown
SCDA3D18□T1R5	1.5	N,M	1KHz, 1V	0.050	2.20	2.70	2.20	Red
SCDA3D18□T1R8	1.8	N,M	1KHz, 1V	0.045	1.90	2.40	2.00	Orange
SCDA3D18□T2R2	2.2	N,M	1KHz, 1V	0.062	1.80	2.20	1.90	Yellow
SCDA3D18□T2R7	2.7	N,M	1KHz, 1V	0.068	1.70	2.10	1.80	Green
SCDA3D18□T3R3	3.3	N,M	1KHz, 1V	0.080	1.50	1.88	1.65	Blue
SCDA3D18□T3R9	3.9	N,M	1KHz, 1V	0.084	1.40	1.80	1.56	Violet
SCDA3D18□T4R7	4.7	N,M	1KHz, 1V	0.099	1.22	1.46	1.40	Gray
SCDA3D18□T5R6	5.6	N,M	1KHz, 1V	0.110	1.16	1.48	1.30	White
SCDA3D18□T6R8	6.8	N,M	1KHz, 1V	0.128	1.02	1.26	1.20	Black
SCDA3D18□T8R2	8.2	N,M	1KHz, 1V	0.146	1.000	1.24	1.15	Brown
SCDA3D18□T100	10	M	1KHz, 1V	0.165	0.90	1.10	1.05	Red
SCDA3D18□T120	12	M	1KHz, 1V	0.254	0.84	1.00	0.80	Orange
SCDA3D18□T150	15	M	1KHz, 1V	0.320	0.74	0.88	0.72	Yellow
SCDA3D18□T180	18	M	1KHz, 1V	0.360	0.70	0.84	0.68	Green
SCDA3D18□T220	22	M	1KHz, 1V	0.418	0.60	0.74	0.65	Blue
SCDA3D18□T270	27	M	1KHz, 1V	0.450	0.56	0.70	0.60	Violet
SCDA3D18□T330	33	M	1KHz, 1V	0.620	0.46	0.58	0.58	Gray
SCDA3D18□T390	39	M	1KHz, 1V	0.650	0.45	0.56	0.48	White
SCDA3D18□T470	47	M	1KHz, 1V	0.790	0.43	0.52	0.45	Black
SCDA3D18□T560	56	M	1KHz, 1V	0.862	0.38	0.48	0.40	Brown
SCDA3D18□T680	68	M	1KHz, 1V	1.000	0.30	0.40	0.36	Red
SCDA3D18□T101	100	M	1KHz, 1V	1.380	0.26	0.32	0.36	Yellow

**Low Resistance Electrical Characteristics**

SCDA2D15 Type(□:Tolerance):

Part No	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
SCDA2D15□TL1R0	1.0	N,M	1KHz, 1V	0.038	1.04	1.40	1.80	Green
SCDA2D15□TL1R2	1.2	N,M	1KHz, 1V	0.041	1.00	1.30	1.74	Blue
SCDA2D15□TL1R5	1.5	N,M	1KHz, 1V	0.046	0.94	1.22	1.70	Violet
SCDA2D15□TL1R8	1.8	N,M	1KHz, 1V	0.058	0.92	1.16	1.64	Gray
SCDA2D15□TL2R2	2.2	N,M	1KHz, 1V	0.066	0.88	1.10	1.60	White
SCDA2D15□TL2R7	2.7	N,M	1KHz, 1V	0.070	0.74	0.93	1.45	Green
SCDA2D15□TL3R3	3.3	N,M	1KHz, 1V	0.091	0.68	0.90	1.24	Blue
SCDA2D15□TL3R9	3.9	N,M	1KHz, 1V	0.115	0.62	0.82	1.12	Violet
SCDA2D15□TL4R7	4.7	N,M	1KHz, 1V	0.132	0.60	0.74	1.10	Gray
SCDA2D15□TL5R6	5.6	N,M	1KHz, 1V	0.156	0.58	0.70	1.06	White
SCDA2D15□TL6R8	6.8	N,M	1KHz, 1V	0.166	0.42	0.62	1.00	Green
SCDA2D15□TL8R2	8.2	N,M	1KHz, 1V	0.230	0.40	0.58	0.90	Blue
SCDA2D15□TL100	10	M	1KHz, 1V	0.244	0.38	0.50	0.80	Violet
SCDA2D15□TL120	12	M	1KHz, 1V	0.324	0.36	0.44	0.70	Gray
SCDA2D15□TL150	15	M	1KHz, 1V	0.370	0.36	0.42	0.70	White
SCDA2D15□TL180	18	M	1KHz, 1V	0.489	0.30	0.38	0.62	Green

SCDA2D18 Type(□:Tolerance):

Part No	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
SCDA2D18□TL1R0	1.0	N,M	1KHz, 1V	0.038	0.96	1.36	1.80	Green
SCDA2D18□TL1R2	1.2	N,M	1KHz, 1V	0.041	0.94	1.22	1.76	Blue
SCDA2D18□TL1R5	1.5	N,M	1KHz, 1V	0.048	0.90	1.14	1.70	Violet
SCDA2D18□TL1R8	1.8	N,M	1KHz, 1V	0.052	0.84	1.04	1.68	Gray
SCDA2D18□TL2R2	2.2	N,M	1KHz, 1V	0.055	0.75	0.95	1.64	White
SCDA2D18□TL2R7	2.7	N,M	1KHz, 1V	0.060	0.68	0.90	1.46	Green
SCDA2D18□TL3R3	3.3	N,M	1KHz, 1V	0.078	0.60	0.80	1.40	Blue
SCDA2D18□TL3R9	3.9	N,M	1KHz, 1V	0.090	0.58	0.80	1.22	Violet
SCDA2D18□TL4R7	4.7	N,M	1KHz, 1V	0.099	0.54	0.74	1.20	Gray
SCDA2D18□TL5R6	5.6	N,M	1KHz, 1V	0.110	0.50	0.66	1.12	White
SCDA2D18□TL6R8	6.8	N,M	1KHz, 1V	0.120	0.48	0.60	1.06	Green
SCDA2D18□TL8R2	8.2	N,M	1KHz, 1V	0.168	0.40	0.54	0.90	Blue
SCDA2D18□TL100	10	M	1KHz, 1V	0.190	0.36	0.46	0.88	Violet
SCDA2D18□TL120	12	M	1KHz, 1V	0.222	0.32	0.46	0.80	Gray
SCDA2D18□TL150	15	M	1KHz, 1V	0.285	0.30	0.40	0.72	White
SCDA2D18□TL180	18	M	1KHz, 1V	0.350	0.28	0.38	0.66	Green
SCDA2D18□TL220	22	M	1KHz, 1V	0.440	0.24	0.32	0.50	Blue
SCDA2D18□TL270	27	M	1KHz, 1V	0.490	0.22	0.28	0.42	Violet

**High Current Electrical Characteristics**

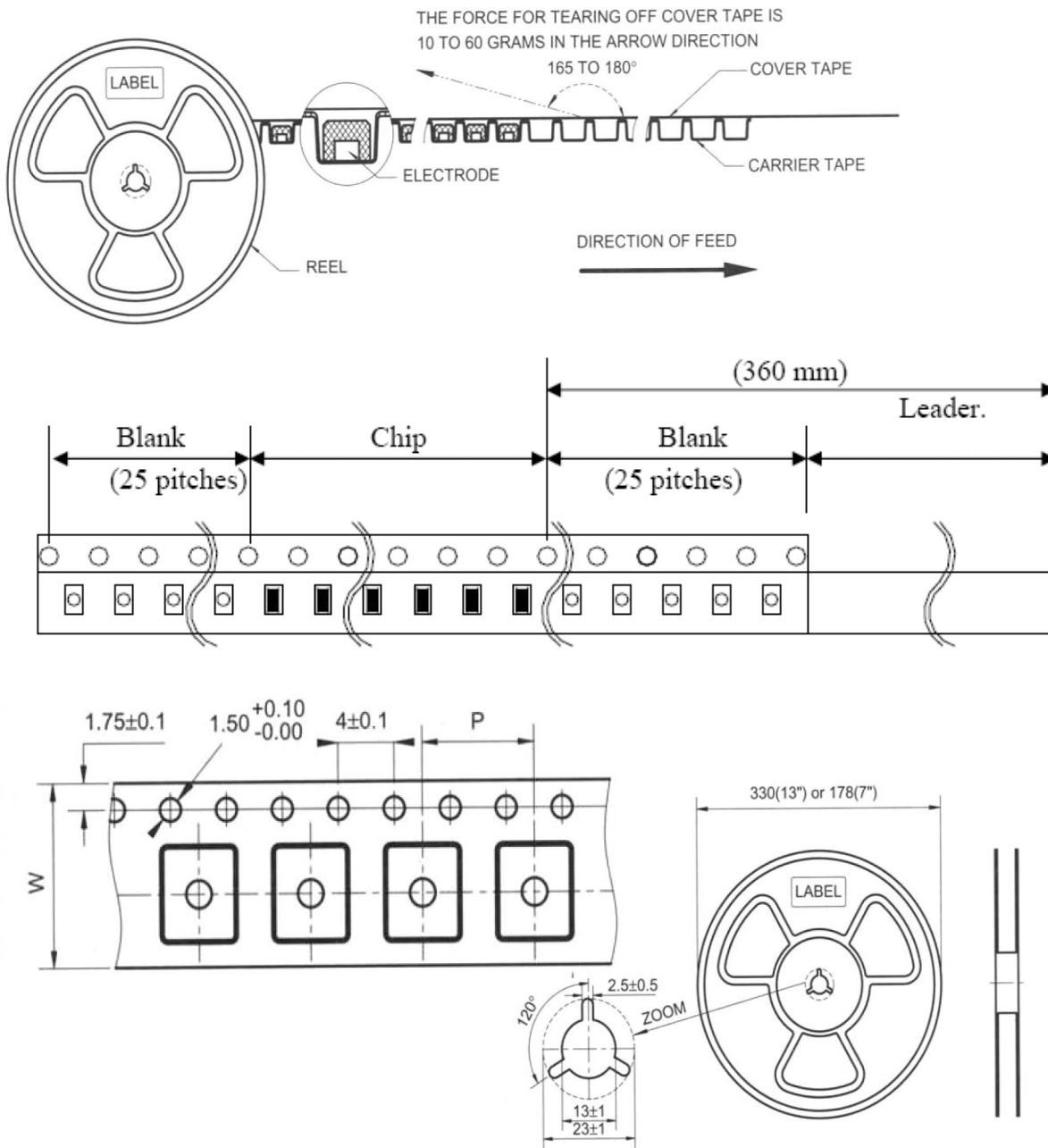
SCDA2D15 Type(□:Tolerance):

Part No	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
SCDA2D15□THR47	0.47	N,M	1KHz, 1V	0.040	3.00	3.40	2.20	Black
SCDA2D15□TH1R0	1.0	N,M	1KHz, 1V	0.049	2.60	3.00	2.00	Black
SCDA2D15□TH1R2	1.2	N,M	1KHz, 1V	0.083	2.30	2.50	1.90	Brown
SCDA2D15□TH1R5	1.5	N,M	1KHz, 1V	0.090	2.10	2.50	1.50	Brown
SCDA2D15□TH2R2	2.2	N,M	1KHz, 1V	0.090	1.80	2.10	1.28	Red
SCDA2D15□TH3R3	3.3	N,M	1KHz, 1V	0.149	1.50	1.72	1.10	Orange
SCDA2D15□TH3R9	3.9	N,M	1KHz, 1V	0.158	1.40	1.56	1.02	Yellow
SCDA2D15□TH4R7	4.7	N,M	1KHz, 1V	0.197	1.30	1.50	0.96	Black
SCDA2D15□TH5R6	5.6	N,M	1KHz, 1V	0.232	1.20	1.30	0.94	Black
SCDA2D15□TH6R8	6.8	N,M	1KHz, 1V	0.266	1.10	1.30	0.84	Brown
SCDA2D15□TH100	10	M	1KHz, 1V	0.403	0.94	1.10	0.74	Red
SCDA2D15□TH150	15	M	1KHz, 1V	0.567	0.76	0.86	0.60	Orange
SCDA2D15□TH220	22	M	1KHz, 1V	0.905	0.60	0.68	0.46	Yellow
SCDA2D15□TH330	33	M	1KHz, 1V	1.486	0.44	0.48	0.40	Black
SCDA2D15□TH470	47	M	1KHz, 1V	1.814	0.40	0.44	0.26	Brown
SCDA2D15□TH680	68	M	1KHz, 1V	3.520	0.29	0.33	0.26	Orange
SCDA2D15□TH101	100	M	1KHz, 1V	3.840	0.24	0.28	0.24	Black

SCDA2D18 Type(□:Tolerance):

Part No	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
SCDA2D18□TH1R0	1.0	N,M	1KHz, 1V	0.045	2.60	3.00	2.00	Black
SCDA2D18□TH1R8	1.8	N,M	1KHz, 1V	0.078	2.00	2.30	1.76	Brown
SCDA2D18□TH2R2	2.2	N,M	1KHz, 1V	0.090	1.80	2.14	1.44	Red
SCDA2D18□TH3R3	3.3	N,M	1KHz, 1V	0.103	1.50	1.80	1.10	Orange
SCDA2D18□TH3R9	3.9	N,M	1KHz, 1V	0.115	1.50	1.78	1.05	Yellow
SCDA2D18□TH4R7	4.7	N,M	1KHz, 1V	0.152	1.40	1.60	1.00	Black
SCDA2D18□TH6R8	6.8	N,M	1KHz, 1V	0.223	1.20	1.40	0.95	Brown
SCDA2D18□TH100	10	M	1KHz, 1V	0.360	0.92	1.02	0.78	Red
SCDA2D18□TH120	12	M	1KHz, 1V	0.410	0.84	0.98	0.68	Orange
SCDA2D18□TH150	15	M	1KHz, 1V	0.622	0.80	0.90	0.62	Yellow
SCDA2D18□TH220	22	M	1KHz, 1V	0.750	0.64	0.74	0.45	Black
SCDA2D18□TH330	33	M	1KHz, 1V	1.125	0.47	0.52	0.42	Brown

**■Tape and Reel specifications**



Type	Tape size		Parts Per Reel
	W	P	7"
SCDA2D10	12	8	1000
SCDA2D15	12	8	1000
SCDA2D18	12	8	1000
SCDA3D12	12	8	1000
SCDA3D15	12	8	1000
SCDA3D18	12	8	1000

**■ SMT Power Inductor Environmental Specifications**

General

Items	Specifications
Shelf Storage conditions	Temperature range: 15~28°C; Humidity: <80% relative humidity. Recommended product should be used within one year from the time of delivery.

Environmental test

Test Items	Specifications	Test Conditions / Test Methods
High temperature Storage test	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Temperature 85±2°C, Time: 48±2 hours, Tested after 1hour at room temperature.
Low temperature Storage test		Temperature -25±2°C, Time: 48±2 hours, Tested after 1hour at room temperature.
Humidity test		Temperature 40±2°C, 90~95% relative humidity Time: 96±2 hours Tested after 1hour at room temperature.
Thermal shock test		First -25°C 30minutes then 25°C 10 minutes last 85°C 30 minutes, as 1 cycle. Go through 5 cycles. Tested after 1 hour at room temperature.

Mechanical test

Test Items	Specifications	Test Conditions / Test Methods
Solderability test	Terminal area must have 90% minimum solder coverage.	Product with Lead-free terminal: Dip pads in flux then dip in solder pot at 245±5°C for 3 seconds.
Resistance to Soldering Heat	No case deformation or change in appearance.	Flux should cover the whole of the sample before heating, then be preheated for about 2 minutes over temperature of 130~150°C. Immersing to 260±5°C for 10 seconds.
Vibration test	No case deformation or change in appearance.	Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.
Shock resistance	$\Delta L/L \leq 10\%$	Drop down with 981m/s <sup>2</sup> (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.

The condition of reflow (recommendation):

