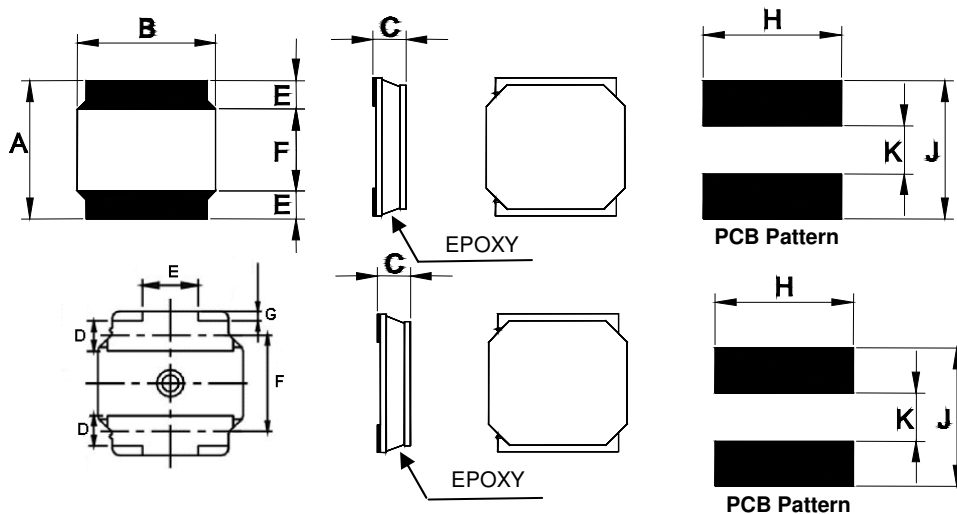


SMD Power Inductor



■ Dimensions

Unit: mm

Type	A	B	C	D	E	F	G	H	J	K
SDIA0310	3.0±0.2	3.0±0.2	1.2 max	-	0.9±0.2	1.9±0.2	-	2.7	3.0	0.8
SDIA0312	3.0±0.2	3.0±0.2	1.4 max	-	0.9±0.2	1.9±0.2	-	2.7	3.0	0.8
SDIA0315	3.0±0.2	3.0±0.2	1.7 max	-	0.9±0.2	1.9±0.2	-	2.7	3.0	0.8
SDIA0410	4.0±0.2	4.0±0.2	1.2 max	-	1.1±0.2	2.5±0.2	-	3.7	4.0	1.2
SDIA0412	4.0±0.2	4.0±0.2	1.4 max	-	1.1±0.2	2.5±0.2	-	3.7	4.0	1.2
SDIA0415	4.0±0.2	4.0±0.2	1.7 max	-	1.1±0.2	2.5±0.2	-	3.7	4.0	1.2
SDIA0418	4.0±0.2	4.0±0.2	2.0 max	-	1.1±0.2	2.5±0.2	-	3.7	4.0	1.2
SDIA0420	4.0±0.2	4.0±0.2	2.0 max	-	1.1±0.2	2.5±0.2	-	3.7	4.0	1.2
SDIA0520	5.0±0.2	5.0±0.2	2.0 max	1.25±0.2	2.3±0.3	3.6±0.2	0.3±0.2	4.7	5.0	1.5
SDIA0528	5.0±0.2	5.0±0.2	3.0 max	1.35±0.2	2.3±0.3	3.6±0.2	0.3±0.2	4.7	5.0	1.5
SDIA0540	5.0±0.2	5.0±0.2	4.2 max	1.25±0.2	2.3±0.3	3.6±0.2	0.3±0.2	4.7	5.0	1.5
SDIA0610	6.0±0.2	6.0±0.2	1.2 max	1.35±0.2	2.3±0.3	4.0±0.2	0.3±0.2	5.7	6.3	1.6
SDIA0612	6.0±0.2	6.0±0.2	1.4 max	1.35±0.2	2.3±0.3	4.0±0.2	0.3±0.2	5.7	6.3	1.6
SDIA0620	6.0±0.2	6.0±0.2	2.0 max	1.35±0.2	2.3±0.3	4.0±0.2	0.3±0.2	5.7	6.3	1.6
SDIA0628	6.0±0.2	6.0±0.2	3.0 max	1.35±0.2	2.3±0.3	4.0±0.2	0.3±0.2	5.7	6.3	1.6
SDIA0645	6.0±0.2	6.0±0.2	4.5±0.2	1.35±0.2	2.3±0.3	4.0±0.2	0.3±0.2	5.7	6.3	1.6
SDIA0840	8.0±0.2	8.0±0.2	4.2 max	-	1.6±0.3	5.6±0.3	-	7.5	7.4	1.8

■ Features

- Small and Low profile inductor
- It corresponds to high current
- Shield structure magnetically
- Strong structure against a shock-proof

■ Applications

- LCD Display etc.
- For Small DC to DC Converters
- PDA.

■ Characteristics

- Rated DC Current : The current when the inductance becomes 30% lower than its initial value.
- Operating temperature range: -40~85℃

■ Inductance and rated current ranges

— SDIA0310	1.0~22μH	1.75~0.35A
— SDIA0312	1.5~47μH	1.50~0.35A
— SDIA0315	1.0~100μH	1.80~0.22A
— SDIA0410	1.5~22μH	1.50~0.36A
— SDIA0412	1.2~22μH	2.70~0.50A
— SDIA0415	1.5~47μH	3.20~0.65A
— SDIA0418	1.0~220μH	4.00~0.27A
— SDIA0420	2.2~22μH	3.50~1.30A
— SDIA0520	1.5~681μH	5.00~0.30A
— SDIA0528	2.2~470μH	6.00~0.40A
— SDIA0540	2.2~47μH	5.20~1.10A
— SDIA0610	2.2~10μH	2.60~1.10A
— SDIA0612	2.2~100μH	3.10~0.35A
— SDIA0620	1.0~82μH	6.50~0.60A
— SDIA0628	2.2~470μH	5.00~0.40A
— SDIA0645	2.2~100μH	6.00~0.80A
— SDIA0840	2.2~330μH	8.00~0.70A

SMD Power Inductor
Product Identification

SDIA	0312	M	T	470
Product Type	Dimensions (AxC)	Inductor Tolerance	Packaging Style	Inductance
	0310: 3.0x1.2 0312: 3.0x1.4 0315: 3.0x1.7 0410: 4.0x1.2 0412: 4.0x1.4 0415: 4.0x1.7 0418: 4.0x2.0 0420: 4.0x2.0 0520: 5.0x2.0 0528: 5.0x3.0 0540: 5.0x4.2 0610: 6.0x1.2 0612: 6.0x1.4 0620: 6.0x2.0 0628: 6.0x3.0 0645: 6.0x4.5 0840: 8.0x4.2	N: $\pm 30\%$	T: Tape and Reel	1R0: 1.0 μ H 470: 47 μ H 101: 100 μ H

Electrical Characteristics

SDIA0310 / 0312 / 0315 / 0410 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (Ω) max.				IDC (A) max.			
				0310	0312	0315	0410	0310	0312	0315	0410
1R0	1.0	N	100KHz, 0.25V	0.084	-	0.045	-	1.75	-	1.80	-
1R5	1.5	N	100KHz, 0.25V	-	0.114	0.074	0.104	-	1.50	1.70	1.50
2R2	2.2	N	100KHz, 0.25V	0.159	0.135	0.091	0.150	1.70	1.20	1.50	1.30
3R3	3.3	N	100KHz, 0.25V	0.240	0.179	0.116	0.171	1.20	1.00	1.20	1.25
4R7	4.7	N	100KHz, 0.25V	0.322	0.228	0.157	0.260	0.95	0.77	1.00	1.20
6R8	6.8	N	100KHz, 0.25V	0.455	0.294	0.240	0.360	0.90	0.75	0.85	1.00
100	10	N	1KHz, 0.25V	0.663	0.429	0.335	0.533	0.60	0.54	0.70	0.80
150	15	N	1KHz, 0.25V	-	0.682	-	-	-	0.50	-	-
180	18	N	1KHz, 0.25V	-	-	0.582	-	-	-	0.60	-
220	22	N	1KHz, 0.25V	1.456	1.183	0.747	1.127	0.35	0.37	0.47	0.36
330	33	N	1KHz, 0.25V	-	-	1.036	-	-	-	0.40	-
470	47	N	1KHz, 0.25V	-	1.924	1.976	-	-	0.35	0.32	-
101	100	N	1KHz, 0.25V	-	-	3.000	-	-	-	0.22	-

■Electrical Characteristics

SDIA0412 / 0415 / 0418 / 0420 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (Ω) max.				IDC (A) max.			
				0412	0415	0418	0420	0412	0415	0418	0420
1R0	1.0	N	100KHz, 0.25V	-	-	0.038	-	-	-	4.00	-
1R2	1.2	N	100KHz, 0.25V	0.079	-	-	-	2.70	-	-	-
1R5	1.5	N	100KHz, 0.25V	0.099	0.090	-	-	2.50	3.20	-	-
2R2	2.2	N	100KHz, 0.25V	0.117	0.097	0.083	0.070	1.70	3.00	3.40	3.50
3R3	3.3	N	100KHz, 0.25V	0.150	-	0.104	0.087	1.60	-	2.80	3.30
4R7	4.7	N	100KHz, 0.25V	0.208	0.176	0.162	0.127	1.50	2.00	2.20	2.80
6R8	6.8	N	100KHz, 0.25V	-	0.229	0.208	-	-	1.80	1.70	-
100	10	N	1KHz, 0.25V	0.450	0.327	0.312	0.247	0.90	1.40	1.50	1.90
150	15	N	1KHz, 0.25V	-	-	0.462	-	-	-	1.30	-
220	22	N	1KHz, 0.25V	0.793	0.665	0.650	0.510	0.50	0.90	1.20	1.30
470	47	N	1KHz, 0.25V	-	1.404	1.274	-	-	0.65	0.55	-
101	100	N	1KHz, 0.25V	-	-	3.016	-	-	-	0.40	-
221	220	N	1KHz, 0.25V	-	-	6.370	-	-	-	0.27	-

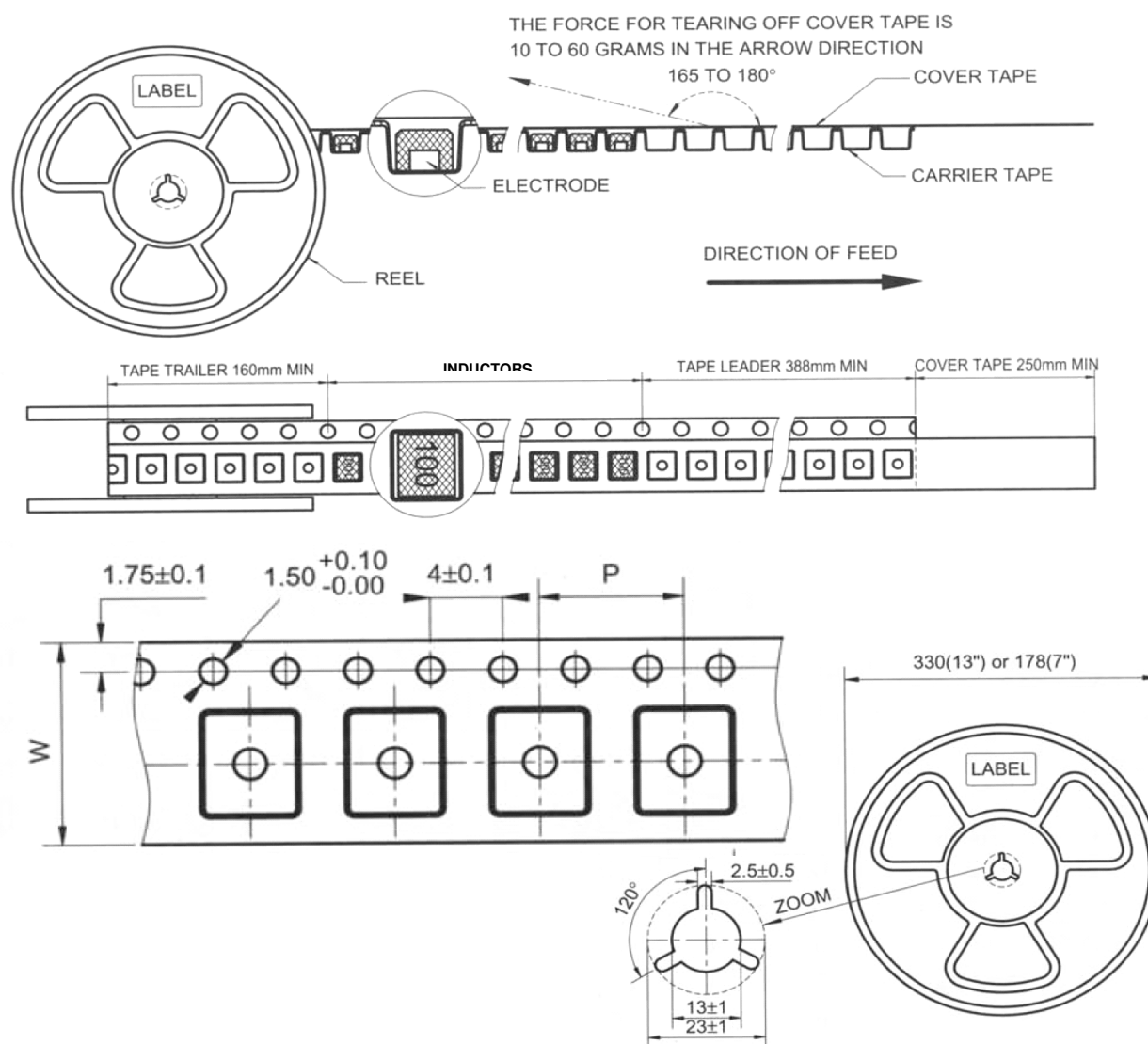
SDIA0520 / 0528 / 0540 / 0610 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (Ω) max.				IDC (A) max.			
				0520	0528	0540	0610	0520	0528	0540	0610
1R5	1.5	N	100KHz, 0.25V	0.048	-	-	-	5.00	-	-	-
2R2	2.2	N	100KHz, 0.25V	0.049	0.042	0.039	0.140	4.60	6.00	5.20	2.60
3R3	3.3	N	100KHz, 0.25V	0.074	0.072	0.046	0.205	4.00	5.00	4.40	2.00
4R7	4.7	N	100KHz, 0.25V	0.098	0.077	0.051	0.230	3.20	4.20	3.90	1.80
5R6	5.6	N	100KHz, 0.25V	0.128	-	-	-	3.00	-	-	-
6R8	6.8	N	100KHz, 0.25V	0.137	0.120	0.079	0.450	2.90	3.50	3.10	1.60
8R2	8.2	N	100KHz, 0.25V	0.181	-	-	-	2.60	-	-	-
100	10	N	1KHz, 0.25V	0.205	0.163	0.128	0.430	2.40	3.00	2.60	1.10
150	15	N	1KHz, 0.25V	-	0.300	-	-	-	2.30	-	-
220	22	N	1KHz, 0.25V	0.422	0.400	0.240	-	1.60	1.9	1.70	-
330	33	N	1KHz, 0.25V	-	-	0.360	-	-	-	1.40	-
470	47	N	1KHz, 0.25V	0.949	0.660	0.450	-	1.10	1.35	1.10	-
101	100	N	1KHz, 0.25V	2.106	1.300	-	-	0.75	0.80	-	-
151	150	N	1KHz, 0.25V	3.060	2.314	-	-	0.55	0.70	-	-
221	220	N	1KHz, 0.25V	4.056	3.250	-	-	0.50	0.60	-	-
331	330	N	1KHz, 0.25V	6.266	-	-	-	0.40	-	-	-
471	470	N	1KHz, 0.25V	6.500	7.800	-	-	0.35	0.40	-	-
681	680	N	1KHz, 0.25V	10.000	-	-	-	0.30	-	-	-

■Electrical Characteristics

SDIA0612 / 0620 / 0628 / 0645 / 0840 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (Ω) max.					IDC (A) max.				
				0612	0620	0628	0645	0840	0612	0620	0628	0645	0840
1R0	1.0	N	100KHz, 0.25V	-	0.026	-	-	-	-	6.50	-	-	-
2R2	2.2	N	100KHz, 0.25V	0.133	0.049	0.026	0.023	0.025	3.10	4.20	5.00	6.00	8.00
3R3	3.3	N	100KHz, 0.25V	0.144	0.070	0.039	0.031		2.20	4.00	4.80	5.80	-
4R7	4.7	N	100KHz, 0.25V	0.220	0.088	0.052	0.051	0.034	1.60	3.50	3.70	5.20	5.40
6R8	6.8	N	100KHz, 0.25V	0.280	0.111	0.065	0.069	0.042	1.50	2.90	3.60	4.70	4.40
100	10	N	1KHz, 0.25V	0.430	0.179	0.091	0.104	0.044	1.40	2.30	3.00	3.50	3.80
150	15	N	1KHz, 0.25V	-	-	0.153	0.139	0.083	-	-	2.00	2.30	3.60
180	18	N	1KHz, 0.25V	-	-	-	-	0.085	-	-	-	-	3.50
220	22	N	1KHz, 0.25V	0.780	0.390	0.208	0.207	0.117	1.10	1.60	1.30	1.90	3.00
330	33	N	1KHz, 0.25V	-	-	0.300	0.277	0.161	-	-	1.10	1.50	2.30
470	47	N	1KHz, 0.25V	1.625	0.663	0.390	0.408	0.241	0.70	1.10	0.95	1.30	2.00
560	56	N	1KHz, 0.25V	-	-	-	-	-	-		-	-	-
680	68	N	1KHz, 0.25V	2.444	-	0.637	-	0.309	0.50	-	0.80	-	1.70
820	82	N	1KHz, 0.25V	3.400	1.050	-	-	-	0.40	0.60	-	-	-
101	100	N	1KHz, 0.25V	3.862	-	0.963	0.754	0.457	0.35	-	0.60	0.80	1.50
151	150	N	1KHz, 0.25V	-	-	1.560	-	-	-	-	0.55	-	-
221	220	N	1KHz, 0.25V	-	-	-	-	-	-	-	-	-	-
331	330	N	1KHz, 0.25V			2.990	-	1.274	-	-	0.46	-	0.70
471	470	N	1KHz, 0.25V	-	-	4.160	-	-	-	-	0.40	-	-

■Tape and Reel specifications


Unit: mm

Type	Tape size		Parts Per Reel	
	W	P	7"	13"
SDIA0310	12	8	1500	-
SDIA0312	12	8	1000	-
SDIA0315	12	8	1000	-
SDIA0410	12	8	1000	-
SDIA0412	12	8	1000	-
SDIA0415	12	8	1000	-
SDIA0418	12	8	-	3000
SDIA0420	12	8	-	2500
SDIA0520	12	8	-	2000
SDIA0528	12	8	-	2000
SDIA0540	12	8	-	1000
SDIA0610	12	8	1000	-
SDIA0612	16	8	1000	-
SDIA0620	16	8	-	2000
SDIA0628	16	8	-	2000
SDIA0645	16	8	-	1000
SDIA0840	16	8	-	1000

SMD Power Inductor

SMT Power Inductor Environmental Specifications

General

Items	Specifications
Shelf Storage conditions	Temperature range: $25\pm 3^{\circ}\text{C}$; Humidity: $<80\%$ relative humidity. Recommended product should be used within six months 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 $85\pm 2^{\circ}\text{C}$, Time: 48 ± 2 hours, Tested after 1 hour at room temperature.
Low temperature Storage test		Temperature $-25\pm 2^{\circ}\text{C}$, Time: 48 ± 2 hours, Tested after 1 hour at room temperature.
Humidity test		Temperature $40\pm 2^{\circ}\text{C}$, $90\sim 95\%$ relative humidity Time: 96 ± 2 hours Tested after 1 hour 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 $245\pm 5^{\circ}\text{C}$ 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 $130\sim 150^{\circ}\text{C}$. Immersing to $260\pm 5^{\circ}\text{C}$ for 10 seconds.
Vibration test	No case deformation or change in appearance.	Apply frequency $10\sim 55\text{Hz}$. 1.5mm amplitude in each of perpendicular direction for 2 hours.
Shock resistance	$\Delta L/L \leq 10\%$	Drop down with 981m/s^2 (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.

The condition of reflow (recommendation):

