JARO Components, Inc. An ISO Registered Firm

Series: SMSI

Surface Mount Shielded Power Inductors

High Energy Storage & Lower Power Losses

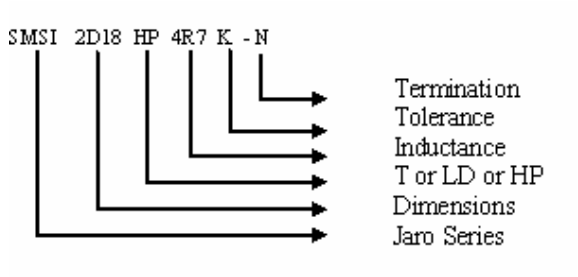
Feature

- Available in magnetically shielded.
- Low DC resistance.
- Suitable for large currents.
- Ideal for a variety of DC – DC converter inductor applications.
- Available on tape and reel for auto surface mounting.

Applications

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

Product Identification

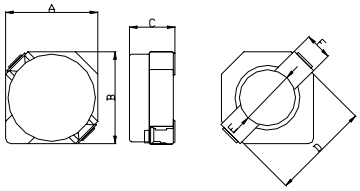


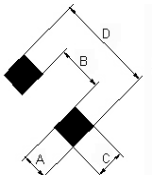
- T : Packaging: Tape and Reel
- HP : Low DCR
- LD : High Power
- Tolerance : K = ±10% M = ±20% T = ±30%
- Internal No.: B: Silver plated terminals (3D12 ~ 6D38); S: Base type terminals (2D11 ~ 2D18HP & 62T ~ 127)
- Note: JARO will start to release SMSI Series inductors with lead-free terminals that meet SONY SS-00259's criteria for lead-free product in Q2 of 2004, and Internal No will be changed to "P" as identification.

Shapes and Dimensions

Recommended Pattern

SMSI2D11/2D14/2D18LD/ 2D18HP





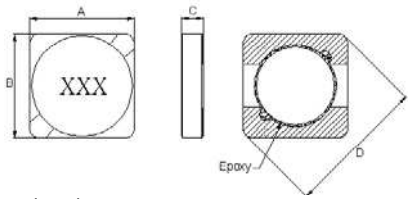
Dimensio

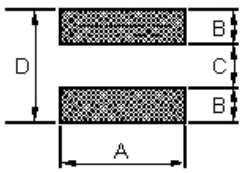
TYPE	A	B	C	D	E	F
SMSI2D11	3.2^{+0}	3.2^{+0}	1.2^{+0}	3.3	2.1	1.0
SMSI2D14	3.2^{+0}	3.2^{+0}	1.55^{+0}	3.3	2.1	1.0
SMSI2D18LD	3.2^{+0}	3.2^{+0}	2.0^{+0}	3.3	2.1	1.0
SMSI2D18HP	3.2^{+0}	3.2^{+0}	2.0^{+0}	3.3	2.1	1.0

Dimensions in mm

TYPE	A	B	C	D
SMSI2D11	1.3	1.7	1.3	4.3
SMSI2D14	1.3	1.7	1.3	4.3
SMSI2D18LD	1.3	1.7	1.3	4.3
SMSI2D18HP	1.3	1.7	1.3	4.3

SMSI 3D12





Dimensions in mm

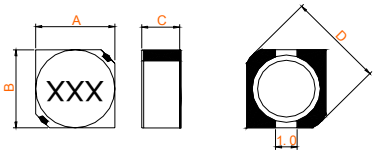
TYPE	A	B	C	D
SMSI3D12	3.9 ± 0.2	3.9 ± 0.2	1.2 Max	6.2 Max

Dimensions in mm

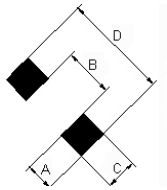
TYPE	A	B	C	D
SMSI3D12	4.6	1.6	1.4	4.6

SMSI 3D16

Shapes and Dimensions



Recommended Pattern



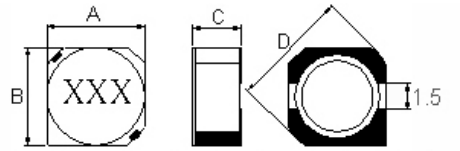
Dimensions in mm

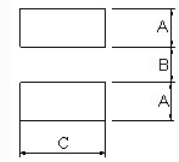
TYPE	A	B	C	D
SMSI3D16	4 Max.	4 Max.	1.8 Max	5.2 Max

Dimensions in mm Recommended Pattern

TYPE	A	B	C	D
SMSI3D16	1.4	2.4	1.5	5.2

SMSI 4D18 ~ 6D38





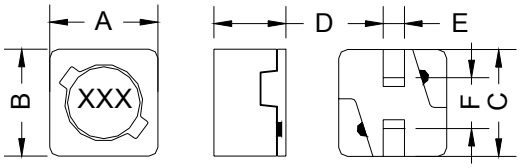
Dimensions in mm

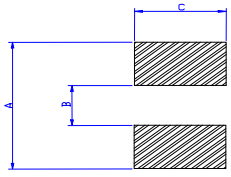
TYPE	A	B	C	D
SMSI4D18	4.7 ± 0.3	4.7 ± 0.3	2.0 Max	6.9 Max
SMSI4D28	4.7 ± 0.3	4.7 ± 0.3	3.0 Max	6.9 Max
SMSI5D18	5.7 ± 0.3	5.7 ± 0.3	2.0 Max	8.2 Max
SMSI5D28	5.7 ± 0.3	5.7 ± 0.3	3.0 Max	8.2 Max
SMSI6D28	6.7 ± 0.3	6.7 ± 0.3	3.0 Max	9.5 Max
SMSI6D38	7 Max.	7 Max	4 Max	9.5 Max

Dimensions in mm

TYPE	A	B	C
SMSI4D18	1.9	1.5	5.3
SMSI4D28	1.9	1.5	5.3
SMSI5D18	2.15	2.0	6.3
SMSI5D28	2.15	2.0	6.3
SMSI6D28	2.65	2.0	7.3
SMSI6D38	2.65	2.0	7.3

SMSI 62T & 64T





Land Pattern

Dimensions in mm

TYPE	A	B	C	D	E	F
SMSI62T	6.2±0.3	5.9±0.3	**6.0**±0.3	**3**$^{+0}$	**1.5**	2.8
SMSI64T	6.2±0.3	5.9±0.3	**6.0**±0.3	**5**$^{+0}$	**1.5**	2.8

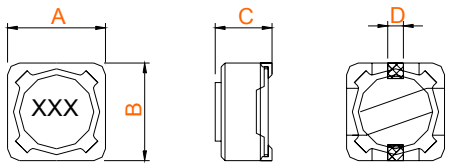
Dimensions in mm

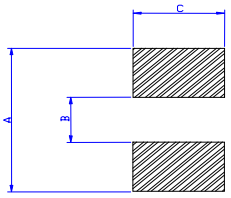
TYPE	A	B	C
SMSI62T	8.1	4	2.5
SMSI64T	8.1	4	2.5

Shapes and Dimensions

Recommended Pattern

SMSI 73 & 74





Land Pattern

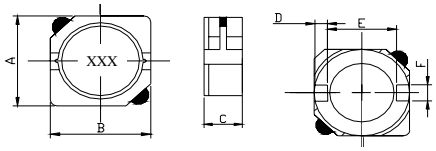
Dimensions in mm

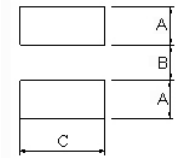
TYPE	A	B	C	D
SMSI73	7.3±0.2	7.3±0.2	3.4^{+0}	1.8
SMSI74	7.3±0.2	7.3±0.2	4.5^{+0}	1.8

Dimensions in mm

TYPE	A	B	C
SMSI73	8.4	4.4	2.2
SMSI74	8.4	4.4	2.2

SMSI 104R





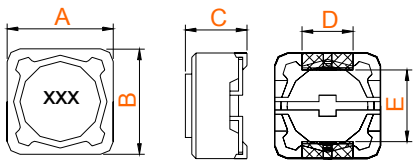
Dimensions in mm

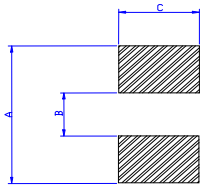
TYPE	A	B	C	D	E	F
SMSI104R	10.0±0.5	10.1±0.5	4.1Max	1.2±0.15	7.7±0.3	3.0±0.2

Dimensions in mm

TYPE	A	B	C
SMSI104R	1.7	7.3	3.2

SMSI 124/125/127





Land Pattern

Dimensions in mm

TYPE	A	B	C	D	E
SMSI124	12.5^{+0}	12.5^{+0}	4.5^{+0}	5	7.6
SMSI125	12.5^{+0}	12.5^{+0}	6^{+0}	5	7.6
SMSI127	12.5^{+0}	12.5^{+0}	8^{+0}	5	7.6

Dimensions in mm

TYPE	A	B	C
SMSI124	13	7	5.4
SMSI125	13	7	5.4
SMSI127	13	7	5.4

Stamp	Inductance (μH)	D.C.R (mΩ) Max.											
		SMSI 2D11	SMSI 2D14	SMSI 2D18LD	SMSI 2D18HP	SMSI 3D12	SMSI 3D16	SMSI 4D18	SMSI 4D28	SMSI 5D18	SMSI 5D28	SMSI 6D28	SMSI 6D38
1R0	1.0					40.1±30%		45					
1R2	1.2								23.6				
1R5	1.5	68	63			63.5±30%	52						
1R7					44								
1R8	1.8		75						27.5				
2R2	2.2	98	94	41	60	83.5±30%	72	75	31.3				
2R4	2.4												
2R5	2.5										18		
2R7	2.7		106					105	43.3				
3R0	3.0										24	24	
3R3	3.3	123	125	54	86	122±30%	85	110	49.2				20
3R5	3.5												
3R8	3.8												
3R9	3.9		138					155	64.8			27	
4R1	4.1									57			
4R2	4.2										31		
4R7	4.7	170	169	78	140	172±30%	105	162	72.0				
5R0	5.0											31	24
5R2	5.2												
5R3	5.3										38		
5R4	5.4									76			
5R5	5.5												
5R6	5.6		188			191±30%		170	100.9				
6R0	6.0											35	
6R1	6.1												
6R2	6.2									96	45		27
6R3					160								
6R8	6.8	260	213	106		218±30%	170	200	108.9				
7R0	7.0												
7R3	7.3											54	
7R4	7.4												31
7R6	7.6												
8R2	8.2		281			255±30%		245	117.5		53		
8R6	8.6											58	
8R7	8.7												34
8R9	8.9									116			
100	10	400	294	180	245	408±30%	210	280	128.3	124	65	65	38
120	12		394			462±30%		320	131.6	153	76	70	53
150	15			220	345	502±30%	295	360	149.0	196	103	84	57
180	18					573±30%		400	166.0	210	110	95	92
220	22			320		801±30%	430	480	235.0	290	122	128	96
270	27					1207±30%		570	261.0	330	175	142	109
330	33			460		1358±30%	675	694	331.3	386	189	165	124
390	39					1911±30%		800	383.7	520	212	210	138
470	47			660				950	587.0	595	250	238	150
560	56							1080	624.5	665	305	277	202
680	68							1300	699.0	840	355	304	234
820	82								914.8	978	463	390	324
101	100								1020	1200	520	535	358
121	120								1270				
151	150								1350				
181	180								1540				
221	220												
271	270												
331	330												
391	390												
471	470												
561	560												
681	680												
821	820												
102	1000												

Stamp	Inductance (µH)	Rated Current (A) Max.											
		SMSI 2D11	**SMSI 2D14**	**SMSI 2D18LD**	**SMSI 2D18HP**	**SMSI 3D12**	**SMSI 3D16**	**SMSI 4D18**	**SMSI 4D28**	**SMSI 5D18**	**SMSI 5D28**	**SMSI 6D28**	**SMSI 6D38**
1R0	1.0					1.54		1.72					
1R2	1.2								2.56				
1R5	1.5	0.90	1.80			1.32	1.55						
1R7					1.85								
1R8	1.8		1.65						2.20				
2R2	2.2	0.78	1.50	0.85	1.60	1.12	1.20	1.32	2.04				
2R4	2.4												
2R5	2.5										2.60		
2R7	2.7		1.35					1.28	1.60				
3R0	3.0										2.40	3.00	
3R3	3.3	0.60	1.20	0.75	1.45	0.90	1.10	1.04	1.57				3.50
3R5	3.5												
3R8	3.8												
3R9	3.9		1.10					0.88	1.44			2.60	
4R1	4.1									1.95			
4R2	4.2										2.20		
4R7	4.7	0.50	1.00	0.63	1.20	0.72	0.90	0.84	1.32				
5R0	5.0											2.40	2.90
5R2	5.2												
5R3	5.3										1.90		
5R4	5.4									1.60			
5R5	5.5												
5R6	5.6		0.95			0.66		0.80	1.17				
6R0	6.0											2.25	
6R1	6.1												
6R2	6.2									1.40	1.80		2.50
6R3					1.05								
6R8	6.8	0.44	0.85	0.52		0.60	0.73	0.76	1.12				
7R0	7.0												
7R3	7.3											2.10	
7R4	7.4												2.30
7R6	7.6												
8R2	8.2		0.80			0.57		0.68	1.04		1.60		
8R6	8.6											1.85	
8R7	8.7												2.20
8R9	8.9									1.25			
100	10	0.35	0.70	0.43	0.85	0.49	0.55	0.61	1.00	1.20	1.30	1.70	2.00
120	12		0.62		0.70	0.47		0.56	0.84	1.10	1.20	1.55	1.70
150	15			0.35		0.41	0.45	0.50	0.76	0.97	1.10	1.40	1.60
180	18					0.37		0.48	0.72	0.85	1.00	1.32	1.50
220	22			0.30		0.34	0.40	0.41	0.70	0.80	0.90	1.20	1.30
270	27					0.30		0.35	0.58	0.75	0.85	1.05	1.20
330	33			0.24		0.28	0.32	0.32	0.56	0.65	0.75	0.97	1.10
390	39					0.23		0.30	0.50	0.57	0.70	0.86	1.00
470	47			0.20				0.28	0.48	0.54	0.62	0.80	0.95
560	56							0.26	0.41	0.50	0.58	0.73	0.85
680	68							0.24	0.35	0.43	0.52	0.65	0.75
820	82								0.32	0.41	0.46	0.60	0.70
101	100								0.29	0.36	0.42	0.54	0.65
121	120								0.27				
151	150								0.24				
181	180								0.22				
221	220												
271	270												
331	330												
391	390												
471	470												
561	560												
681	680												
821	820												
102	1000												

Standard Specifications

Stamp	Inductance (μH)	D.C.R (mΩ) Max.								Rated Current (A) Max.							
		SMSI 62T	SMSI 64T	SMSI 73	SMSI 74	SMSI 104R	SMSI 124	SMSI 125	SMSI 127	SMSI 62	SMSI 64	SMSI 73	SMSI 74	SMSI 104R	SMSI 124	SMSI 125	SMSI 127
1R0	1.0																
1R2	1.2								7.0								9.80
1R5	1.5					8.1								10.0			
1R8	1.8																
2R2	2.2																
2R4	2.4								11.5								8.00
2R5	2.5					10								7.5			
2R7	2.7																
3R0	3.0																
3R3	3.3	68								1.94							
3R5	3.5								13.5								7.50
3R8	3.8					13								6.0			
3R9	3.9						15								6.50		
4R1	4.1																
4R2	4.2																
4R7	4.7	80					18		15.8	1.63					5.70		6.80
5R0	5.0																
5R2	5.2					22								5.5			
5R3	5.3																
5R4	5.4																
5R5	5.5	96								1.40							
5R6	5.6																
6R0	6.0																
6R1	6.1								17.6								6.60
6R2	6.2																
6R8	6.8	100					23			1.33					4.90		
7R0	7.0					27								4.8			
7R3	7.3																
7R4	7.4																
7R6	7.6								20.0								5.90
8R2	8.2	100								1.14							
8R6	8.6																
8R7	8.7																
8R9	8.9																
100	10	150	120	72	49	35	28	25	21.6	1.10	1.35	1.68	1.84	4.4	4.50	4.00	5.40
120	12	200	130	98	58		38	27	24.3	1.00	1.22	1.52	1.71		4.00	3.50	4.90
150	15	230	180	130	81	50	50	30	27.0	0.90	1.11	1.33	1.47	3.6	3.20	3.30	4.50
180	18	270	240	140	91		57	34	39.2	0.80	1.02	1.20	1.31		3.10	3.00	3.90
220	22	340	270	190	110	73	66	36	43.2	0.74	0.91	1.07	1.23	2.9	2.90	2.80	3.60
270	27	380	300	210	150		80	51	45.9	0.66	0.82	0.96	1.12		2.80	2.30	3.40
330	33	450	330	240	170	93	97	57	64.8	0.59	0.74	0.91	0.96	2.3	2.70	2.10	3.00
390	39	490	370	320	230		132	68	72.9	0.54	0.69	0.77	0.91		2.10	2.00	2.75
470	47	690	520	360	260	128	150	75	100	0.50	0.62	0.76	0.88	2.1	1.90	1.80	2.50
560	56	780	560	470	350		190	110	110	0.46	0.58	0.68	0.75		1.80	1.70	2.35
680	68	1070	630	520	380	213	220	120	140	0.42	0.51	0.61	0.69	1.5	1.50	1.50	2.10
820	82	1210	710	690	430		260	140	160	0.38	0.46	0.57	0.61		1.30	1.40	1.95
101	100	1390	1030	790	610	304	308	160	220	0.34	0.42	0.50	0.60	1.35	1.20	1.30	1.70
121	120	1900	1150	890	660		380	170	250	0.31	0.38	0.49	0.52		1.10	1.10	1.60
151	150	2180	1680	1270	880	506	530	230	280	0.28	0.35	0.43	0.46	1.15	0.95	1.00	1.42
181	180	2770	1870	1450	980		620	290	350	0.26	0.32	0.39	0.42		0.85	0.90	1.30
221	220	3120	2080	1650	1170	756	700	400	390	0.23	0.29	0.35	0.36	0.92	0.80	0.80	1.16
271	270	4380	2370	2310	1640		876	460	560	0.22	0.26	0.32	0.34		0.60	0.75	1.06
331	330	4940	2670	2620	1860	1.09	990	510	640	0.19	0.23	0.28	0.32	0.70	0.50	0.68	0.95
391	390		2940	2940	2850			690	700		0.22	0.26	0.29			0.65	0.88
471	470		3930	4180	3010			770	980		0.20	0.24	0.26			0.58	0.79
561	560		5430	4670	3620			860	1070		0.18	0.22	0.23			0.54	0.73
681	680		7320	5730	4630			1200	1460		0.17	0.19	0.22			0.48	0.67
821	820		8240	6540	5200			1340	1640		0.15	0.18	0.20			0.43	0.60
102	1000		9260	9440	6000			1530	1820		0.14	0.16	0.18			0.40	0.55

Test Freq. (L): SMSI 127: 1.2~7.6μH (100K/1V) 10~1000μH (1KHz/1V)

SMSI 4D18: 1.0~8.2μH (7.96MHz/1V), 10~39μH (100KHz/1V)

SMSI 2D11/ 2D14/ 2D18LP/2D18HP/ 4D28/ 104R/ 124: (100KHz/1V)

SMSI 5D18/ 5D28/ 6D28: (10KHz/1V)

SMSI 3D12/ 6D38: (10KHz/1V)

SMSI 62T: 3.3~8.2μH (7.96MHz/1V), 10~82μH (2.52MHz/1V), 100~330μH(1KHz/1V)

SMSI 64T/ 73/ 74/ 125: (1KHz/1V)

SMSI 3D12 Rated Current: It makes rated current either when the value with 30% declining inductance or the generation of heat become 30% near value by the rising one above another of the direct current.

Other type: Rated current: The rated current indicates the current when the inductance decrease to 65%. Over of it's nominal value or D.C. current when the temperature rising △t=40℃ lower, whichever is lower.

Test Instrument: L: HP4192A LF Impedance analyzer

RDC: CHEN HWA 502BC

Rated Current: HP4284+42841A or CH1061 + CH301A

Tolerance Of Inductors

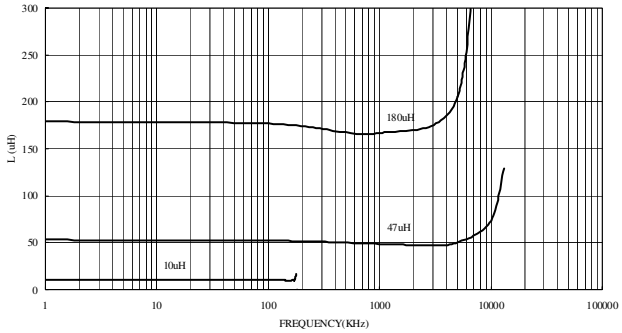
- SMSI 2D11 1.5uH ~ 10uH ± 30% (T)
- SMSI 2D14 1.5 ~ 12μH ± 30% (T)
- SMSI 2D18LD 2.2~47μH ± 30% (T)
- SMSI 2D18HP 1.7~15μH ± 30% (T)
- SMSI 3D12 1.0 ~ 39μH ± 30% (T)
- SMSI 3D16 1.5 ~ 33μH ± 30% (T)
- SMSI 4D18 1.0 ~ 68μH ± 30% (T)
- SMSI 4D28 1.02~ 180μH ± 30% (T)
- SMSI 5D18 4.1 ~ 100μH ± 30% (T)
- SMSI 5D28 2.5 ~ 100μH ± 30% (T)
- SMSI 6D28 1.0 ~ 68μH ± 30% (T)
- SMSI 6D38 3.3 ~ 100uH ± 30% (T)
- SMSI 62T 3.3 ~ 330uH ± 30% (T)
- SMSI 64T 10~1000uH ± 30% (T)
- SMSI 73 10~ 1000uH ± 30% (T)
- SMSI 74 10~ 1000uH ± 30% (T)
- SMSI 104R 1.5~ 330uH ± 30% (T)
- SMSI 124 3.9~ 330uH ± 30% (T)
- SMSI 125 10~ 1000uH ± 30% (T)
- SMSI 127 1.2~ 7.6uH ± 30% (T)

Curves of SMSI Series

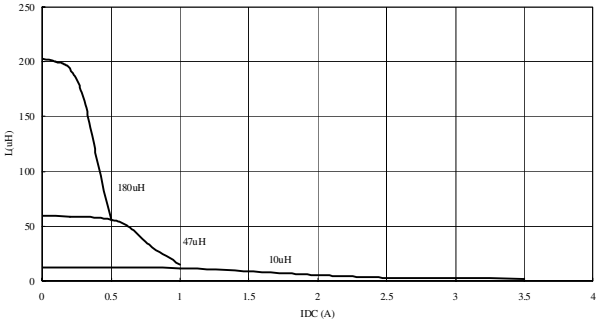
Test Instruments : HP4291A Impedance / Material Analyzer

SMSI62

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

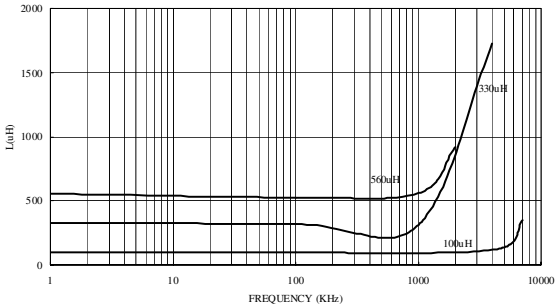


INDUCTANCE vs. IDC CHARACTERISTICS

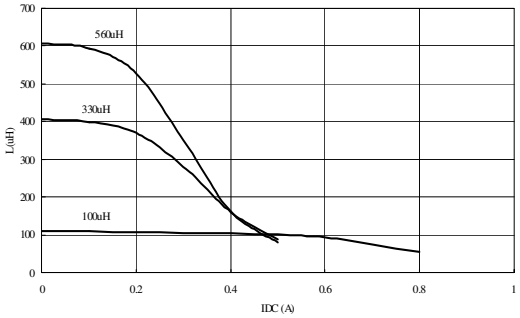


SMSI64

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

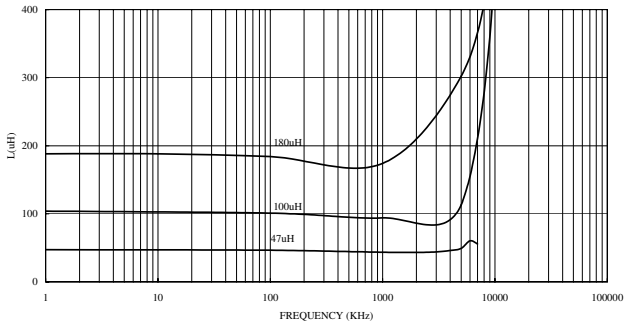


INDUCTANCE vs. IDC CHARACTERISTICS

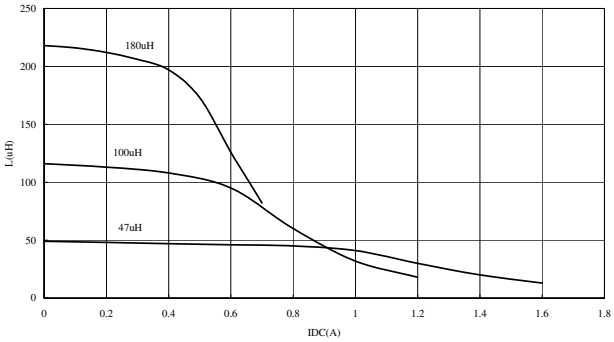


SMSI73

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



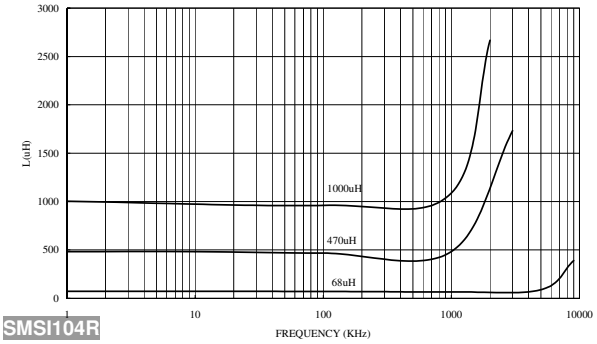
INDUCTANCE vs. IDC CHARACTERISTICS



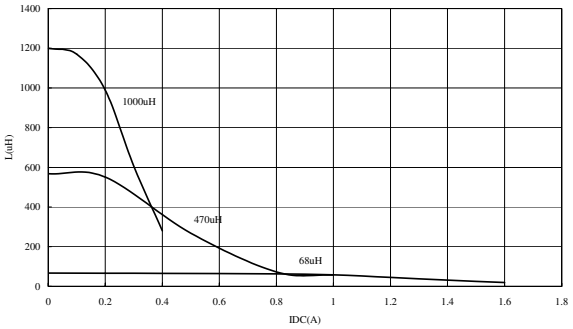
Test Instruments : HP4291A Impedance / Material Analyzer

SMSI74

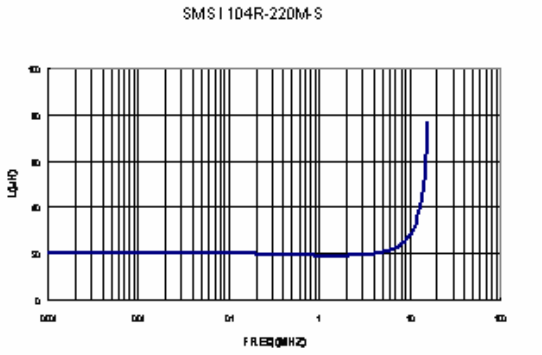
INDCUTANCE vs. FREQUENCY CHARACTERISTICS

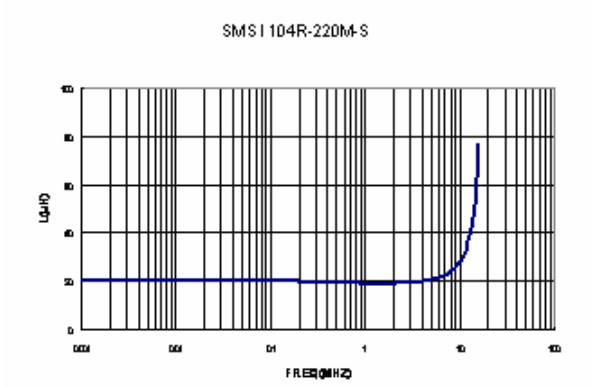


INDUCTANCE vs. IDC CHARACTERISTICS



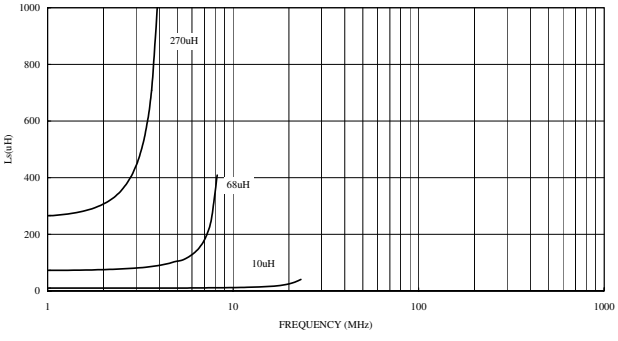
SMSI104R



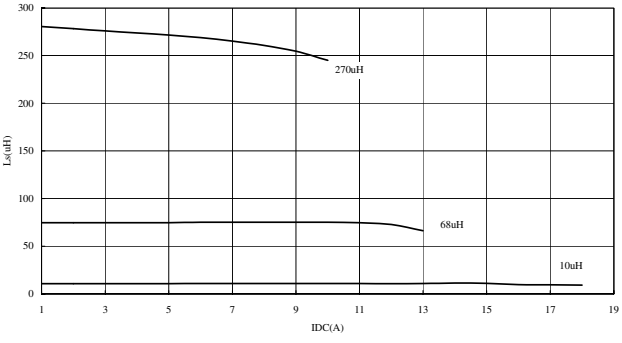


SMSI124

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



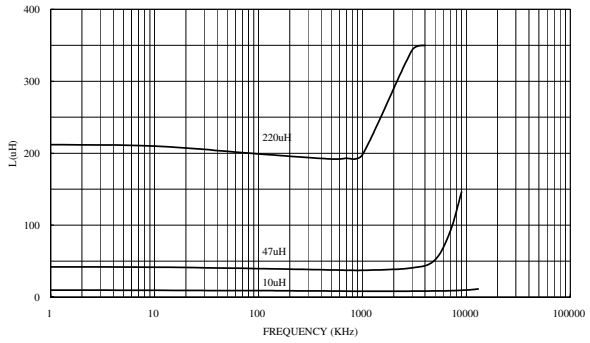
INDUCTANCE vs. IDC CHARACTERISTICS



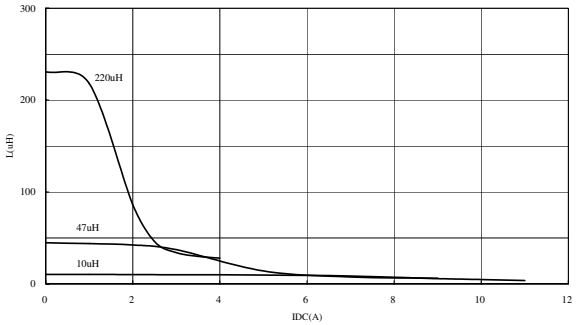
Test Instruments : HP4291A Impedance / Material Analyzer

SMSI125

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

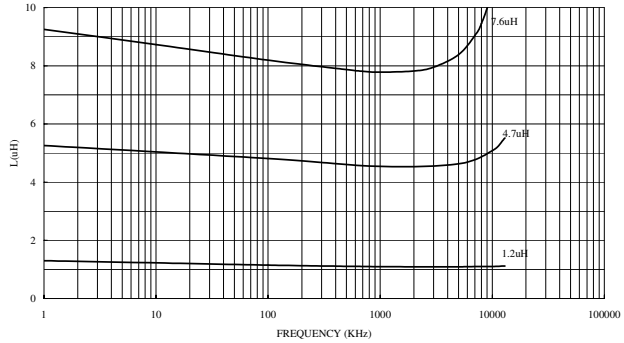


INDUCTANCE vs. IDC CHARACTERISTICS



SMSI127

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. IDC CHARACTERISTICS