

Multilayer Chip Ferrite Inductor – SDFL Series



Operating Temp ◆ $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

Features

- ◆ Monolithic structure for high reliability
- ◆ Compact size inductor possible
- ◆ No cross coupling due to magnetic shield
- ◆ Perfect shape for mounting with no directionality
- ◆ Excellent solderability and high heat resistance For reflow soldering or wave soldering

Applications

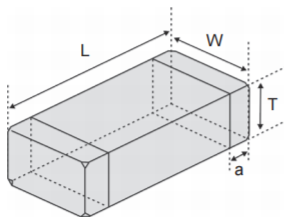
- ◆ Widely use in Communications, Video and audio equipment, Computer, Consumer Electronics, etc.

Product Identification

1	2	3	4	5	6	7	8
SDFL	1608	Q	1R0	K	T	F	A99

1	Type	
	SDFL	Chip Ferrite Inductor
2	External Dimensions (L×W) (mm)	
	1005 [0402]	1.0×0.5
	1608 [0603]	1.6×0.8
	2012 [0805]	2.0×1.25
	3216 [1206]	3.2×1.6
3	Material Code	
	L, P, Q, S, T	
4	Nominal Inductance	
	Example	Nominal Value
	47N	0.047μH
	R10	0.1μH
	1R0	1.0μH
	※R=decimal point	
5	Inductance Tolerance	
	I	±7%
	K	±10%
	L	±15%
	M	±20%
6	Packing	
	T	Tape & Reel
7	Hazardous Substance Free Products	
	F	
8	Internal Code	
	A99	

Shape and Dimensions



Unit mm [Inch]				
Type	L	W	T	a
SDFL1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]
SDFL1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]
SDFL2012 [0805]	2.0 (+0.3, -0.1) [.079 (+.012, -.004)]	1.25±0.2 [.049±.008]	0.85±0.2 [.033±.008]	0.5±0.3 [.020±.012]
			1.25±0.2 [.049±.008]	
SDFL3216 [1206]	3.2±0.2 [.126±.008]	1.6±0.2 [.063±.008]	0.85±0.2 [.033±.008]	0.5±0.3 [.020±.012]
			1.1±0.2 [.043±.008]	

Specifications

SDFL1005 Series

Part Number	Inductance	Min. Quality Factor	Test Freq. L/Q	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	μH	-	MHz	MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq.	S.R.F	DCR	I _r	T
SDFL1005L47N □ TF	0.047	10	50	220	0.45	25	0.5±0.15 [.020±.006]
SDFL1005L68N □ TF	0.068	10	50	210	0.45	25	
SDFL1005L82N □ TF	0.082	10	50	200	0.45	25	
SDFL1005LR10 □ TF	0.1	10	25	200	0.8	25	
SDFL1005LR12 □ TF	0.12	10	25	165	0.8	25	
SDFL1005LR15 □ TF	0.15	10	25	140	0.9	25	
SDFL1005LR18 □ TF	0.18	10	25	120	0.9	25	
SDFL1005LR22 □ TF	0.22	10	25	110	1.2	25	
SDFL1005LR27 □ TF	0.27	15	25	95	1.2	25	
SDFL1005LR33 □ TF	0.33	15	25	85	1.25	18	
SDFL1005QR39 □ TF	0.39	20	10	85	0.6	15	
SDFL1005QR47 □ TF	0.47	20	10	80	0.7	15	
SDFL1005QR56 □ TF	0.56	20	10	75	0.8	15	
SDFL1005QR68 □ TF	0.68	20	10	70	0.9	15	
SDFL1005QR82 □ TF	0.82	20	10	65	0.9	15	
SDFL1005P1R0 □ TF	1.0	20	10	60	1	15	
SDFL1005P1R2 □ TF	1.2	20	10	55	1.25	15	
SDFL1005P1R5 □ TF	1.5	20	10	50	1.4	15	
SDFL1005P1R8 □ TF	1.8	20	10	45	1.55	15	
SDFL1005P2R2 □ TF	2.2	20	10	40	1.7	10	
SDFL1005Q1R0 □ TF	1.0	20	10	40	0.9	15	
SDFL1005Q1R2 □ TF	1.2	20	10	35	1.2	15	
SDFL1005Q1R5 □ TF	1.5	20	10	30	1.2	15	
SDFL1005Q1R8 □ TF	1.8	20	10	30	1.45	15	
SDFL1005Q2R2 □ TF	2.2	20	10	28	1.7	10	
SDFL1005Q2R7 □ TF	2.7	20	10	28	2.4	10	
SDFL1005Q3R3 □ TF	3.3	20	10	28	2.7	10	

SDFL1608 Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	μH	-	MHz	MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq.	S.R.F	DCR	I _r	T
SDFL1608L47N □ TF	0.047	10	50	260	0.3	50	0.8±0.15 [.031±.006]
SDFL1608L68N □ TF	0.068	10	50	250	0.3	50	
SDFL1608L82N □ TF	0.082	10	50	245	0.3	50	
SDFL1608LR10 □ TF	0.1	15	25	240	0.5	50	
SDFL1608LR12 □ TF	0.12	15	25	205	0.5	50	
SDFL1608LR15 □ TF	0.15	15	25	180	0.6	50	
SDFL1608LR18 □ TF	0.18	15	25	165	0.6	50	
SDFL1608LR22 □ TF	0.22	15	25	150	0.8	50	
SDFL1608LR27 □ TF	0.27	15	25	136	0.8	50	
SDFL1608LR33 □ TF	0.33	15	25	125	0.85	35	
SDFL1608LR39 □ TF	0.39	15	25	110	1	35	
SDFL1608LR47 □ TF	0.47	15	25	105	1.35	35	
SDFL1608LR56 □ TF	0.56	15	25	95	1.55	35	
SDFL1608LR68 □ TF	0.68	15	25	90	1.7	35	
SDFL1608LR82 □ TF	0.82	15	25	85	2.1	35	
SDFL1608P1R0 □ TF	1.0	35	10	90	0.6	25	
SDFL1608P1R1 □ TF	1.1	35	10	90	0.6	25	
SDFL1608P1R2 □ TF	1.2	35	10	85	0.8	25	

Specifications

SDFL1608 Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	μH	-	MHz	MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq.	S.R.F	DCR	I _r	T
SDFL1608P1R5 □ TF	1.5	35	10	80	0.8	25	0.8±0.15 [.031±.006]
SDFL1608P1R8 □ TF	1.8	35	10	75	0.95	25	
SDFL1608P2R2 □ TF	2.2	35	10	70	1.15	15	
SDFL1608Q1R0 □ TF	1.0	35	10	75	0.6	25	
SDFL1608Q1R1 □ TF	1.1	35	10	75	0.6	25	
SDFL1608Q1R2 □ TF	1.2	35	10	65	0.8	25	
SDFL1608Q1R5 □ TF	1.5	35	10	60	0.8	25	
SDFL1608Q1R8 □ TF	1.8	35	10	55	0.95	25	
SDFL1608Q2R2 □ TF	2.2	35	10	50	1.15	15	
SDFL1608Q2R7 □ TF	2.7	35	10	45	1.35	15	
SDFL1608Q3R3 □ TF	3.3	35	10	40	1.55	15	
SDFL1608Q3R9 □ TF	3.9	35	10	35	1.7	15	
SDFL1608Q4R7 □ TF	4.7	35	10	33	2.1	15	
SDFL1608S5R6 □ TF	5.6	35	4	22	1.55	5	
SDFL1608S6R8 □ TF	6.8	35	4	20	1.7	5	
SDFL1608S8R2 □ TF	8.2	35	4	18	2.1	5	
SDFL1608S100 □ TF	10	30	2	17	1.85	3	
SDFL1608S120 □ TF	12	30	2	15	2.1	3	
SDFL1608T150 □ TF	15	20	1	14	1.7	1	
SDFL1608T180 □ TF	18	20	1	13	1.85	1	
SDFL1608T220 □ TF	22	20	1	11	2.1	1	
SDFL1608T270 □ TF	27	20	1	10	2.75	1	
SDFL1608T330 □ TF	33	20	1	9	2.95	1	

SDFL2012 Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	μH	-	MHz	MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq.	S.R.F	DCR	I _r	T
SDFL2012L47N □ TF	0.047	15	50	320	0.2	300	0.85±0.2 [.033±.008]
SDFL2012L68N □ TF	0.068	15	50	280	0.2	300	
SDFL2012L82N □ TF	0.082	15	50	255	0.2	300	
SDFL2012LR10 □ TF	0.1	20	25	235	0.3	250	
SDFL2012LR12 □ TF	0.12	20	25	220	0.3	250	
SDFL2012LR15 □ TF	0.15	20	25	200	0.4	250	
SDFL2012LR18 □ TF	0.18	20	25	185	0.4	250	
SDFL2012LR22 □ TF	0.22	20	25	170	0.5	250	
SDFL2012LR27 □ TF	0.27	20	25	150	0.5	250	
SDFL2012LR33 □ TF	0.33	20	25	145	0.55	250	
SDFL2012LR39 □ TF	0.39	25	25	135	0.65	200	
SDFL2012LR47 □ TF	0.47	25	25	125	0.65	200	
SDFL2012LR56 □ TF	0.56	25	25	115	0.75	150	
SDFL2012LR68 □ TF	0.68	25	25	105	0.8	150	
SDFL2012LR82 □ TF	0.82	25	25	100	1	150	
SDFL2012P1R0 □ TF	1.0	45	10	95	0.4	50	
SDFL2012P1R2 □ TF	1.2	45	10	85	0.5	50	
SDFL2012P1R5 □ TF	1.5	45	10	80	0.5	50	
SDFL2012P1R8 □ TF	1.8	45	10	75	0.6	50	
SDFL2012P2R2 □ TF	2.2	45	10	70	0.65	30	
SDFL2012Q1R0 □ TF	1.0	45	10	75	0.4	50	
SDFL2012Q1R1 □ TF	1.1	45	10	65	0.5	50	

Specifications

SDFL2012 Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	μH	-	MHz	MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq.	S.R.F	DCR	I _r	T
SDFL2012Q1R2 □ TF	1.2	45	10	65	0.5	50	0.85±0.2 [.033±.008]
SDFL2012Q1R5 □ TF	1.5	45	10	60	0.5	50	
SDFL2012Q1R8 □ TF	1.8	45	10	55	0.6	50	
SDFL2012Q2R4 □ TF	2.4	45	10	47	0.7	30	
SDFL2012Q2R7 □ TF	2.7	45	10	45	0.75	30	
SDFL2012Q3R9 □ TF	3.9	45	10	38	0.9	30	
SDFL2012Q4R7 □ TF	4.7	45	10	35	1	30	
SDFL2012S5R6 □ TF	5.6	50	4	32	0.9	15	
SDFL2012S6R8 □ TF	6.8	50	4	29	1	15	
SDFL2012S8R2 □ TF	8.2	50	4	26	1.1	15	
SDFL2012S100 □ TF	10	50	2	24	1.15	15	
SDFL2012S120 □ TF	12	50	2	22	1.25	15	
SDFL2012T150 □ TF	15	30	1	19	0.8	5	
SDFL2012T180 □ TF	18	30	1	18	0.9	5	
SDFL2012T220 □ TF	22	30	1	16	1.1	5	
SDFL2012T270 □ TFA99	27	30	1	14	1.15	5	1.25±0.2 [0.049±0.008]
SDFL2012T330 □ TFA99	33	30	0.4	13	1.25	5	
SDFL2012T390 □ TFA99	39	35	2	8	2.9	4	
SDFL2012T470 □ TFA99	47	35	2	7.5	3	4	
SDFL2012Q2R2 □ TFA99	2.2	45	10	50	0.65	30	
SDFL2012Q3R3 □ TFA99	3.3	45	10	41	0.8	30	
SDFL2012Q4R7 □ TFA99	4.7	45	10	47	1	30	

SDFL3216 Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	μH	-	MHz	MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq.	S.R.F	DCR	I _r	T
SDFL3216L47N □ TF	0.047	20	50	320	0.15	300	0.85±0.2 [.033±.008]
SDFL3216L68N □ TF	0.068	20	50	280	0.25	300	
SDFL3216LR10 □ TF	0.1	20	25	235	0.25	250	
SDFL3216LR12 □ TF	0.12	20	25	220	0.3	250	
SDFL3216LR15 □ TF	0.15	20	25	200	0.3	250	
SDFL3216LR18 □ TF	0.18	20	25	185	0.4	250	
SDFL3216LR22 □ TF	0.22	20	25	170	0.4	250	
SDFL3216LR27 □ TF	0.27	20	25	150	0.5	250	
SDFL3216LR33 □ TF	0.33	20	25	145	0.6	250	
SDFL3216LR39 □ TF	0.39	25	25	135	0.5	200	
SDFL3216LR47 □ TF	0.47	25	25	125	0.6	200	
SDFL3216LR56 □ TF	0.56	25	25	115	0.7	150	
SDFL3216LR68 □ TF	0.68	25	25	105	0.8	150	
SDFL3216LR82 □ TF	0.82	25	25	100	0.9	150	
SDFL3216Q1R0 □ TF	1.0	45	10	75	0.4	100	
SDFL3216Q1R2 □ TF	1.2	45	10	65	0.5	100	
SDFL3216Q1R5 □ TF	1.5	45	10	60	0.5	50	
SDFL3216Q1R8 □ TF	1.8	45	10	55	0.5	50	
SDFL3216Q2R2 □ TF	2.2	45	10	50	0.6	50	
SDFL3216Q2R7 □ TF	2.7	45	10	45	0.6	50	
SDFL3216Q3R3 □ TF	3.3	45	10	41	0.7	50	
SDFL3216Q3R9 □ TF	3.9	45	10	38	0.8	50	
SDFL3216Q4R7 □ TF	4.7	45	10	35	0.9	50	

Specifications

SDFL3216 Series

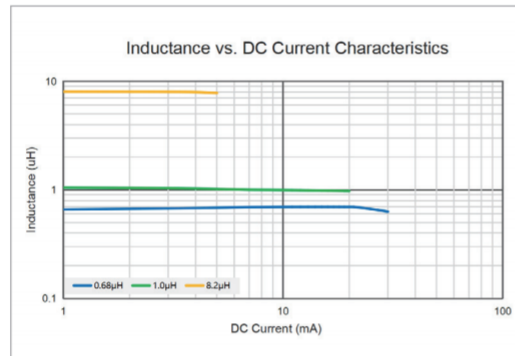
Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units	μH	-	MHz	MHz	Ω	mA	mm [inch]
Symbol	L	Q	Freq.	S.R.F	DCR	I _r	T
SDFL3216S5R6 □ TF	5.6	50	4	32	0.7	25	0.85±0.2 [.033±.008]
SDFL3216S6R8 □ TF	6.8	50	4	29	0.8	25	
SDFL3216S8R2 □ TF	8.2	50	4	26	0.9	25	
SDFL3216S100 □ TF	10	50	2	24	1	25	
SDFL3216S120 □ TF	12	50	2	22	1.05	15	
SDFL3216T150 □ TF	15	35	1	19	0.7	5	
SDFL3216T180 □ TF	18	35	1	18	0.7	5	
SDFL3216T220 □ TF	22	35	1	16	0.9	5	
SDFL3216T270 □ TF	27	35	1	14	0.9	5	1.10±0.2 [0.043±0.008]
SDFL3216T330 □ TFA99	33	35	0.4	13	1.05	5	
SDFL3216T390 □ TFA99	39	40	2	11	3	5	
SDFL3216T470 □ TFA99	47	40	2	10	3.4	5	

※ □: Please specify the inductance tolerance code (I=±7%,K=±10%,L=±15%,M=±20%). The product with tolerance less than ±7% is also available. Please contact your local sales.

Typical
Electrical
Characteristics

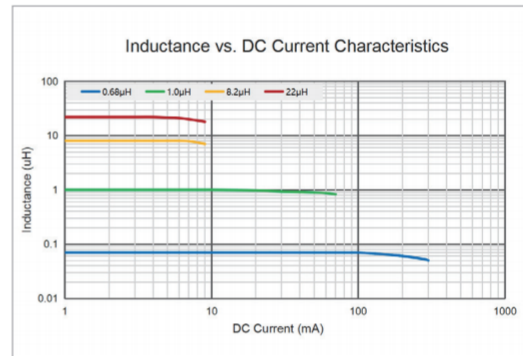
SDFL1005 Series

Inductance vs. DC Current Characteristics

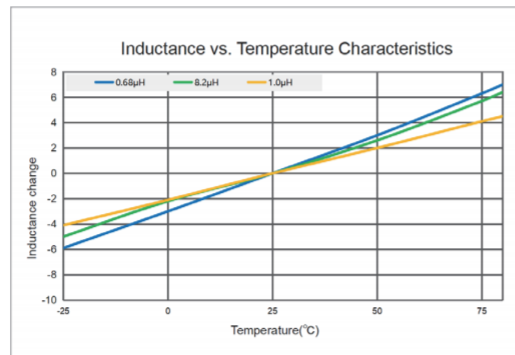


SDFL1608 Series

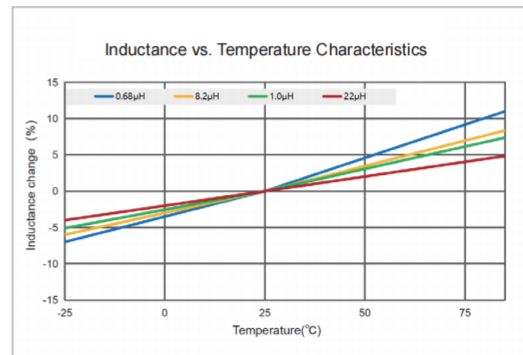
Inductance vs. DC Current Characteristics



Inductance vs. Temperature Characteristics

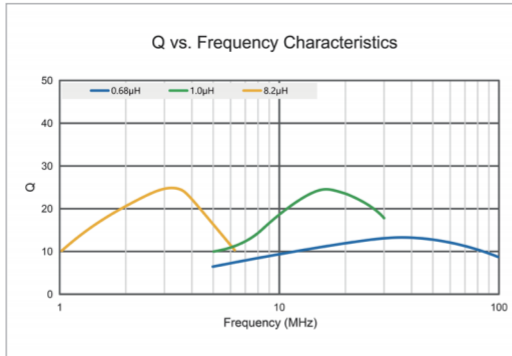


Inductance vs. Temperature Characteristics

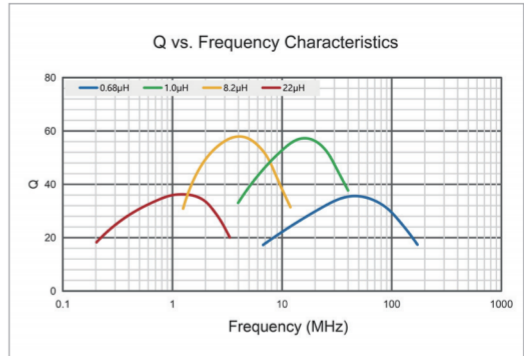


**Typical
Electrical
Characteristics**

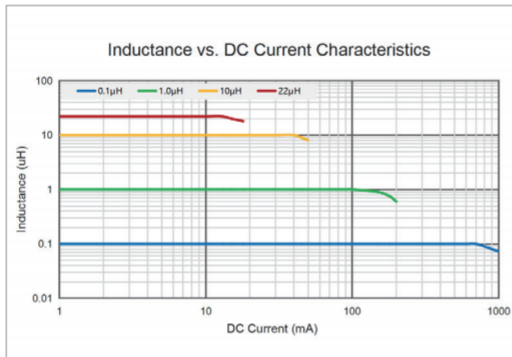
SDFL1005 Series
Inductance vs. DC Current Characteristics



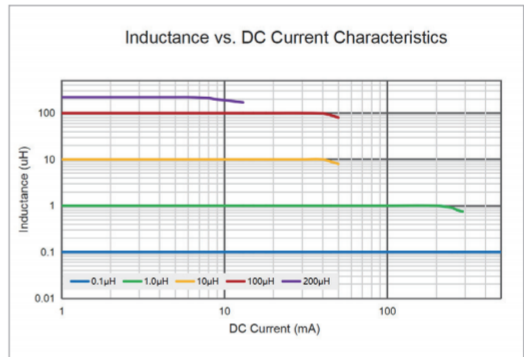
SDFL1608 Series
Inductance vs. DC Current Characteristics



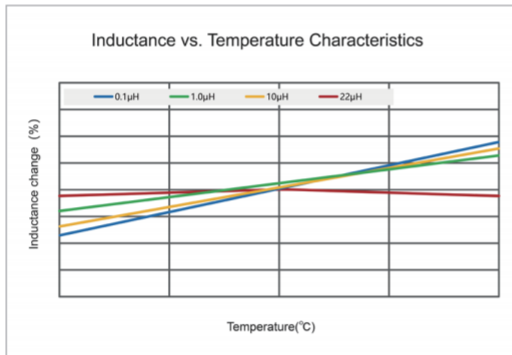
SDFL2012 Series
Inductance vs. DC Current Characteristics



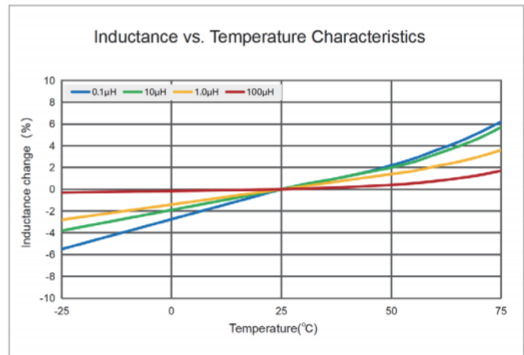
SDFL3216 Series
Inductance vs. DC Current Characteristics



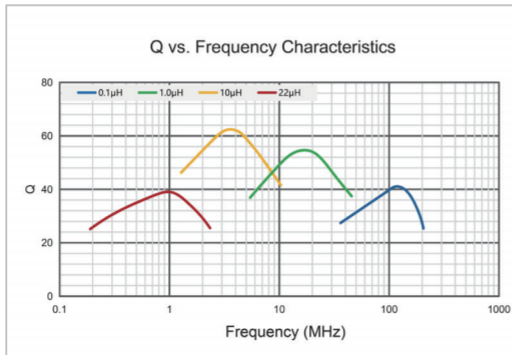
Inductance vs. Temperature Characteristics



Inductance vs. Temperature Characteristics



Inductance vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

