

Inductors

For General Applications

Axial

SP Series SP0203 Type

FEATURES

- The SP series inductors are available in ranging from 0203 to 0406 types.
- These are coaxial horizontal types, highly miniaturized and light-weight.
- Epoxy resin construction assures high reliability.
- Available in ammo-pack style tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	9.8N min.

PRODUCT IDENTIFICATION

SP					
SPT	0203	SA-	1R0	J	-7
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

SP	Bulk
SPT	Taping (ammo-pack)

(2)Dimensions

0203	ø2.4×3.4mm
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(3)Packaging style

SA	Dimensions in between tapes 26mm (Standard products)
A	Dimensions in between tapes 52mm

(4)Inductance value

R10	0.1μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%

(6)TDK internal code

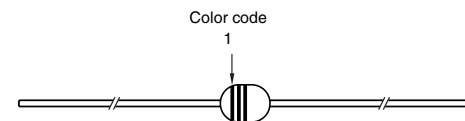
(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping (Ammo-pack)	2000 pieces/box

COLOR CODE MARKINGS (from left)

- 1: The first effective number
- 2: The second effective number
- 3: Multiplier



Color code table

Color	Effective number	Multiplier	Inductance tolerance
Black	0	1	±20%
Brown	1	10	—
Red	2	100	—
Orange	3	1000	—
Yellow	4	—	—
Green	5	—	—
Blue	5	—	—
Purple	7	—	—
Gray	8	—	—
White	9	—	—
Silver	—	0.01	±10%
Gold	—	0.1	±5%

- According to JIS-C-0801



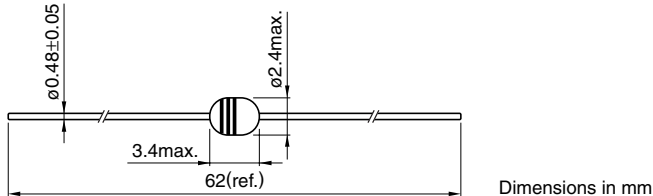
Inductors

For General Applications

Axial

SP Series SP0203 Type

SHAPES AND DIMENSIONS



CHARACTERISTICS

Operating temperature range	-20 to +80°C [Including self-temperature rise, 20°C max.]
Withstand voltage Erms	250V
Rated current	Based on temperature rise
Terminal tensile strength	9.8N min.
Terminal bending strength	2.94N min.
Moisture resistance	$\Delta L/L \leq \pm 5\%$ $\Delta Q/Q \leq \pm 20\%$

ELECTRICAL CHARACTERISTICS

Inductance (μ H)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.1	$\pm 10\%$	40	25.2	600	0.16	800	SP0203-R10K-7
0.12	$\pm 10\%$	40	25.2	520	0.16	800	SP0203-R12K-7
0.15	$\pm 10\%$	40	25.2	500	0.16	790	SP0203-R15K-7
0.18	$\pm 10\%$	40	25.2	480	0.18	745	SP0203-R18K-7
0.22	$\pm 10\%$	40	25.2	420	0.2	705	SP0203-R22K-7
0.27	$\pm 10\%$	40	25.2	390	0.22	670	SP0203-R27K-7
0.33	$\pm 10\%$	40	25.2	350	0.24	645	SP0203-R33K-7
0.39	$\pm 10\%$	50	25.2	320	0.27	605	SP0203-R39K-7
0.47	$\pm 10\%$	50	25.2	300	0.3	575	SP0203-R47K-7
0.56	$\pm 10\%$	50	25.2	280	0.34	540	SP0203-R56K-7
0.68	$\pm 10\%$	50	25.2	240	0.38	510	SP0203-R68K-7
0.82	$\pm 10\%$	50	25.2	210	0.43	480	SP0203-R82K-7
1	$\pm 10\%$	50	25.2	190	0.46	465	SP0203-1R0K-7
1.2	$\pm 5\%$	50	7.96	110	0.52	435	SP0203-1R2J-7
1.5	$\pm 5\%$	50	7.96	80	0.57	415	SP0203-1R5J-7
1.8	$\pm 5\%$	50	7.96	66	0.6	405	SP0203-1R8J-7
2.2	$\pm 5\%$	50	7.96	60	0.65	390	SP0203-2R2J-7
2.7	$\pm 5\%$	50	7.96	54	0.73	370	SP0203-2R7J-7
3.3	$\pm 5\%$	50	7.96	48	0.82	345	SP0203-3R3J-7
3.9	$\pm 5\%$	50	7.96	44	0.9	330	SP0203-3R9J-7
4.7	$\pm 5\%$	50	7.96	38	1	315	SP0203-4R7J-7
5.6	$\pm 5\%$	50	7.96	34	1.1	300	SP0203-5R6J-7
6.8	$\pm 5\%$	50	7.96	30	1.2	285	SP0203-6R8J-7
8.2	$\pm 5\%$	50	7.96	26	1.3	275	SP0203-8R2J-7
10	$\pm 5\%$	50	7.96	24	1.4	265	SP0203-100J-7
12	$\pm 5\%$	50	2.52	22	1.5	255	SP0203-120J-7
15	$\pm 5\%$	50	2.52	20	1.65	245	SP0203-150J-7
18	$\pm 5\%$	50	2.52	18	1.9	225	SP0203-180J-7
22	$\pm 5\%$	50	2.52	17	2.2	210	SP0203-220J-7
27	$\pm 5\%$	50	2.52	16	2.5	200	SP0203-270J-7
33	$\pm 5\%$	50	2.52	14	3.8	160	SP0203-330J-7
39	$\pm 5\%$	50	2.52	13	4.2	150	SP0203-390J-7
47	$\pm 5\%$	50	2.52	12	4.6	145	SP0203-470J-7
56	$\pm 5\%$	40	2.52	11	5.1	140	SP0203-560J-7
68	$\pm 5\%$	40	2.52	10	5.6	130	SP0203-680J-7
82	$\pm 5\%$	40	2.52	9.5	9.6	100	SP0203-820J-7
100	$\pm 5\%$	40	2.52	8	10.8	95	SP0203-101J-7
120	$\pm 5\%$	40	0.796	6.5	12.5	85	SP0203-121J-7
150	$\pm 5\%$	40	0.796	6	14.5	80	SP0203-151J-7
180	$\pm 5\%$	40	0.796	5.5	16.3	75	SP0203-181J-7
220	$\pm 5\%$	40	0.796	5	20	70	SP0203-221J-7

Inductors

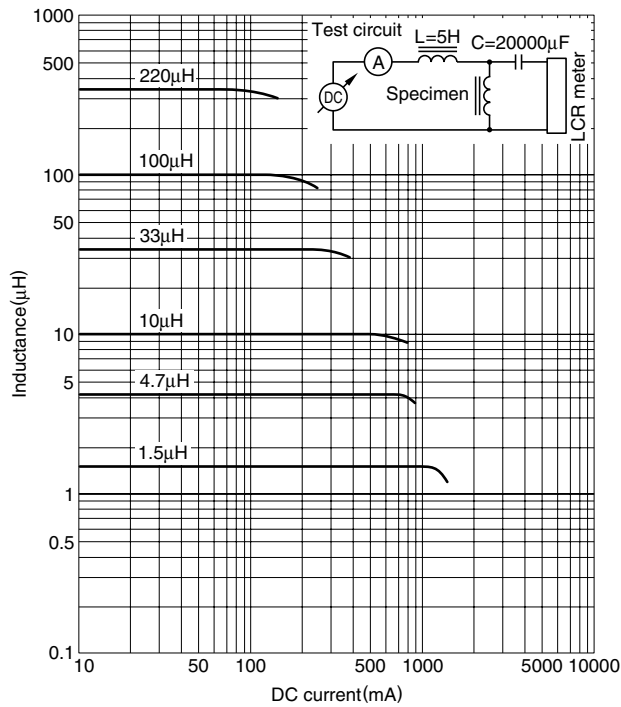
For General Applications

Axial

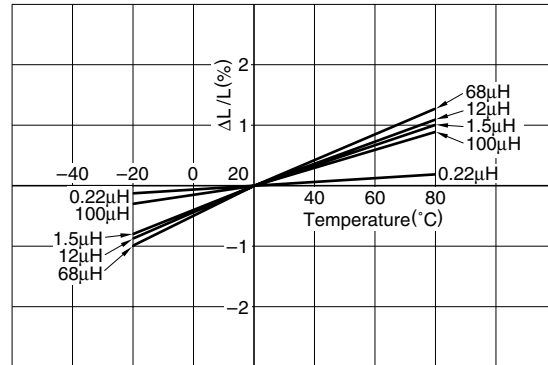
SP Series SP0203 Type

TYPICAL ELECTRICAL CHARACTERISTICS

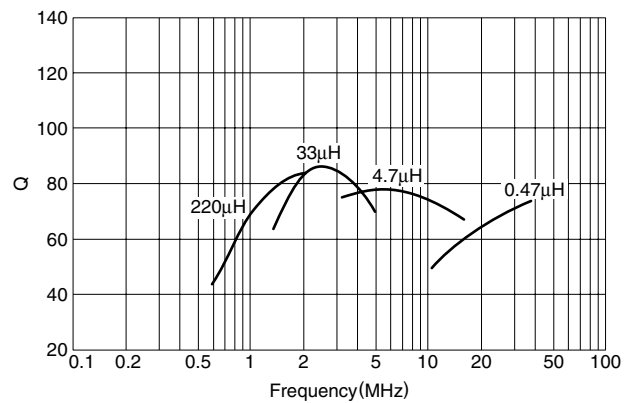
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications

Axial

SP Series SP0305 Type

FEATURES

- The SP series inductors are available in ranging from 0203 to 0406 types.
- These are coaxial horizontal types, highly miniaturized and light-weight.
- Epoxy resin construction assures high reliability.
- Available in ammo-pack style tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	9.8N min.

PRODUCT IDENTIFICATION

SP					
SPT	0305	SA-	1R0	K	-7
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

SP	Bulk
SPT	Taping (ammo-pack)

(2)Dimensions

0305	ø2.8×7mm
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(3)Packaging style

SA	Dimensions in between tapes 26mm (Standard products)
A	Dimensions in between tapes 52mm

(4)Inductance value

1R0	1μH
100	10μH

(5)Inductance tolerance

K	±10%
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(6)TDK internal code

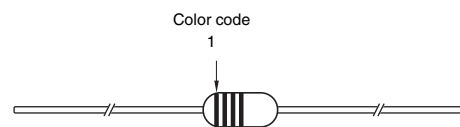
(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping (Ammo-pack)	2000 pieces/box

COLOR CODE MARKINGS (from left)

- 1: The first effective number
- 2: The second effective number
- 3: Multiplier
- 4: Inductance tolerance



Color code table

Color	Effective number	Multiplier	Inductance tolerance
Black	0	1	±20%
Brown	1	10	—
Red	2	100	—
Orange	3	1000	—
Yellow	4	—	—
Green	5	—	—
Blue	5	—	—
Purple	7	—	—
Gray	8	—	—
White	9	—	—
Silver	—	0.01	±10%
Gold	—	0.1	±5%

- According to JIS-C-0801



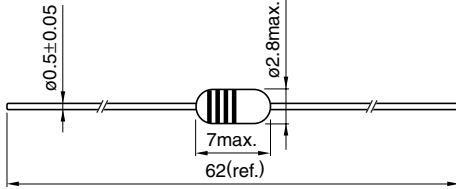
Inductors

For General Applications

Axial

SP Series SP0305 Type

SHAPES AND DIMENSIONS



Dimensions in mm

CHARACTERISTICS

Operating temperature range	-20 to +80°C [Including self-temperature rise, 20°C max.]
Withstand voltage Erms	250V
Rated current	Based on temperature rise
Terminal tensile strength	9.8N min.
Terminal bending strength	2.94N min.
Moisture resistance	$\Delta L/L \leq \pm 5\%$ $\Delta Q/Q \leq \pm 20\%$

ELECTRICAL CHARACTERISTICS

Inductance (μ H)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.22	$\pm 10\%$	40	25.2	380	0.075	1150	SP0305-R22K-2
0.27	$\pm 10\%$	40	25.2	360	0.08	1110	SP0305-R27K-2
0.33	$\pm 10\%$	40	25.2	350	0.08	1110	SP0305-R33K-2
0.39	$\pm 10\%$	40	25.2	320	0.09	1000	SP0305-R39K-2
0.47	$\pm 10\%$	40	25.2	300	0.1	1000	SP0305-R47K-2
0.56	$\pm 10\%$	40	25.2	280	0.11	950	SP0305-R56K-2
0.68	$\pm 10\%$	40	25.2	250	0.12	900	SP0305-R68K-2
0.82	$\pm 10\%$	40	25.2	200	0.13	875	SP0305-R82K-2
1	$\pm 10\%$	40	25.2	180	0.15	815	SP0305-1R0K-2
1.2	$\pm 10\%$	40	7.96	165	0.18	740	SP0305-1R2K-2
1.5	$\pm 10\%$	45	7.96	150	0.2	700	SP0305-1R5K-2
1.8	$\pm 10\%$	50	7.96	125	0.23	655	SP0305-1R8K-2
2.2	$\pm 10\%$	50	7.96	110	0.25	630	SP0305-2R2K-2
2.7	$\pm 10\%$	50	7.96	95	0.28	595	SP0305-2R7K-2
3.3	$\pm 10\%$	50	7.96	70	0.3	575	SP0305-3R3K-2
3.9	$\pm 10\%$	45	7.96	65	0.32	555	SP0305-3R9K-2
4.7	$\pm 10\%$	45	7.96	50	0.35	530	SP0305-4R7K-2
5.6	$\pm 10\%$	45	7.96	40	0.4	500	SP0305-5R6K-2
6.8	$\pm 10\%$	40	7.96	30	0.45	470	SP0305-6R8K-2
8.2	$\pm 10\%$	40	7.96	28	0.55	425	SP0305-8R2K-2
10	$\pm 10\%$	40	7.96	22	0.72	370	SP0305-100K-2
12	$\pm 10\%$	45	2.52	20	0.8	350	SP0305-120K-2
15	$\pm 10\%$	50	2.52	16	0.88	335	SP0305-150K-2
18	$\pm 10\%$	50	2.52	15	1	315	SP0305-180K-2
22	$\pm 10\%$	50	2.52	13	1.2	285	SP0305-220K-2
27	$\pm 10\%$	50	2.52	11	1.35	270	SP0305-270K-2
33	$\pm 10\%$	50	2.52	10	1.5	255	SP0305-330K-2
39	$\pm 10\%$	50	2.52	9.5	1.7	240	SP0305-390K-2
47	$\pm 10\%$	60	2.52	8.5	2.3	205	SP0305-470K-2
56	$\pm 10\%$	60	2.52	7.5	2.6	195	SP0305-560K-2
68	$\pm 10\%$	60	2.52	6.5	2.9	185	SP0305-680K-2
82	$\pm 10\%$	60	2.52	6	3.2	175	SP0305-820K-2
100	$\pm 10\%$	60	2.52	5.5	3.5	165	SP0305-101K-2
120	$\pm 10\%$	60	0.796	5.4	3.8	160	SP0305-121K-2
150	$\pm 10\%$	60	0.796	4.75	4.4	150	SP0305-151K-2
180	$\pm 10\%$	60	0.796	4.35	5	140	SP0305-181K-2
220	$\pm 10\%$	60	0.796	4	5.7	130	SP0305-221K-2
270	$\pm 10\%$	60	0.796	3.7	6.5	120	SP0305-271K-2
330	$\pm 10\%$	60	0.796	3.4	9.5	100	SP0305-331K-2
390	$\pm 10\%$	60	0.796	2.8	10.5	95	SP0305-391K-2
470	$\pm 10\%$	60	0.796	2.55	11.6	90	SP0305-471K-2
560	$\pm 10\%$	60	0.796	2.35	13	85	SP0305-561K-2
680	$\pm 10\%$	60	0.796	2	18	75	SP0305-681K-2
820	$\pm 10\%$	60	0.796	1.5	23	65	SP0305-821K-2
1000	$\pm 10\%$	60	0.796	1.2	26	60	SP0305-102K-2

Inductors

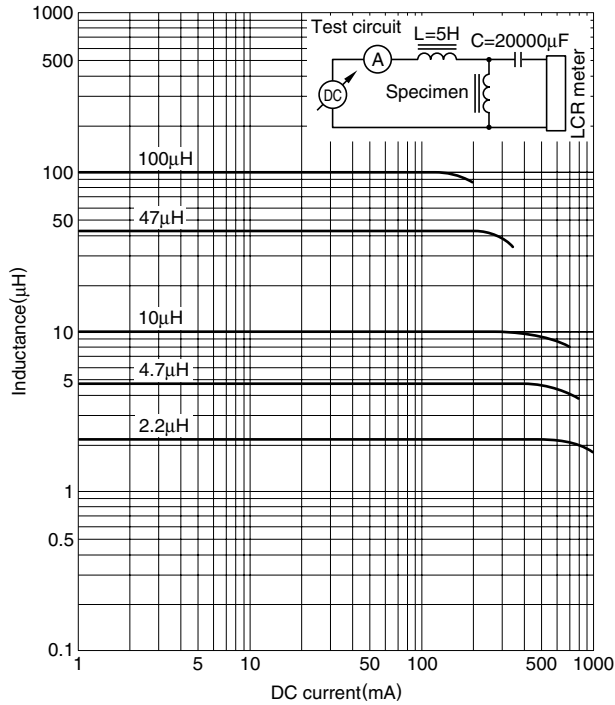
For General Applications

Axial

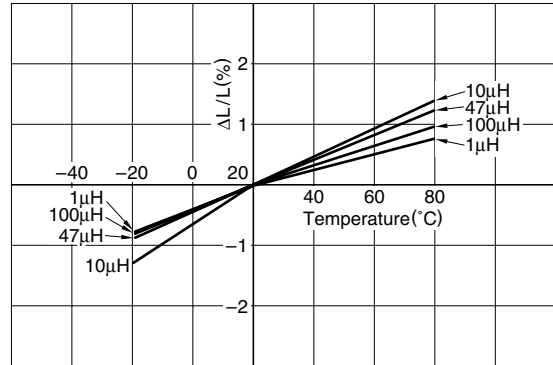
SP Series SP0305 Type

TYPICAL ELECTRICAL CHARACTERISTICS

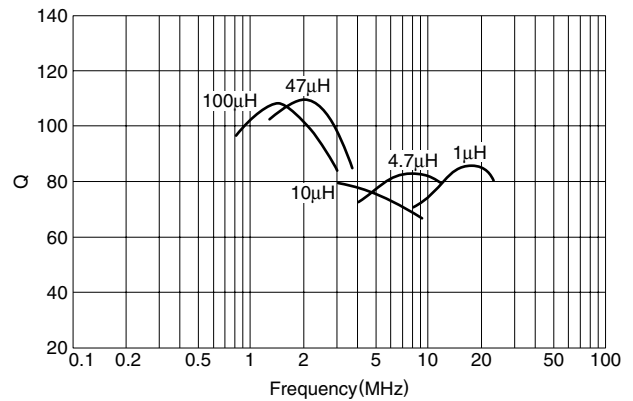
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications

Axial

SP Series SP0406 Type

FEATURES

- The SP series inductors are available in ranging from 0203 to 0406 types.
- These are coaxial horizontal types, highly miniaturized and light-weight.
- Epoxy resin construction assures high reliability.
- Available in ammo-pack style tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	24.5N min.

PRODUCT IDENTIFICATION

SP					
SPT	0406	SA-	1R0	K	-7
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

SP	Bulk
SPT	Taping (ammo-pack)

(2)Dimensions

0406	ø4.2×9.5mm
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(3)Packaging style

SA	Dimensions in between tapes 26mm (Standard products)
A	Dimensions in between tapes 52mm

(4)Inductance value

1R0	1μH
100	10μH

(5)Inductance tolerance

K	±10%
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(6)TDK internal code

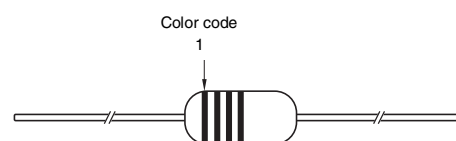
(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping (Ammo-pack)	1000 pieces/box

COLOR CODE MARKINGS (from left)

- 1: The first effective number
- 2: The second effective number
- 3: Multiplier
- 4: Inductance tolerance



Color code table

Color	Effective number	Multiplier	Inductance tolerance
Black	0	1	±20%
Brown	1	10	—
Red	2	100	—
Orange	3	1000	—
Yellow	4	—	—
Green	5	—	—
Blue	5	—	—
Purple	7	—	—
Gray	8	—	—
White	9	—	—
Silver	—	0.01	±10%
Gold	—	0.1	±5%

- According to JIS-C-0801



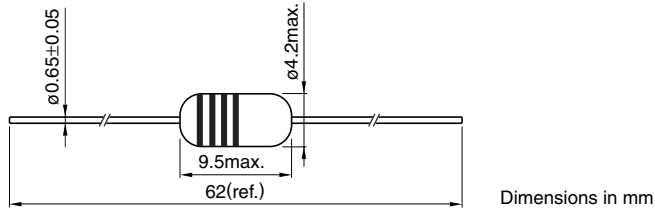
Inductors

For General Applications

Axial

SP Series SP0406 Type

SHAPES AND DIMENSIONS



CHARACTERISTICS

Operating temperature range	-20 to +80°C [Including self-temperature rise, 20°C max.]
Withstand voltage Erms	250V
Rated current	Based on temperature rise
Terminal tensile strength	24.5N min.
Terminal bending strength	4.9N min.
Moisture resistance	$\Delta L/L \leq 5\%$ $\Delta Q/Q \leq 20\%$

ELECTRICAL CHARACTERISTICS

Inductance (μ H)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.22	$\pm 10\%$	25	25.2	380	0.21	880	SP0406-R22K-6Z
0.27	$\pm 10\%$	25	25.2	340	0.24	800	SP0406-R27K-6Z
0.33	$\pm 10\%$	25	25.2	300	0.28	750	SP0406-R33K-6Z
0.39	$\pm 10\%$	25	25.2	280	0.32	680	SP0406-R39K-6Z
0.47	$\pm 10\%$	25	25.2	250	0.36	650	SP0406-R47K-6Z
0.56	$\pm 10\%$	25	25.2	230	0.41	600	SP0406-R56K-6Z
0.68	$\pm 10\%$	25	25.2	210	0.47	550	SP0406-R68K-6Z
0.82	$\pm 10\%$	45	25.2	172	0.17	980	SP0406-R82K-6
1	$\pm 10\%$	45	25.2	157	0.19	920	SP0406-1R0K-6
1.2	$\pm 10\%$	50	7.96	144	0.21	880	SP0406-1R2K-6
1.5	$\pm 10\%$	50	7.96	131	0.23	830	SP0406-1R5K-6
1.8	$\pm 10\%$	55	7.96	121	0.25	790	SP0406-1R8K-6
2.2	$\pm 10\%$	55	7.96	110	0.28	750	SP0406-2R2K-6
2.7	$\pm 10\%$	60	7.96	100	0.3	720	SP0406-2R7K-6
3.3	$\pm 10\%$	65	7.96	94	0.34	670	SP0406-3R3K-6
3.9	$\pm 10\%$	65	7.96	86	0.37	640	SP0406-3R9K-6
4.7	$\pm 10\%$	70	7.96	80	0.39	620	SP0406-4R7K-6
5.6	$\pm 10\%$	70	7.96	74	0.43	590	SP0406-5R6K-6
6.8	$\pm 10\%$	75	7.96	68	0.48	550	SP0406-6R8K-6
8.2	$\pm 10\%$	80	7.96	53	0.52	530	SP0406-8R2K-6
10	$\pm 10\%$	85	7.96	45	0.58	500	SP0406-100K-6
12	$\pm 10\%$	75	2.52	34	0.63	480	SP0406-120K-6
15	$\pm 10\%$	70	2.52	20	0.72	460	SP0406-150K-6
18	$\pm 10\%$	65	2.52	14	0.77	430	SP0406-180K-6
22	$\pm 10\%$	60	2.52	9.9	0.84	410	SP0406-220K-6
27	$\pm 10\%$	55	2.52	7.6	0.94	390	SP0406-270K-6
33	$\pm 10\%$	55	2.52	6.3	1.03	370	SP0406-330K-6
39	$\pm 10\%$	50	2.52	6.3	1.12	350	SP0406-390K-6
47	$\pm 10\%$	45	2.52	6.3	1.22	340	SP0406-470K-6
56	$\pm 10\%$	40	2.52	6.2	1.34	320	SP0406-560K-6
68	$\pm 10\%$	40	2.52	5.7	1.47	305	SP0406-680K-6
82	$\pm 10\%$	35	2.52	5.3	1.62	290	SP0406-820K-6
100	$\pm 10\%$	30	2.52	4.8	1.8	275	SP0406-101K-6
120	$\pm 10\%$	70	0.796	3.8	3.7	185	SP0406-121K-6
150	$\pm 10\%$	70	0.796	3.5	4.2	175	SP0406-151K-6
180	$\pm 10\%$	70	0.796	3.3	4.6	165	SP0406-181K-6
220	$\pm 10\%$	70	0.796	3	5.1	155	SP0406-221K-6
270	$\pm 10\%$	65	0.796	2.8	5.8	145	SP0406-271K-6
330	$\pm 10\%$	65	0.796	2.6	6.4	137	SP0406-331K-6
390	$\pm 10\%$	65	0.796	2.4	7	133	SP0406-391K-6
470	$\pm 10\%$	60	0.796	2.25	7.7	126	SP0406-471K-6
560	$\pm 10\%$	60	0.796	2.1	8.5	120	SP0406-561K-6
680	$\pm 10\%$	55	0.796	1.95	9.4	113	SP0406-681K-6
820	$\pm 10\%$	55	0.796	1.85	10.5	100	SP0406-821K-6
1000	$\pm 10\%$	50	0.796	1.7	12	100	SP0406-102K-6

Inductors

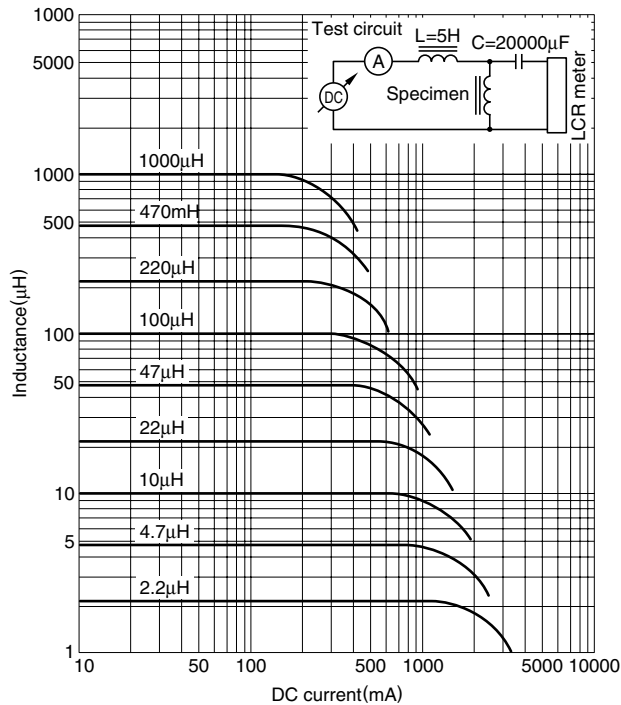
For General Applications

Axial

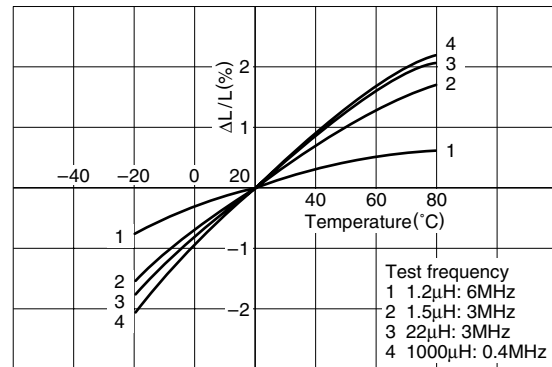
SP Series SP0406 Type

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS

