

# 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

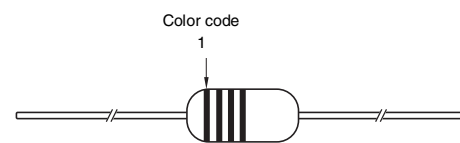
(Some products may not have this number. See the main body for details.)

### 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



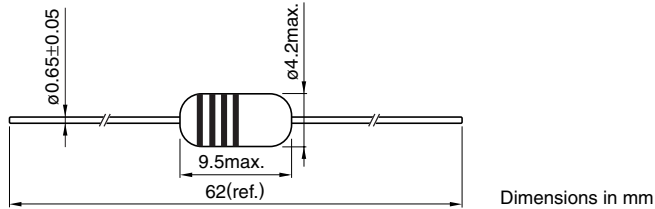
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### SHAPES AND DIMENSIONS



### 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 (μH)	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	±10%	25	25.2	380	0.21	880	SP0406-R22K-6Z
0.27	±10%	25	25.2	340	0.24	800	SP0406-R27K-6Z
0.33	±10%	25	25.2	300	0.28	750	SP0406-R33K-6Z
0.39	±10%	25	25.2	280	0.32	680	SP0406-R39K-6Z
0.47	±10%	25	25.2	250	0.36	650	SP0406-R47K-6Z
0.56	±10%	25	25.2	230	0.41	600	SP0406-R56K-6Z
0.68	±10%	25	25.2	210	0.47	550	SP0406-R68K-6Z
0.82	±10%	45	25.2	172	0.17	980	SP0406-R82K-6
1	±10%	45	25.2	157	0.19	920	SP0406-1R0K-6
1.2	±10%	50	7.96	144	0.21	880	SP0406-1R2K-6
1.5	±10%	50	7.96	131	0.23	830	SP0406-1R5K-6
1.8	±10%	55	7.96	121	0.25	790	SP0406-1R8K-6
2.2	±10%	55	7.96	110	0.28	750	SP0406-2R2K-6
2.7	±10%	60	7.96	100	0.3	720	SP0406-2R7K-6
3.3	±10%	65	7.96	94	0.34	670	SP0406-3R3K-6
3.9	±10%	65	7.96	86	0.37	640	SP0406-3R9K-6
4.7	±10%	70	7.96	80	0.39	620	SP0406-4R7K-6
5.6	±10%	70	7.96	74	0.43	590	SP0406-5R6K-6
6.8	±10%	75	7.96	68	0.48	550	SP0406-6R8K-6
8.2	±10%	80	7.96	53	0.52	530	SP0406-8R2K-6
10	±10%	85	7.96	45	0.58	500	SP0406-100K-6
12	±10%	75	2.52	34	0.63	480	SP0406-120K-6
15	±10%	70	2.52	20	0.72	460	SP0406-150K-6
18	±10%	65	2.52	14	0.77	430	SP0406-180K-6
22	±10%	60	2.52	9.9	0.84	410	SP0406-220K-6
27	±10%	55	2.52	7.6	0.94	390	SP0406-270K-6
33	±10%	55	2.52	6.3	1.03	370	SP0406-330K-6
39	±10%	50	2.52	6.3	1.12	350	SP0406-390K-6
47	±10%	45	2.52	6.3	1.22	340	SP0406-470K-6
56	±10%	40	2.52	6.2	1.34	320	SP0406-560K-6
68	±10%	40	2.52	5.7	1.47	305	SP0406-680K-6
82	±10%	35	2.52	5.3	1.62	290	SP0406-820K-6
100	±10%	30	2.52	4.8	1.8	275	SP0406-101K-6
120	±10%	70	0.796	3.8	3.7	185	SP0406-121K-6
150	±10%	70	0.796	3.5	4.2	175	SP0406-151K-6
180	±10%	70	0.796	3.3	4.6	165	SP0406-181K-6
220	±10%	70	0.796	3	5.1	155	SP0406-221K-6
270	±10%	65	0.796	2.8	5.8	145	SP0406-271K-6
330	±10%	65	0.796	2.6	6.4	137	SP0406-331K-6
390	±10%	65	0.796	2.4	7	133	SP0406-391K-6
470	±10%	60	0.796	2.25	7.7	126	SP0406-471K-6
560	±10%	60	0.796	2.1	8.5	120	SP0406-561K-6
680	±10%	55	0.796	1.95	9.4	113	SP0406-681K-6
820	±10%	55	0.796	1.85	10.5	100	SP0406-821K-6
1000	±10%	50	0.796	1.7	12	100	SP0406-102K-6

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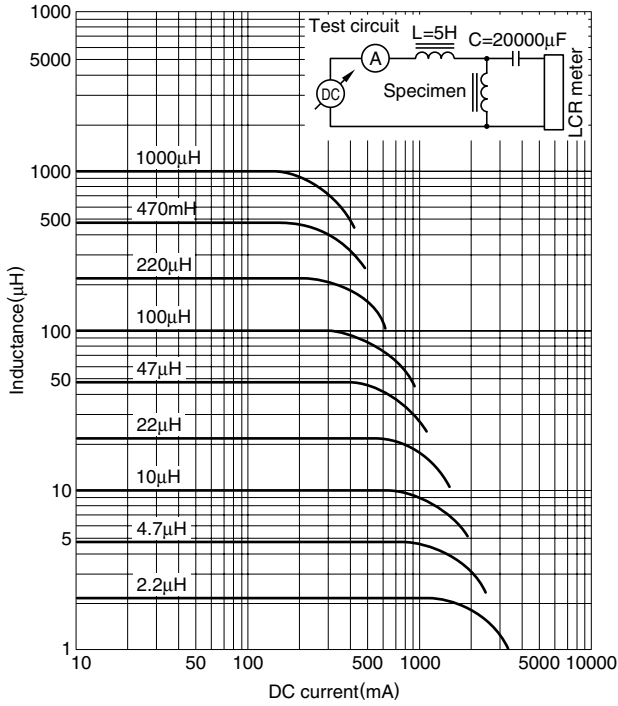
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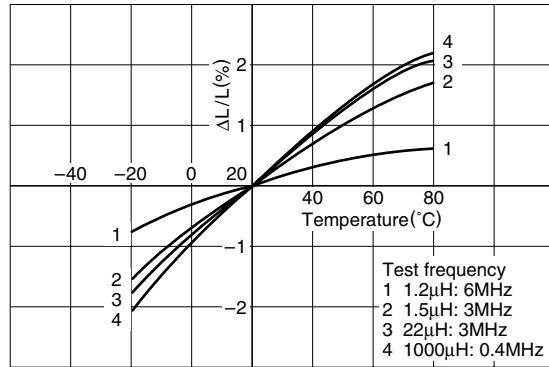
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## TYPICAL ELECTRICAL CHARACTERISTICS

### INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



### INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



### Q vs. FREQUENCY CHARACTERISTICS

