

Inductors

For General Applications

Axial

SP Series SP0305 Type

FEATURES

- The SP series inductors are available in 3 form factors ranging from 0203 to 0406.
- 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	SP0203: 9.8N min. SP0305: 9.8N min. SP0406: 24.5N 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
0305	ø2.8×7mm
0406	ø4.2×9.5mm

(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.)

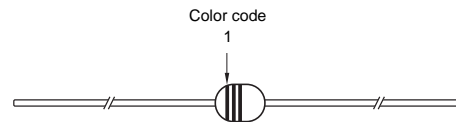
PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SPT0203	2000 pieces/box
(Ammo-pack)	SPT0305	2000 pieces/box
	SPT0406	1000 pieces/box

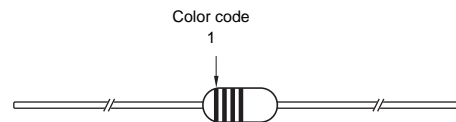
COLOR CODE MARKINGS (from left)

- 1: The first effective number
- 2: The second effective number
- 3: Multiplier
- 4: Inductance tolerance (SP0203 is omitted)

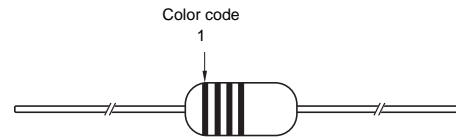
SP0203



SP0305



SP0406



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

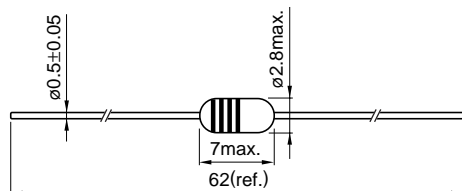
Inductors

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

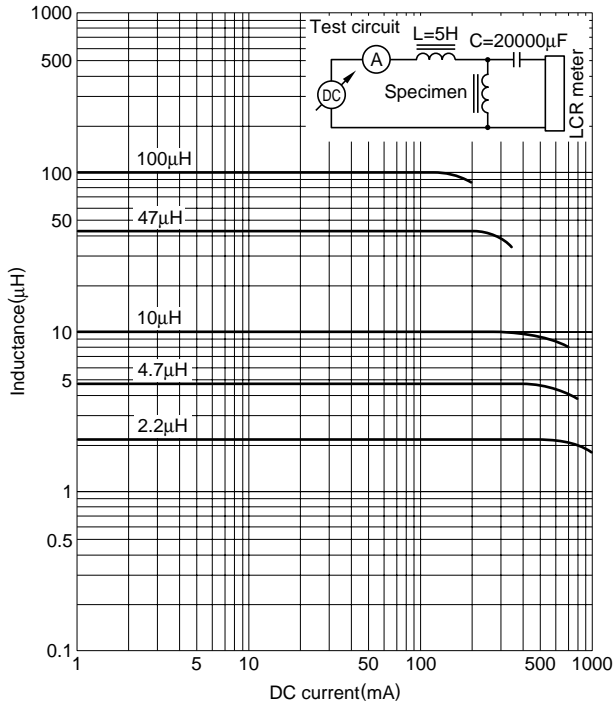
Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.22	±10%	40	25.2	380	0.075	1150	SP0305-R22K-2
0.27	±10%	40	25.2	360	0.08	1110	SP0305-R27K-2
0.33	±10%	40	25.2	350	0.08	1110	SP0305-R33K-2
0.39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

Inductors

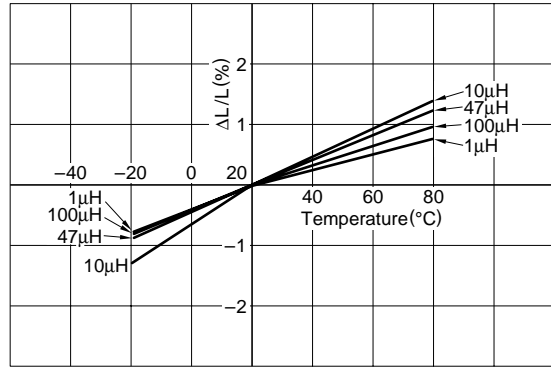
For General Applications
Axial

SP Series SP0305 Type

TYPICAL ELECTRICAL CHARACTERISTICS INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS

