

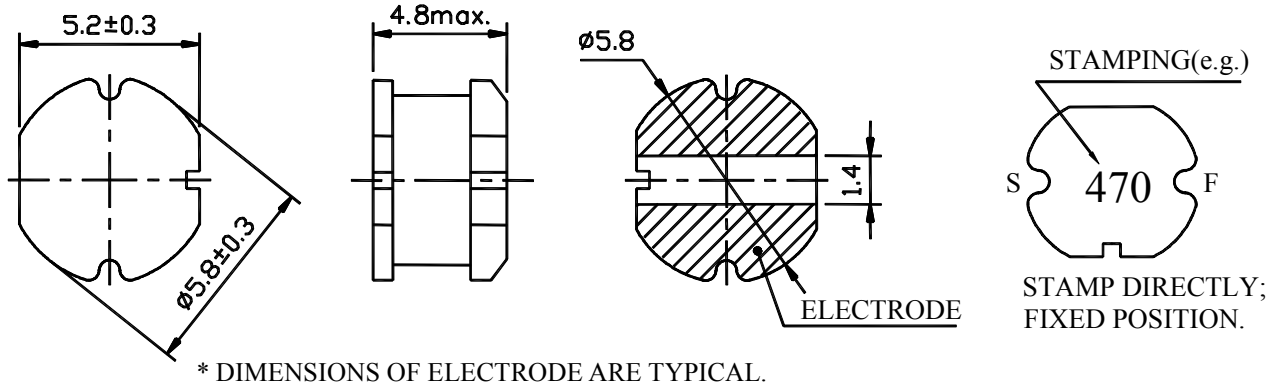


# SMD POWER INDUCTORS

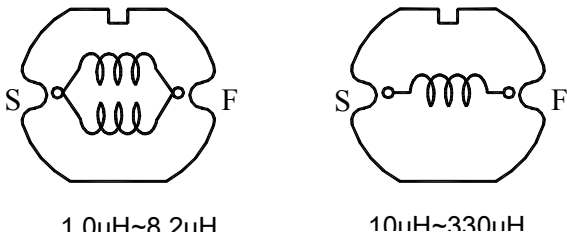
## SPECIFICATIONS

TYPE
DA54NP

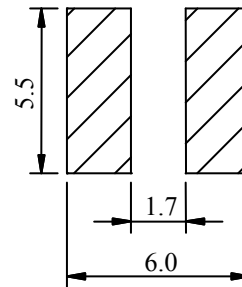
### 1. DIMENSIONS (UNIT: mm)



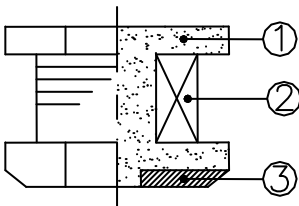
### 2. CONNECTION (BOTTOM)



### 3. RECOMMENDED LAND PATTERN (UNIT: mm)



### 4. CONSTRUCTION:



No.	NAME	MATERIAL
1	DRUM CORE	FERRITE CORE EL8H OR EQUIVALENT
2	WIRE	POLYURETHANE ENAMELLED COPPER WIRE
3	ELECTRODE	Ag-Ni-Sn PLATING + SOLDER OR EQUIVALENT
	SOLDER	Sn-Cu-Ni (SN100C4)
	STAMP	INK(5506) OR EQUIVALENT
	ADDITIVE	5191 OR EQUIVALENT
	DETERGENT	5100 OR EQUIVALENT



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## 5. ELECTRICAL CHARACTERISTICS

No.	PART No.	STAMP	INDUCTANCE ( $\mu$ H) WITHIN	D.C.R. (m $\Omega$ ) Max.	RATED CURRENT Max. (A)		SRF (MHz)
					Idc1	Idc2	(Typ.)
01	DA54NP-1R0M	1R0	1.0 $\pm$ 20%	23.5	4.5	3.4	188
02	DA54NP-1R2M	1R2	1.2 $\pm$ 20%	27.5	4.0	3.2	158
03	DA54NP-1R8M	1R8	1.8 $\pm$ 20%	32.0	3.5	3.0	122
04	DA54NP-2R2M	2R2	2.2 $\pm$ 20%	36.5	2.9	2.8	81
05	DA54NP-2R7M	2R7	2.7 $\pm$ 20%	40.5	2.5	2.7	68
06	DA54NP-3R3M	3R3	3.3 $\pm$ 20%	45.0	2.4	2.6	55
07	DA54NP-3R9M	3R9	3.9 $\pm$ 20%	49.5	2.3	2.5	49
08	DA54NP-4R7M	4R7	4.7 $\pm$ 20%	54.5	2.2	2.4	46
09	DA54NP-5R6M	5R6	5.6 $\pm$ 20%	64.0	2.0	2.3	40
10	DA54NP-6R8M	6R8	6.8 $\pm$ 20%	69.0	1.9	2.2	35
11	DA54NP-8R2M	8R2	8.2 $\pm$ 20%	79.0	1.7	2.1	28
12	DA54NP-100M	100	10 $\pm$ 20%	69.5	1.5	2.0	32
13	DA54NP-120M	120	12 $\pm$ 20%	79.0	1.4	1.9	30
14	DA54NP-150M	150	15 $\pm$ 20%	104	1.2	1.7	24
15	DA54NP-180M	180	18 $\pm$ 20%	121	1.0	1.5	22
16	DA54NP-220K	220	22 $\pm$ 10%	154	0.97	1.3	21
17	DA54NP-270K	270	27 $\pm$ 10%	174	0.89	1.2	18
18	DA54NP-330K	330	33 $\pm$ 10%	204	0.73	1.1	17
19	DA54NP-390K	390	39 $\pm$ 10%	268	0.71	1.0	14
20	DA54NP-470K	470	47 $\pm$ 10%	306	0.69	0.90	14
21	DA54NP-560K	560	56 $\pm$ 10%	342	0.66	0.80	12
22	DA54NP-680K	680	68 $\pm$ 10%	381	0.61	0.70	11
23	DA54NP-820K	820	82 $\pm$ 10%	505	0.54	0.65	10
24	DA54NP-101K	101	100 $\pm$ 10%	589	0.48	0.60	9
25	DA54NP-121K	121	120 $\pm$ 10%	779	0.37	0.58	8
26	DA54NP-151K	151	150 $\pm$ 10%	895	0.35	0.56	8
27	DA54NP-181K	181	180 $\pm$ 10%	1140	0.32	0.47	6
28	DA54NP-221K	221	220 $\pm$ 10%	1267	0.27	0.45	5
29	DA54NP-271K	271	270 $\pm$ 10%	1434	0.25	0.43	4
30	DA54NP-331K	331	330 $\pm$ 10%	1703	0.24	0.36	4



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### \* TESTING INSTRUMENT

INDUCTANCE: HP-4284A OR EQUIVALENT.

D.C.R: HP-34420A OR EQUIVALENT.

RATED CURRENT: HP-4284A, HP-42841A, HP-E3632A, HP-34401A OR EQUIVALENT.

SRF: HP-4291B OR EQUIVALENT.

### \* TESTING CONDITION

INDUCTANCE: 1.0 $\mu$ H ~ 8.2 $\mu$ H at 100kHz / 1.0V

10 $\mu$ H ~ 330 $\mu$ H at 1 kHz / 1.0V

D.C.R. : at 25°C

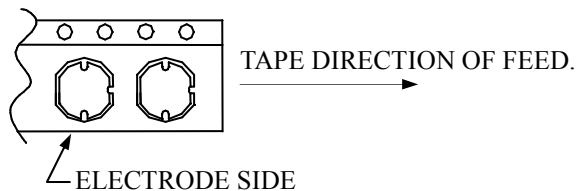
Idc1: THE CURRENT WHEN THE INDUCTANCE DECREASES TO 90% OF INITIAL VALUE.

Idc2: THE CURRENT WHEN THE TEMPERATURE INCREMENT IS 40°C (Ta=20°C).

RATED CURRENT INDICATES THE SMALLER ONE BETWEEN Idc1 AND Idc2.

## 6. NOTE

\* ENCLOSING CONDITION OF COILS.



\* CARRIER TAPE PACKING SPECIFICATION IN DETAIL KB-CTR009.

## 7. REMARK

\* RECOMMENDED REFLOW CONDITION BASES ON STD-001NP.



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## 8. GENERAL CHARACTERISTICS

\* STANDARD TESTING CONDITIONS:

UNLESS OTHERWISE SPECIFIED, THE STANDARD RANGE OF ATMOSPHERIC CONDITIONS FOR MEASUREMENTS AND TESTS ARE AS FOLLOWS: AMBIENT TEMPERATURE: 15°C ~ 35°C.

RELATIVE HUMIDITY: 25% ~ 85%. AIR PRESSURE: 86kPa ~ 106kPa.

IF THERE IS ANY DOUBT ABOUT THE RESULTS, MEASUREMENT SHALL BE MADE WITHIN THE FOLLOWING LIMITS: AMBIENT TEMPERATURE: 20°C±1°C. RELATIVE HUMIDITY: 63% ~ 67%.

AIR PRESSURE: 86kPa ~ 106kPa.

No.	ITEMS	CONDITIONS	SPECIFICATION
1	OPERATION TEMPERATURE		-25 ~ +125°C (INCLUDING COIL TEMPERATURE RISE)
	STORAGE TEMPERATURE		-40 ~ +125°C
2	TEMPERATURE COEFFICIENT	-40 ~ +125°C	0 ~ 2000 ppm/°C
3	FIXING STRENGTH	SAMPLE IS PUSHED IN THREE DIRECTIONS OF X, Y AND Z WITH FORCE OF 10N FOR 60±5 SECONDS. AFTER SOLDERING BETWEEN COPPER PLATE AND ELECTRODES.	NO ELECTRODE DETACHMENT.
4	RESISTANCE TO SOLDERING HEAT TEST	PLEASE REFER TO THE ATTACHMENT STD-002NP.	NO MECHANICAL BREAKAGE. DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±5.0%
5	SOLDER ABILITY TEST	IMMERSE THE ELECTRODE IN FLUX FOR 5 SECONDS. THEN DIP THE ELECTRODE INTO A SOLDERING BATH OF 245±5°C FOR 2±0.5 SECONDS.	OVER 90% OF THE SURFACE BEING IMMersed SHALL BE COVERED WITH NEW SOLDER UNIFORMLY.
6	VIBRATION TEST	AMPLITUDE: 1.5mm P-P FREQUENCY: 10 ~ 55 ~ 10Hz (1 MINUTE PER CYCLE) DURATION: 2 HOURS IN EACH OF X, Y, Z AXIS. (TOTAL 6 HOURS)	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±2.0%
7	SHOCK TEST	PEAK ACCELERATION: 981m/s <sup>2</sup> DURATION OF PULSE: 10ms SHOCK TIMES: 3 TIMES IN EACH OF X, Y, Z AXIS. (TOTAL 9 TIMES)	
8	HUMIDITY TEST	TEMPERATURE: 40°C±2°C HUMIDITY: 90% ~ 95%RH DURATION: 96±4 HOURS.	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±5.0%