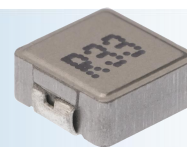


# SMD Molding Power Inductor

## ACKST Series



Operating Temp. : -55°C~+150°C

### FEATURES:

- ⊙ Metal material for large current and low loss
- ⊙ Closed magnetic circuit design reduces leakage flux
- ⊙ Halogen free, RoHS compliant
- ⊙ AEC-Q200 verified

### APPLICATIONS:

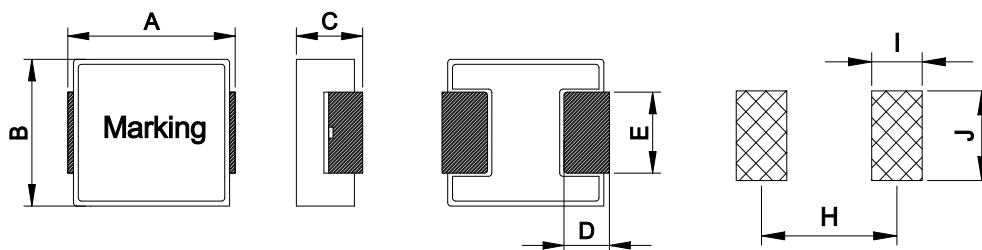
- ⊙ ADAS, Infotainment system
- ⊙ LED lighting
- ⊙ Airbag
- ⊙ Internet of vehicle

### PART NUMBERING SYSTEM:

ACKST 0603 - 1uH / M □□□

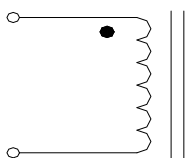
- |                     |   |                         |   |   |
|---------------------|---|-------------------------|---|---|
| ①                   | ② | ③                       | ④ | ⑤ |
| ①: Automobile Type  |   | ②: External Dimensions  |   |   |
| ③: Inductance Value |   | ④: Inductance Tolerance |   |   |
| ⑤: Inter Code       |   |                         |   |   |

### SHAPES AND DIMENSIONS: (Unit:mm)



SERIES	A	B	C	D	E	H	I	J
ACKST0402	4.4±0.4	4.2±0.2	1.8±0.2	0.8±0.2	2.0±0.3	3.7	1.3	2.5
ACKST0503	5.6±0.4	5.2±0.2	2.8±0.2	1.3±0.3	2.3±0.3	4.1	1.9	2.8
ACKST0603	7.0±0.3	6.6±0.2	2.8±0.2	1.6±0.3	3.0±0.3	6.1	2.4	3.5
ACKST0605	7.0±0.3	6.6±0.2	4.8±0.2	1.6±0.3	3.0±0.3	6.1	2.4	3.5
ACKST1004	11.0±0.5	10.0±0.3	3.8±0.2	2.5±0.5	3.0±0.5	9.5	3.5	4.0
ACKST1005	11.0±0.5	10.0±0.3	5.2±0.2	2.2±0.5	4.5±0.3	9.5	3.2	5.0
ACKST1205	13.5±0.5	12.6±0.3	4.8±0.2	2.0±0.5	5.0±0.5	10.5	4.0	5.5
ACKST1206	13.5±0.5	12.6±0.3	6.2±0.2	2.0±0.5	5.0±0.5	10.5	4.0	5.5
ACKST1707	17.2±0.5	17.0±0.3	6.8±0.2	2.5±0.5	12.0±0.3	13.8	3.4	12.6

### SCHEMATIC:



### ACKST0402 Series

**SPECIFICATION TABLE:**

Part No.	Inductance (uH)	DCR (mΩ) @25°C		Saturation Current DC Amps. Isat(A)		Heat Rating Current DC Amps. Irms(A)	
		Typ.	Max.	Max.	Typ.	Max.	Typ.
ACKST0402-0.1uH/N	0.1±30%	3.3	4.0	22.0	27.0	13.0	15.0
ACKST0402-0.22uH/M	0.22±20%	6.0	6.6	12.0	14.0	10.0	12.0
ACKST0402-0.33uH/M	0.33±20%	8.0	11.0	10.0	12.0	9.0	10.0
ACKST0402-0.47uH/M	0.47±20%	12.0	14.0	8.5	10.0	8.0	9.0
ACKST0402-0.56uH/M	0.56±20%	12.0	16.0	8.0	9.4	7.2	7.8
ACKST0402-0.68uH/M	0.68±20%	12.6	18.0	7.8	9.2	7.0	7.8
ACKST0402-1uH/M	1.0±20%	24.0	27.0	6.5	7.5	5.2	6.0
ACKST0402-1.2uH/M	1.2±20%	24.0	28.0	6.0	7.3	5.0	5.8
ACKST0402-1.5uH/M	1.5±20%	38.0	46.0	5.7	7.0	4.5	5.2
ACKST0402-2.2uH/M	2.2±20%	48.0	58.0	5.0	6.0	3.7	4.2
ACKST0402-3.3uH/M	3.3±20%	70.0	87.0	3.5	4.0	3.0	3.4
ACKST0402-4.7uH/M	4.7±20%	90.0	105.0	2.5	3.0	2.8	3.2
ACKST0402-6.8uH/M	6.8±20%	137.0	175.0	2.0	2.5	2.0	2.4
ACKST0402-10uH/M	10±20%	235.0	282.0	1.8	2.3	1.4	1.8

### ACKST0503 Series

**SPECIFICATION TABLE:**

Part No.	Inductance (uH)	DCR (mΩ) @25°C		Saturation Current DC Amps. Isat(A)		Heat Rating Current DC Amps. Irms(A)	
		Typ.	Max.	Max.	Typ.	Max.	Typ.
ACKST0503-0.2uH/M	0.2±20%	3.6	4.2	23.0	28.0	14.0	16.0
ACKST0503-0.33uH/M	0.33±20%	4.8	5.5	16.0	18.0	12.0	14.0
ACKST0503-0.47uH/M	0.47±20%	6.5	7.5	13.0	15.0	11.2	12.4
ACKST0503-0.68uH/M	0.68±20%	10.0	12.0	10.0	12.0	9.7	10.8
ACKST0503-1uH/M	1.0±20%	11.0	14.0	8.5	10.0	8.2	9.1
ACKST0503-1.2uH/M	1.2±20%	13.6	15.0	8.0	9.5	7.0	8.0
ACKST0503-1.5uH/M	1.5±20%	17.0	25.0	7.7	9.0	6.5	7.2
ACKST0503-2.2uH/M	2.2±20%	23.0	29.0	7.0	8.0	6.0	6.4
ACKST0503-3.3uH/M	3.3±20%	30.0	38.0	5.5	6.0	5.3	5.9
ACKST0503-4.7uH/M	4.7±20%	50.0	60.0	4.5	5.0	3.9	4.4
ACKST0503-6.8uH/M	6.8±20%	69.0	86.0	4.0	4.5	3.3	3.7
ACKST0503-10uH/M	10±20%	112.0	125.0	3.0	3.5	2.5	2.8
ACKST0503-15uH/M	15±20%	153.0	170.0	2.0	2.2	2.2	2.4

## ACKST0603 Series

**SPECIFICATION TABLE:**

Part No.	Inductance (uH)	DCR (mΩ) @25°C		Saturation Current DC Amps. Isat(A)		Heat Rating Current DC Amps. Irms(A)	
		Typ.	Max.	Max.	Typ.	Max.	Typ.
ACKST0603-0.22uH/M	0.22±20%	2.5	3.0	30.0	34.0	21.0	23.0
ACKST0603-0.33uH/M	0.33±20%	3.0	3.5	21.0	25.0	19.0	21.0
ACKST0603-0.47uH/M	0.47±20%	3.5	4.1	17.0	20.0	16.0	18.0
ACKST0603-0.56uH/M	0.56±20%	3.8	4.5	15.0	18.0	14.5	16.5
ACKST0603-0.68uH/M	0.68±20%	5.0	5.8	15.0	17.0	14.0	16.0
ACKST0603-0.82uH/M	0.82±20%	5.7	6.7	14.0	16.0	12.0	14.0
ACKST0603-1uH/M	1.0±20%	7.0	7.5	15.0	18.0	11.0	12.0
ACKST0603-1.5uH/M	1.5±20%	10.6	12.1	11.0	13.0	10.0	11.0
ACKST0603L-2.2uH/M	2.2±20%	13.0	15.0	9.0	10.0	8.5	9.5
ACKST0603-3.3uH/M	3.3±20%	19.0	22.0	8.5	9.5	7.0	7.5
ACKST0603-4.7uH/M	4.7±20%	28.0	33.0	8.0	9.0	6.0	6.5
ACKST0603-5.6uH/M	5.6±20%	38.0	44.0	6.5	7.0	5.2	5.7
ACKST0603L-6.8uH/M	6.8±20%	41.0	46.8	6.0	6.5	5.0	5.5
ACKST0603-8.2uH/M	8.2±20%	58.0	65.0	5.5	6.0	4.1	4.5
ACKST0603-10uH/M	10±20%	60.0	68.0	5.0	5.5	3.6	4.0
ACKST0603L-15uH/M	15±20%	93.0	100.0	3.5	4.0	2.9	3.2
ACKST0603-22uH/M	22±20%	145.0	170.0	2.6	3.1	2.5	2.8

### ACKST0605 Series

**SPECIFICATION TABLE:**

Part No.	Inductance (uH)	DCR (mΩ) @25°C		Saturation Current DC Amps. Isat(A)		Heat Rating Current DC Amps. Irms(A)	
		Typ.	Max.	Max.	Typ.	Max.	Typ.
ACKST0605-0.47uH/M	0.47±20%	3.3	3.9	17.0	21.0	16.3	18.1
ACKST0605-0.68uH/M	0.68±20%	3.8	4.5	15.0	18.0	15.0	16.5
ACKST0605-1uH/M	1.0±20%	5.6	6.5	14.0	16.0	12.0	13.0
ACKST0605-1.5uH/M	1.5±20%	7.1	8.5	11.0	13.0	10.0	11.0
ACKST0605-2.2uH/M	2.2±20%	11.0	12.5	10.0	11.0	8.0	9.0
ACKST0605-3.3uH/M	3.3±20%	19.0	22.0	9.0	10.0	7.0	7.5
ACKST0605-4.7uH/M	4.7±20%	25.0	29.0	7.0	8.0	5.5	6.0
ACKST0605-6.8uH/M	6.8±20%	35.0	41.0	6.0	7.0	5.3	5.8
ACKST0605-8.2uH/M	8.2±20%	41.0	48.0	5.5	6.0	5.0	5.5
ACKST0605-10uH/M	10±20%	45.0	53.0	5.0	5.5	4.3	4.8
ACKST0605-15uH/M	15±20%	72.0	85.0	3.5	4.0	3.0	3.5
ACKST0605-22uH/M	22±20%	115.0	130.0	3.0	3.5	2.3	2.8
ACKST0605-33uH/M	33±20%	158.0	180.0	2.5	3.0	2.0	2.4

## ACKST1004 Series

**SPECIFICATION TABLE:**

Part No.	Inductance (uH)	DCR (mΩ) @25°C		Saturation Current DC Amps. Isat(A)		Heat Rating Current DC Amps. Irms(A)	
		Typ.	Max.	Max.	Typ.	Max.	Typ.
ACKST1004-0.22uH/M-B	0.22±20%	0.85	1.0	55.0	60.0	32.0	35.0
ACKST1004-0.3uH/M	0.3±20%	0.94	1.1	40.0	45.0	30.0	33.0
ACKST1004-0.36uH/M	0.36±20%	1.02	1.2	40.0	45.0	29.0	32.0
ACKST1004-0.47uH/M	0.47±20%	1.45	1.68	35.00	40.0	26.0	28.0
ACKST1004-0.56uH/M	0.56±20%	1.53	1.8	30.0	33.0	25.0	27.0
ACKST1004-0.68uH/M	0.68±20%	1.9	2.2	27.0	30.0	22.0	24.5
ACKST1004-0.8uH/M	0.8±20%	2.3	2.7	25.0	29.0	20.0	22.0
ACKST1004-1uH/M-B	1.0±20%	2.3	3.0	24.0	28.0	18.0	20.0
ACKST1004-1.5uH/M	1.5±20%	3.57	4.2	22.0	24.0	16.0	18.0
ACKST1004-2.2uH/M	2.2±20%	6.0	7.0	15.0	16.5	13.0	14.0
ACKST1004-3.3uH/M	3.3±20%	10.0	11.8	14.0	16.0	10.0	11.0
ACKST1004-4.7uH/M	4.7±20%	14.0	16.5	11.0	13.0	9.0	10.0
ACKST1004-6.8uH/M	6.8±20%	21.0	25.0	10.0	12.0	7.5	8.5
ACKST1004-10uH/M	10±20%	25.5	30.0	7.5	8.5	7.0	7.5
ACKST1004-15uH/M	15±20%	38.3	45.0	6.0	7.0	5.5	6.3
ACKST1004-22uH/M	22±20%	56.1	66.0	4.5	5.5	4.5	5.0
ACKST1004-33uH/M	33±20%	85.0	92.0	4.2	4.8	3.6	4.0
ACKST1004-47uH/M	47±20%	123.0	145.0	3.5	4.0	2.7	3.1

### ACKST1005 Series

**SPECIFICATION TABLE:**

Part No.	Inductance (uH)	DCR (mΩ) @25°C		Saturation Current DC Amps. Isat(A)		Heat Rating Current DC Amps. Irms(A)	
		Typ.	Max.	Max.	Typ.	Max.	Typ.
ACKST1005-0.68uH/M	0.68±20%	1.85	2.22	31.00	36.0	28.8	32.0
ACKST1005-1.0uH/M	1±20%	2.3	2.8	25.0	28.0	27.0	30.0
ACKST1005-1.5uH/M	1.5±20%	3.6	4.0	23.0	27.0	22.0	24.0
ACKST1005-2.2uH/M	2.2±20%	4.1	4.9	18.0	22.0	21.0	23.0
ACKST1005-2.5uH/M	2.5±20%	5.2	6.8	19.0	22.0	19.0	21.0
ACKST1005-3.3uH/M	3.3±20%	6.5	7.4	18.0	20.0	14.0	16.0
ACKST1005-4.7uH/M	4.7±20%	8.3	10.0	16.0	18.0	13.0	14.5
ACKST1005-6.8uH/M	6.8±20%	12.0	15.0	12.0	14.0	10.8	12.0
ACKST1005-10uH/M	10±20%	21.0	26.0	11.0	13.0	7.8	8.7
ACKST1005-15uH/M	15±20%	26.0	31.0	8.0	9.2	7.0	7.6
ACKST1005-22uH/M	22±20%	45.0	53.0	6.5	7.5	5.4	6.0
ACKST1005-33uH/M	33±20%	66.0	78.0	5.0	6.0	4.3	4.8
ACKST1005-47uH/M	47±20%	88.0	103.0	4.0	5.0	3.6	4.1

### ACKST1205 Series

**SPECIFICATION TABLE:**

Part No.	Inductance (uH)	DCR (mΩ) @25°C		Saturation Current DC Amps. Isat(A)		Heat Rating Current DC Amps. Irms(A)	
		Typ.	Max.	Max.	Typ.	Max.	Typ.
ACKST1205-1.8uH/M	1.8±20%	4.0	4.8	22.0	26.0	15.0	18.0
ACKST1205-2.2uH/M	2.2±20%	4.2	5.29	21.0	24.0	13.0	15.0
ACKST1205-3.3uH/M	3.3±20%	5.95	7.0	19.0	22.0	12.0	14.0
ACKST1205-4.7uH/M	4.7±20%	7.65	9.0	18.0	20.0	10.5	12.5
ACKST1205-5.6uH/M	5.6±20%	11.0	12.7	16.0	18.0	10.0	11.0
ACKST1205-6.8uH/M	6.8±20%	15.3	18.0	14.0	16.0	8.5	9.5
ACKST1205-8.2uH/M	8.2±20%	17.0	20.0	11.0	13.0	8.0	9.0
ACKST1205-10uH/M	10±20%	18.7	22.0	10.0	12.0	7.2	8.2
ACKST1205-15uH/M	15±20%	27.0	32.0	9.0	10.0	6.0	7.0
ACKST1205-22uH/M	22±20%	42.0	50.0	6.0	7.0	5.0	5.5
ACKST1205-33uH/M	33±20%	58.0	68.0	5.5	6.5	4.0	4.4
ACKST1205-47uH/M	47±20%	75.0	88.0	4.0	5.0	3.0	3.5

## ACKST1206 Series

**SPECIFICATION  
TABLE:**

Part No.	Inductance ( $\mu$ H)	DCR ( $m\Omega$ ) @25 $^{\circ}$ C		Saturation Current DC Amps. Isat(A)		Heat Rating Current DC Amps. Irms(A)	
		Typ.	Max.	Max.	Typ.	Max.	Typ.
ACKST1206-1 $\mu$ H/M	1 $\pm$ 20%	2.3	2.5	34.0	42.0	26.0	30.0
ACKST1206-1.5 $\mu$ H/M	1.5 $\pm$ 20%	3.1	3.5	22.0	26.0	20.0	23.0
ACKST1206-2.2 $\mu$ H/M	2.2 $\pm$ 20%	3.8	4.6	22.0	26.0	20.0	22.0
ACKST1206-3.3 $\mu$ H/M	3.3 $\pm$ 20%	5.5	6.5	21.0	23.0	17.0	19.0
ACKST1206-4.7 $\mu$ H/M	4.7 $\pm$ 20%	7.2	8.6	20.0	22.0	14.0	16.0
ACKST1206-5.6 $\mu$ H/M	5.6 $\pm$ 20%	8.5	10.0	16.0	18.0	13.0	15.0
ACKST1206-6.8 $\mu$ H/M	6.8 $\pm$ 20%	10.0	11.8	15.0	17.0	12.0	13.5
ACKST1206-8.2 $\mu$ H/M	8.2 $\pm$ 20%	12.0	14.0	14.0	16.0	11.9	13.2
ACKST1206-10 $\mu$ H/M	10 $\pm$ 20%	12.8	16.5	13.0	15.0	11.0	12.0
ACKST1206-15 $\mu$ H/M	15 $\pm$ 20%	22.0	26.0	10.0	12.0	8.5	9.5
ACKST1206-22 $\mu$ H/M	22 $\pm$ 20%	32.0	37.7	7.5	8.5	6.0	7.0
ACKST1206-33 $\mu$ H/M	33 $\pm$ 20%	44.0	52.0	6.0	7.0	5.3	6.0
ACKST1206-47 $\mu$ H/M	47 $\pm$ 20%	59.0	73.0	5.8	6.8	5.0	5.4
ACKST1206-68 $\mu$ H/M	68 $\pm$ 20%	90.0	105.0	4.2	5.0	3.8	4.2
ACKST1206-82 $\mu$ H/M	82 $\pm$ 20%	120.0	140.0	4.2	4.7	3.2	3.7
ACKST1206-100 $\mu$ H/M	100 $\pm$ 20%	135.0	160.0	4.0	4.5	3.0	3.5

## ACKST1707 Series

**SPECIFICATION TABLE:**

Part No.	Inductance (uH)	DCR (mΩ) @25°C		Saturation Current DC Amps. Isat(A)		Heat Rating Current DC Amps. Irms(A)	
		Typ.	Max.	Max.	Typ.	Max.	Typ.
ACKST1707-1.5uH/M	1.5±20%	1.65	1.96	35.0	40.0	20.0	23.0
ACKST1707-2.2uH/M	2.2±20%	2.13	2.5	32.0	36.0	26.0	29.0
ACKST1707-3.3uH/M	3.3±20%	2.9	3.2	30.0	35.0	20.0	23.0
ACKST1707-4.7uH/M	4.7±20%	4.04	4.75	20.00	24.0	19.0	21.0
ACKST1707-6.8uH/M	6.8±20%	6.38	7.5	19.0	22.5	13.0	15.0
ACKST1707-8.2uH/M	8.2±20%	7.4	8.7	18.0	20.0	12.0	14.0
ACKST1707-10uH/M	10±20%	8.42	9.9	17.0	19.0	11.0	13.0
ACKST1707-15uH/M	15±20%	14.5	17.0	12.0	14.5	9.0	10.0
ACKST1707-22uH/M	22±20%	19.6	23.0	10.0	11.5	7.5	8.5
ACKST1707-33uH/M	33±20%	30.0	37.0	9.5	10.7	7.0	8.0
ACKST1707-47uH/M	47±20%	40.0	47.0	6.5	7.5	5.0	6.0
ACKST1707-68uH/M	68±20%	58.0	76.0	5.5	6.5	4.0	4.6
ACKST1707-100uH/M	100±20%	90.0	106.0	4.0	5.0	3.5	4.0

- ⊙ All test data is reference to 25°C ambient.
- ⊙ Test Condition: 100KHz, 1V<sub>rms</sub>.
- ⊙ Isat Typ : DC current (A) that will cause L0 to drop approximately 30%.
- ⊙ Irms Typ: DC current (A) that will cause an approximate ΔT of 40°C.
- ⊙ Operat between temperature range -55°C to +150°C(Including self - temperature rise).
- ⊙ Absolute maximum voltage: DC 75V.