



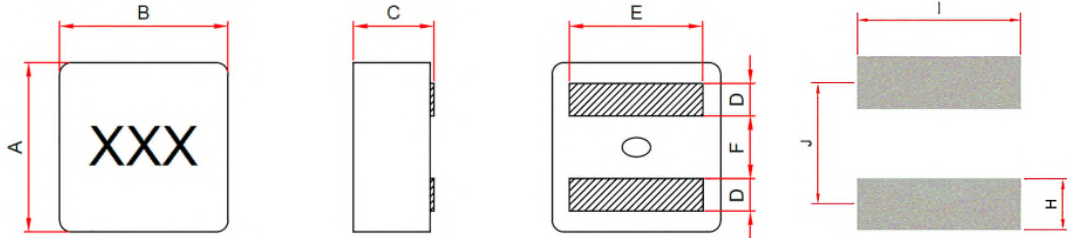
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Shielded SMT Power Inductor AEC-Q200 standard compliance STUA05-W Series

■ SHAPES AND DIMENSIONS



Unit: mm

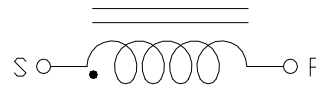
Recommend PAD Layout

P/N	A	B	C	D	E	F	H	I	J
STUA0521W	5.30±0.2	5.50±0.2	2.10 Max	1.10±0.3	4.30±0.3	2.30±0.3	1.25	4.70	3.25
STUA0531W	5.30±0.2	5.50±0.2	3.10 Max	1.10±0.3	4.30±0.3	2.30±0.3	1.25	4.70	3.25
STUA0505W	5.30±0.2	5.50±0.2	5.00 Max	1.10±0.3	4.30±0.3	2.30±0.3	1.25	4.70	3.25

Marking :

XXX = Inductance

Equivalent circuit





■ PART NUMBER CODE

STUA 0521 W - 1R0 M A
1 2 3 4 5 6

1. Series Name
2. Size Code
3. Type Code
4. Inductance(R=Decimal Point) Unit : μH ; 1R0 =1.0 μH
5. Inductance tolerance: "M" \pm 20%
6. Soldering : A=Lead Free

■ ELECTRICAL CHARACTERISTICS

1. Test equipments

- 1.1. L : HP4285A,CH11025,CH3302,CH1320,CH1320S LCR Meter.
- 1.2. DCR: Chroma16502 Milliohm Meter.
- 1.3. Operating temperature range from -55 $^{\circ}\text{C}$ to 155 $^{\circ}\text{C}$ (includes self-temperature rise)

The part temperature (ambient + temp rise) should not exceed 155 $^{\circ}\text{C}$ under the worst case operating condition. Circuit design, component, PCB trace size and thickness airflow and other cooling provisions all could affect the part temperature. Part temperature should be verified in the end application.

* Equivalent measurement equipment may be used.



2. Part Number and Characteristics Table

Part No.	Inductance L0 (uH)	Tolerance (±%)	DCR(mΩ)	Isat(A)		Irms(A)	
			Max.	Max.	Typ.	Max.	Typ.
STUA0521W-R15MA	0.15	20	4.60	27.0	30.0	13.9	18.8
STUA0521W-R16MA	0.16	20	4.60	27.0	30.0	13.9	18.8
STUA0521W-R33MA	0.33	20	7.00	24.0	26.0	10.5	14.4
STUA0521W-R47MA	0.47	20	8.05	20.0	22.0	10.1	14.1
STUA0521W-R56MA	0.56	20	9.54	16.0	19.0	9.9	13.9
STUA0521W-R68MA	0.68	20	10.2	14.0	16.0	9.6	13.4
STUA0521W-R80MA	0.80	20	11.8	13.5	15.5	9.4	13.0
STUA0521W-R82MA	0.82	20	12.7	13.0	15.0	8.5	12.0
STUA0521W-1R0MA	1.00	20	13.8	12.8	14.5	7.5	10.5
STUA0521W-1R2MA	1.20	20	16.3	12.2	14.0	6.8	9.40
STUA0521W-1R5MA	1.50	20	18.7	10.0	12.0	6.4	8.80

Note:

- All test data is referenced to 25°C ambient.
- Test Condition: 100KHz, 0.1 Vrms.
- Isat (Typ): DC current (A) that will cause L0 to drop approximately 30%.
- I rms (Typ): DC current (A) that will cause an approximate ΔT of 40°C .



Part No.	Inductance L0 (uH)	Tolerance (±%)	DCR(mΩ)	Isat(A)		Irms(A)	
			Max.	Max.	Typ.	Max.	Typ.
STUA0531W-R15MA	0.15	20	2.31	32.5	36.0	14.3	22.2
STUA0531W-R16MA	0.16	20	2.33	32.0	35.0	14.2	22.2
STUA0531W-R33MA	0.33	20	3.52	26.0	28.0	13.8	19.2
STUA0531W-R47MA	0.47	20	4.13	24.0	26.0	13.7	18.4
STUA0531W-R56MA	0.56	20	4.52	20.2	22.2	13.6	17.7
STUA0531W-R60MA	0.60	20	4.52	20.0	22.0	13.6	17.7
STUA0531W-R80MA	0.80	20	5.65	18.0	20.0	10.1	13.1
STUA0531W-R82MA	0.82	20	5.78	17.6	19.7	9.9	12.9
STUA0531W-1R0MA	1.00	20	7.60	14.3	16.5	9.0	12.2
STUA0531W-1R2MA	1.20	20	9.70	13.5	15.0	8.5	11.0
STUA0531W-1R5MA	1.50	20	11.2	12.5	14.0	8.0	10.5
STUA0531W-1R8MA	1.80	20	12.7	11.3	12.3	7.6	10.1
STUA0531W-2R2MA	2.20	20	14.5	9.0	10.0	7.2	9.7
STUA0531W-3R3MA	3.30	20	23.1	8.7	9.5	5.9	8.1
STUA0531W-4R7MA	4.70	20	36.3	7.0	8.2	4.3	5.9

Note:

- All test data is referenced to 25°C ambient.
- Test Condition: 100KHz, 0.1 Vrms.
- 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 .



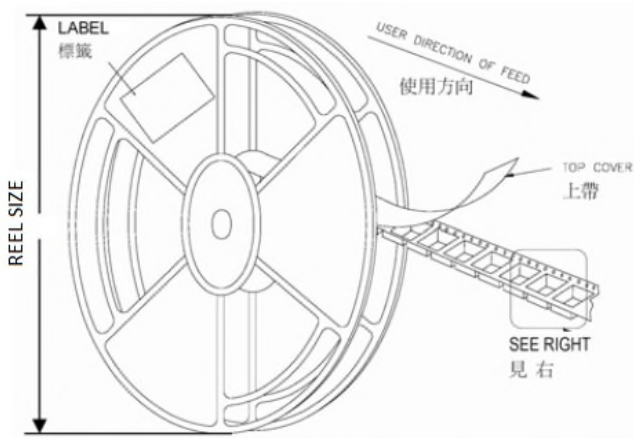
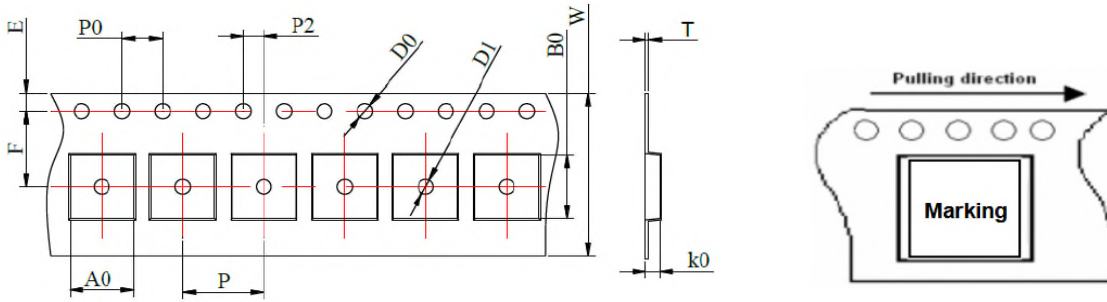
Part No.	Inductance L0 (uH)	Tolerance (±%)	DCR(mΩ)	Isat(A)		Irms(A)	
			Max.	Max.	Typ.	Max.	Typ.
STUA0505W-5R6MA	5.60	20	24.2	7.2	8.6	5.3	7.2
STUA0505W-6R8MA	6.80	20	28.6	6.6	7.8	4.8	6.4
STUA0505W-8R2MA	8.20	20	32.5	6.1	7.2	4.6	6.1
STUA0505W-100MA	10.0	20	43.0	5.4	6.5	3.8	5.0
STUA0505W-150MA	15.0	20	76.7	3.2	3.7	3.0	3.9

Note:

- All test data is referenced to 25°C ambient.
- Test Condition: 100KHz, 0.1 Vrms.
- 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.



REEL DIMENSIONS AND PACKAGING QUANTITY



Unit: mm

TYPE	W	P	REEL SIZE	PCS / REEL
STUA0521W	12	8	330 mm (13")	3000
STUA0531W	16	8	330 mm (13")	2000
STUA0505W	16	8	330 mm (13")	1500