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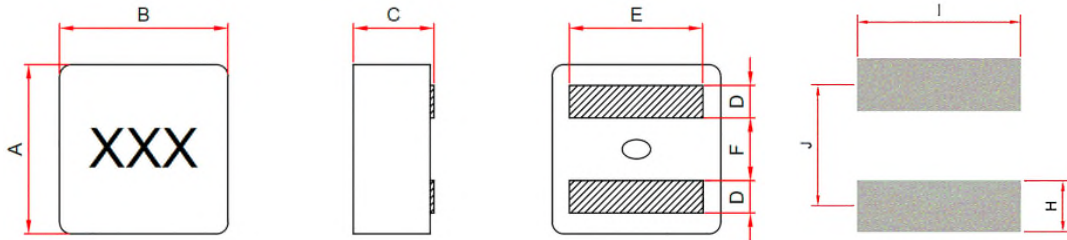
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## Shielded SMT Power Inductor STU05-W Series

### ■ SHAPES AND DIMENSIONS



Unit: mm

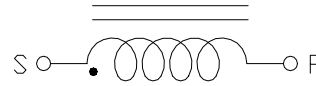
Recommend PAD Layout

P/N	A	B	C	D	E	F	H	I	J
STU0521W	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
STU0531W	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
STU0505W	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

STU   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 :  $\mu\text{H}$  ; 1R0 =1.0 $\mu\text{H}$
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  $125^{\circ}\text{C}$  (includes self-temperature rise)

The part temperature (ambient + temp rise) should not exceed  $125^{\circ}\text{C}$  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.
STU0521W-R15MA	0.15	20	4.60	27.0	30.0	13.9	18.8
STU0521W-R16MA	0.16	20	4.60	27.0	30.0	13.9	18.8
STU0521W-R33MA	0.33	20	7.00	24.0	26.0	10.5	14.4
STU0521W-R47MA	0.47	20	8.05	20.0	22.0	10.1	14.1
STU0521W-R56MA	0.56	20	9.54	16.0	19.0	9.9	13.9
STU0521W-R68MA	0.68	20	10.2	14.0	16.0	9.6	13.4
STU0521W-R80MA	0.80	20	11.8	13.5	15.5	9.4	13.0
STU0521W-R82MA	0.82	20	12.7	13.0	15.0	8.5	12.0
STU0521W-1R0MA	1.00	20	13.8	12.8	14.5	7.5	10.5
STU0521W-1R2MA	1.20	20	16.3	12.2	14.0	6.8	9.40
STU0521W-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.
STU0531W-R15MA	0.15	20	2.31	32.5	36.0	14.3	22.2
STU0531W-R16MA	0.16	20	2.33	32.0	35.0	14.2	22.2
STU0531W-R33MA	0.33	20	3.52	26.0	28.0	13.8	19.2
STU0531W-R47MA	0.47	20	4.13	24.0	26.0	13.7	18.4
STU0531W-R56MA	0.56	20	4.52	20.2	22.2	13.6	17.7
STU0531W-R60MA	0.60	20	4.52	20.0	22.0	13.6	17.7
STU0531W-R80MA	0.80	20	5.65	18.0	20.0	10.1	13.1
STU0531W-R82MA	0.82	20	5.78	17.6	19.7	9.9	12.9
STU0531W-1R0MA	1.00	20	7.60	14.3	16.5	9.0	12.2
STU0531W-1R2MA	1.20	20	9.70	13.5	15.0	8.5	11.0
STU0531W-1R5MA	1.50	20	11.2	12.5	14.0	8.0	10.5
STU0531W-1R8MA	1.80	20	12.7	11.3	12.3	7.6	10.1
STU0531W-2R2MA	2.20	20	14.5	9.0	10.0	7.2	9.7
STU0531W-3R3MA	3.30	20	23.1	8.7	9.5	5.9	8.1
STU0531W-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 .



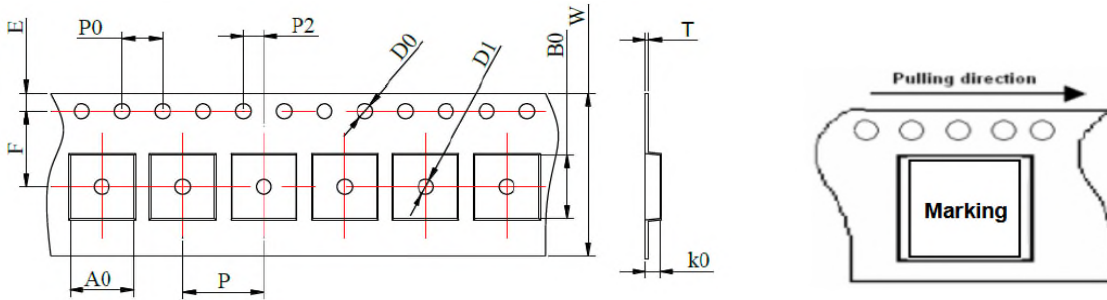
Part No.	Inductance L0 ( uH )	Tolerance (±%)	DCR(mΩ)	Isat(A)		Irms(A)	
			Max.	Max.	Typ.	Max.	Typ.
STU0505W-5R6MA	5.60	20	24.2	7.2	8.6	5.3	7.2
STU0505W-6R8MA	6.80	20	28.6	6.6	7.8	4.8	6.4
STU0505W-8R2MA	8.20	20	32.5	6.1	7.2	4.6	6.1
STU0505W-100MA	10.0	20	43.0	5.4	6.5	3.8	5.0
STU0505W-150MA	15.0	20	76.7	3.2	3.7	3.0	3.9
STU0505W-220MA	22.0	20	99.65	3.0	3.6	2.5	3.4

Note:

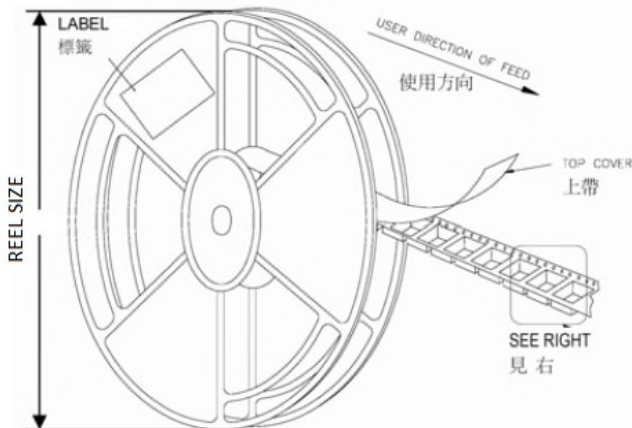
- All test data is referenced to 25°C ambient.
- Test Condition: 100KHz, 0.1 Vrms.
- Isat (Typ): DC current ( A ) that will cause L0 to drop approximately 30%.
- I rms (Typ): DC current ( A ) that will cause an approximate ΔT of 40°C .



## REEL DIMENSIONS AND PACKAGING QUANTITY



Tape dimensions (mm)												
P/N	W	P	P0	P2	D0	D1	T	A0	B0	K0	E	F
STU0521W	12±0.3	8±0.1	4±0.1	2±0.1	1.5±0.1	1.5±0.1	0.35±0.05	6.0±0.1	5.7±0.1	2.3±0.1	1.75±0.1	5.5±0.1
STU0531W	16±0.3	8±0.1	4±0.1	2±0.1	1.5±0.1	1.5±0.1	0.35±0.05	6.0±0.1	5.7±0.1	3.3±0.1	1.75±0.1	7.5±0.1
STU0505W	16±0.3	8±0.1	4±0.1	2±0.1	1.5±0.1	1.5±0.1	0.35±0.05	6.0±0.1	5.7±0.1	5.3±0.1	1.75±0.1	7.5±0.1



Unit: mm

TYPE	W	P	REEL SIZE	PCS / REEL
STU0521W	12	8	330 mm (13")	3000
STU0531W	16	8	330 mm (13")	2000
STU0505W	16	8	330 mm (13")	1500