

SSL I 306 Series

SMD Power Inductors

For SSL series provide excellent current carrying capabilities in a small footprint. They have a flat top for reliable pick and place operations and features robust temperature deflection. In addition to the standard versions shown here, custom inductors are available to meet your exact requirement.

Applications

- Notebook computers, Sep-up and step-down converters
- Flash, memory programmers. Etc...

ELECTRICAL CHARACTERISTICS

PART NO.	INDUCTANCE ($\mu\text{H} \pm 20\%$) *	SRF (MHz)	DC RESISTANCE (Ω^{+0})	Isat ** (A)	Irms *** (A)
SSLI 306T-1R0M-S	1.0	80	0.011	20	8.6
SSLI 306T-2R2M-S	2.2	80	0.014	16	7.1
SSLI 306T-3R3M-S	3.3	60	0.016	14	6.2
SSLI 306T-5R6M-S	5.6	40	0.022	12	5.3
SSLI 306T-100M-S	10	30	0.032	10	4.3
SSLI 306T-150M-S	15	22	0.036	8.0	4.0
SSLI 306T-220M-S	22	20	0.047	7.0	3.5
SSLI 306T-330M-S	33	15	0.066	5.5	3.0
SSLI 306T-470M-S	47	9	0.087	4.5	2.6
SSLI 306T-680M-S	68	8	0.13	3.5	2.3
SSLI 306T-101M-S	100	7	0.19	3.0	1.8
SSLI 306T-151M-S	150	6	0.25	2.6	1.5
SSLI 306T-221M-S	220	5	0.38	2.4	1.2
SSLI 306T-331M-S	330	4	0.56	1.9	1.0
SSLI 306T-471M-S	470	3	0.85	1.4	0.82
SSLI 306T-681M-S	680	2.5	1.2	1.2	0.72
SSLI 306T-102M-S	1000	2	1.8	1.0	0.56

* Inductance Tested at 0.1 Vrms, 100 KHz

** Inductance Drop = 10% Typ. at Isat.

*** $\Delta T = 40^\circ\text{C}$ Rise Typ at Irms.

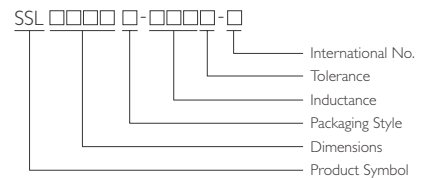
Operating Temperature Range -40°C to $+85^\circ\text{C}$



Features

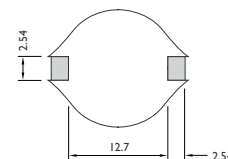
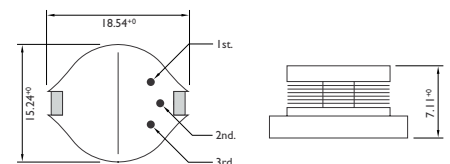
- High energy storage and very low resistance.
- Smallest size and high performance

PRODUCT IDENTIFICATION



- Packaging: T : Tape and Reel
- Tolerance: M: $\pm 20\%$
- Note: YAGEO will start to release SSL Series inductors with lead-free terminals which meet SONY SS-00259's criteria for lead-free product in Q2 of 2004, and YAGEO Internal No will be changed to "N" as identification. Ex. SSL04LP-1R2M-N

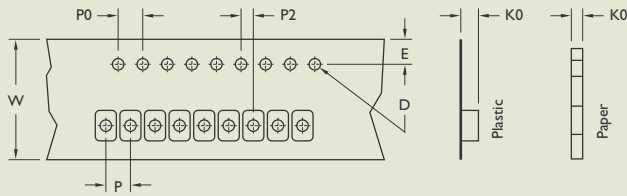
SHAPES AND DIMENSIONS



Dimensions : mm



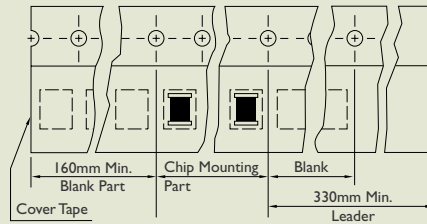
TAPE DIMENSIONS



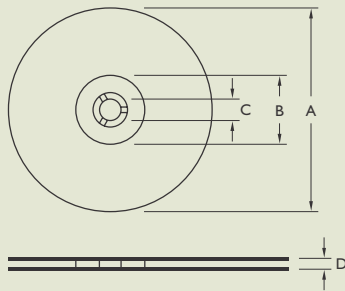
TAPE MATERIAL

Carrier Tape : Polystyrene

Cover Type : Polyethylene

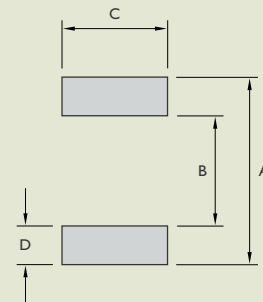


REEL DIMENSIONS



RECOMMENDED PATTERN

Land Pattern



Dimensions : mm

TYPE	TAPE DIMENSIONS								RECOMMENDED PATTERN				REEL DIMENSIONS				QUANTITY /REEL	
	K0	D	E	W	P	P0	P2	A	B	C	D	A	B	C	D	178	330	
SSL0401	2.65	1.55	1.75	12	8	4	2	0.270	0.160	0.140	0.055	330	100	13	13.4	-	2500	
								6.86	4.06	3.56	1.40	178	60		13.2	750	-	
SSL0402	3.2	1.55	1.75	12	8	4	2	0.270	0.160	0.140	0.055	330	100	13	13.4	-	2500	
								6.86	4.06	3.58	1.40	178	60		13.2	750	-	
SSL0802	3.75	1.55	1.75	24	16	4	2	13.21	7.37	2.79	2.92	330	100	13	24.4	-	1000	
SSL0804	5.4	1.55	1.75	24	16	4	2	13.21	7.37	2.79	2.92	330	100	13	24.4	-	750	
SSL0810	11.5	1.55	1.75	24	20	4	2	13.21	7.37	2.79	2.92	330	100	13	24.4	-	225	
SSL1306	7.5	1.55	1.75	32	20	4	2	13.21	7.37	2.79	2.92	330	100	13	33.4	-	250	



SSL SERIES RELIABILITY TEST

I-1 MECHANICAL PERFORMANCE

NO.	ITEM	SPECIFICATION	TEST CONDITIONS
I-1-1	Vibration	Appearance : No Damage L Change : within $\pm 10\%$ Q Change : within $\pm 30\%$ RDC : within Specification	Test device shall be soldered on the substrate. Oscillation Frequency : 10 to 55 to 10Hz for 1Min. Amplitude : 1.5mm Time : 2Hrs. for each Axis (X,Y & Z), Total 6Hrs.
I-1-2	Resistance to Soldering Heat	Appearance : No Damage	Pre-heating : 150°C, 1Min. Solder Composition : Sn/Pb = 63/37 Solder Temperature : 260 \pm 5°C Immersion Time : 10 \pm 1Sec.
I-1-3	Solderability	The electrodes shall be at least 90% covered with new solder coating.	Pre-heating : 150°C, 1Min. Solder Composition : Sn/Pb = 63/37 Solder Temperature : 230 \pm 5°C Immersion Time : 4 \pm 1Sec.

I-2 ENVIRONMENTAL PERFORMANCE

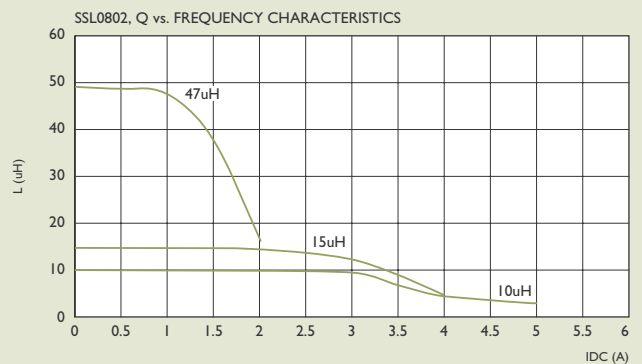
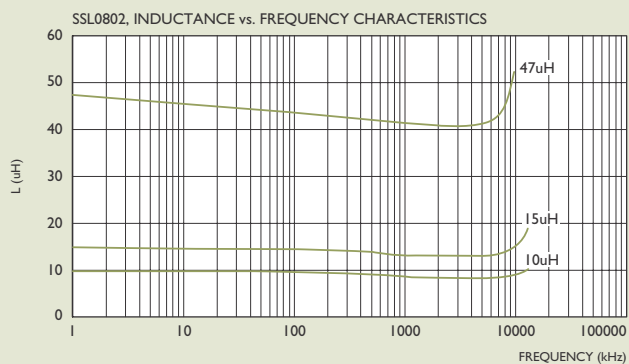
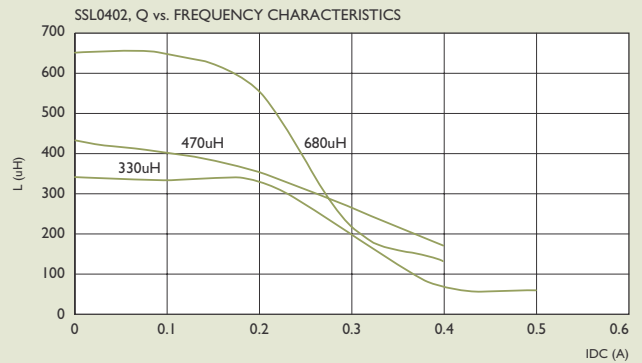
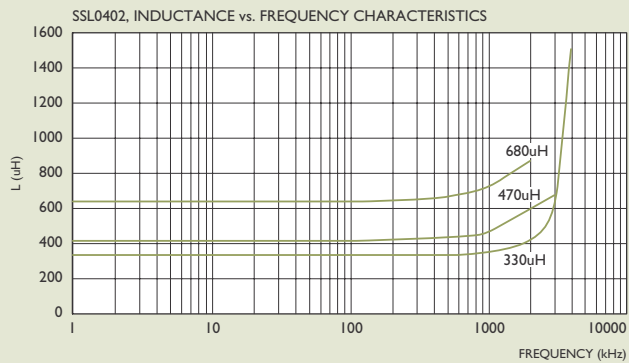
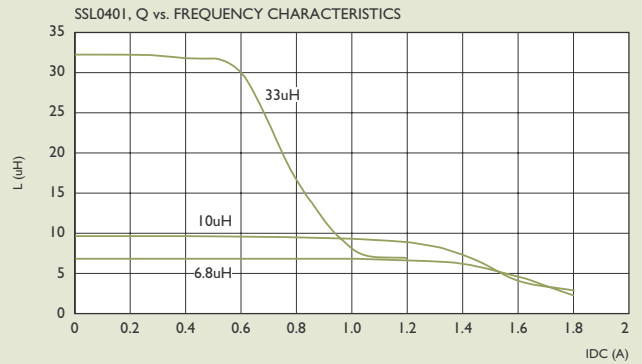
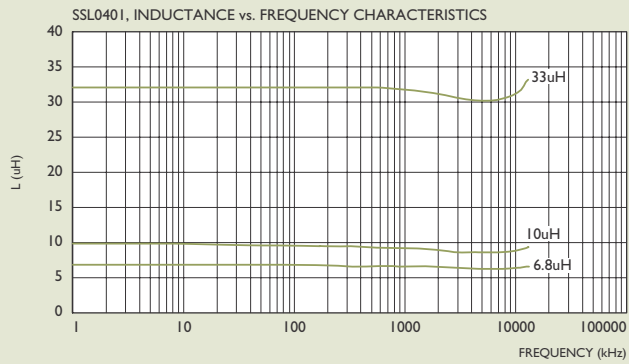
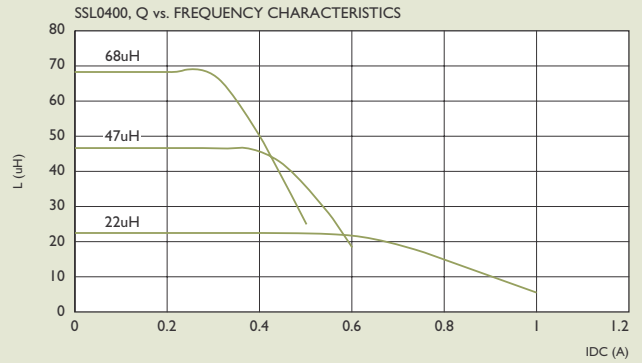
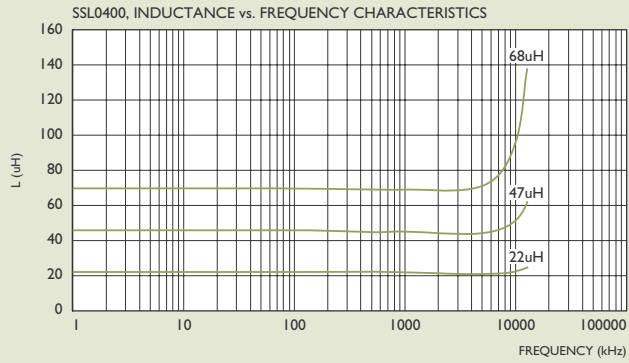
NO.	ITEM	SPECIFICATION	TEST CONDITIONS															
I-2-1	Temperature Shock	Appearance : No Damage L Change : within $\pm 10\%$ L Change : within $\pm 30\%$ RDC : within Specification	10 Cycles (Air to Air) Cycles shall Consist of : 30Min. Exposure to -55°C 30Min. Exposure to 125°C 15Sec. Max. Transition between Temperatures Measured after Exposure in the Room Condition for 24Hrs.															
I-2-2	Temperature Cycle		One Cycle <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (Min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25 \pm 3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25 \pm 2</td> <td>3</td> </tr> <tr> <td>3</td> <td>85 \pm 3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25 \pm 2</td> <td>3</td> </tr> </tbody> </table> Total : 100 Cycles Measured after Exposure in the Room Condition for 24Hrs.	Step	Temperature (°C)	Time (Min.)	1	-25 \pm 3	30	2	25 \pm 2	3	3	85 \pm 3	30	4	25 \pm 2	3
Step	Temperature (°C)	Time (Min.)																
1	-25 \pm 3	30																
2	25 \pm 2	3																
3	85 \pm 3	30																
4	25 \pm 2	3																
I-2-3	Humidity Resistance		Temperature : 40 \pm 2°C Relative Humidity : 90 ~ 95% Time : 1000Hrs. Measured after Exposure in the Room Condition for 24Hrs.															
I-2-4	High Temperature Resistance		Temperature : 85 \pm 3°C Relative Humidity : 20% Applied Current : Rated Current Time : 1000Hrs. Measured after Exposure in the Room Condition for 24Hrs.															
I-2-5	Low Temperature Resistance		Temperature : -25 \pm 3°C Relative Humidity : 0% Time : 1000Hrs. Measured after Exposure in the Room Condition for 24Hrs.															



TYPICAL ELECTRICAL CHARACTERISTICS

Curves of SSL Series

Test Instruments :





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