



SC2511 Series SMD Power Inductor



1. Features of SC2511 Series:

- Low profile 3.0mm max. height SMD power inductor.
- 0.25" foot print, 6.8 x 6.8 mm Max.
- Ideal for DC to DC converter, VRM & high density Board Design.
- Operating up to 3 MHz application.
- Low leakage flux. Rohs and Halogen Free Compliant.
- Operating temperature range of -55° C to + 150° C.
- Suitable for IR reflow and wave solder process.
- T & R Qty's: 1500pcs, 13" Reel.



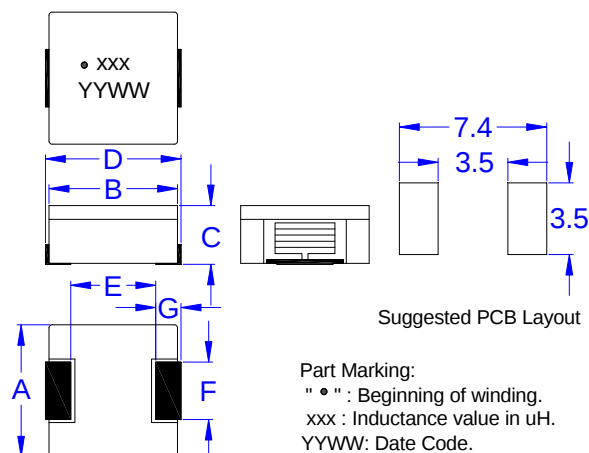
2. Electrical Characteristics of SC2511 Series:

ITG Part Number	OCL (uH) ±20%	DCR (mΩ) ±7%	I _{rms} (Amp) @25°C	L @ I _{rms} (μH) Ref.	I _{max} (Amp) @25°C	L @ I _{max} (μH) Ref.
SC2511-R10MHF	0.10	1.00	23.00	0.09	39.00	0.07
SC2511-R22MHF	0.22	1.50	20.50	0.20	35.00	0.17
SC2511-R47MHF	0.47	2.60	16.00	0.27	28.00	0.22
SC2511-R72MHF	0.72	4.20	14.00	0.58	22.00	0.44
SC2511-1R0MHF	1.00	8.00	12.00	0.84	16.50	0.75
SC2511-1R5MHF	1.50	9.25	11.00	1.15	15.00	1.02
SC2511-2R2MHF	2.20	23.40 *	6.00	2.00	8.20	1.90
SC2511-3R3MHF	3.30	30.50 *	5.30	3.10	7.00	2.85
SC2511-4R7MHF	4.70	41.50 *	4.50	4.30	6.50	3.70
SC2511-8R2MHF	8.20	87.00 *	2.60	6.98	3.60	6.42
SC2511-100MHF	10.00	106.50 *	2.40	9.40	3.40	8.60

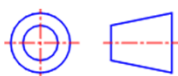
* Notes: DCR Tolerance = 10.0%

3. Mechanical Dimension of SC2511 Series:

A	B	C	D	E	F	G
±0.30	±0.30	Max.	Max.	Ref.	Ref.	Ref.
6.50	6.50	3.00	7.40	4.50	2.80	1.30



Third Angle Projection:



Notes:

- 1>. Open Circuit Inductance (OCL) test condition: 300KHz, 0.25Vrms, 0Adc at 25°C.
- 2>. Irms: DC current rating at 40 ° C temp. raise.
- 3>. Imax: DC current rating with max of 100 ° C temp. raise.

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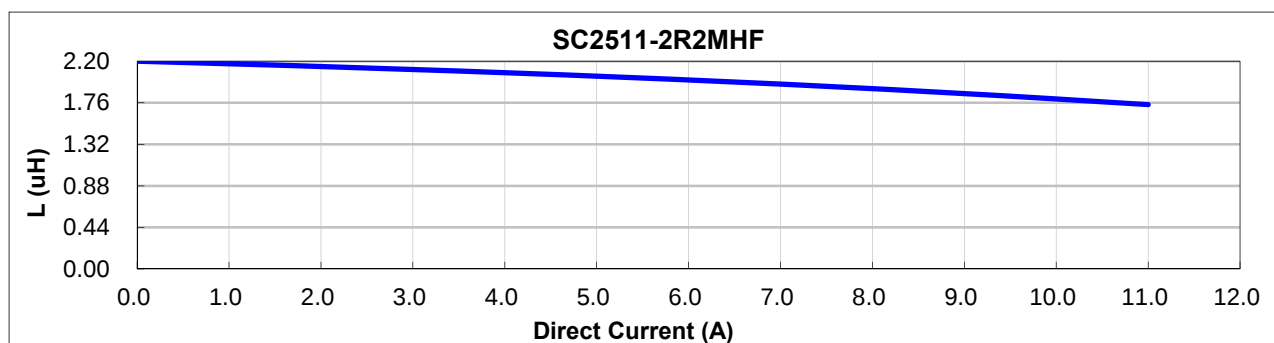
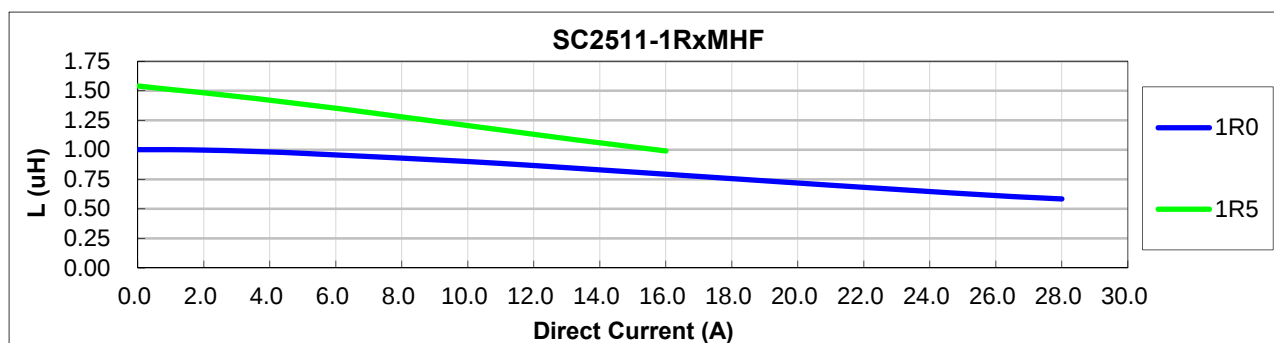
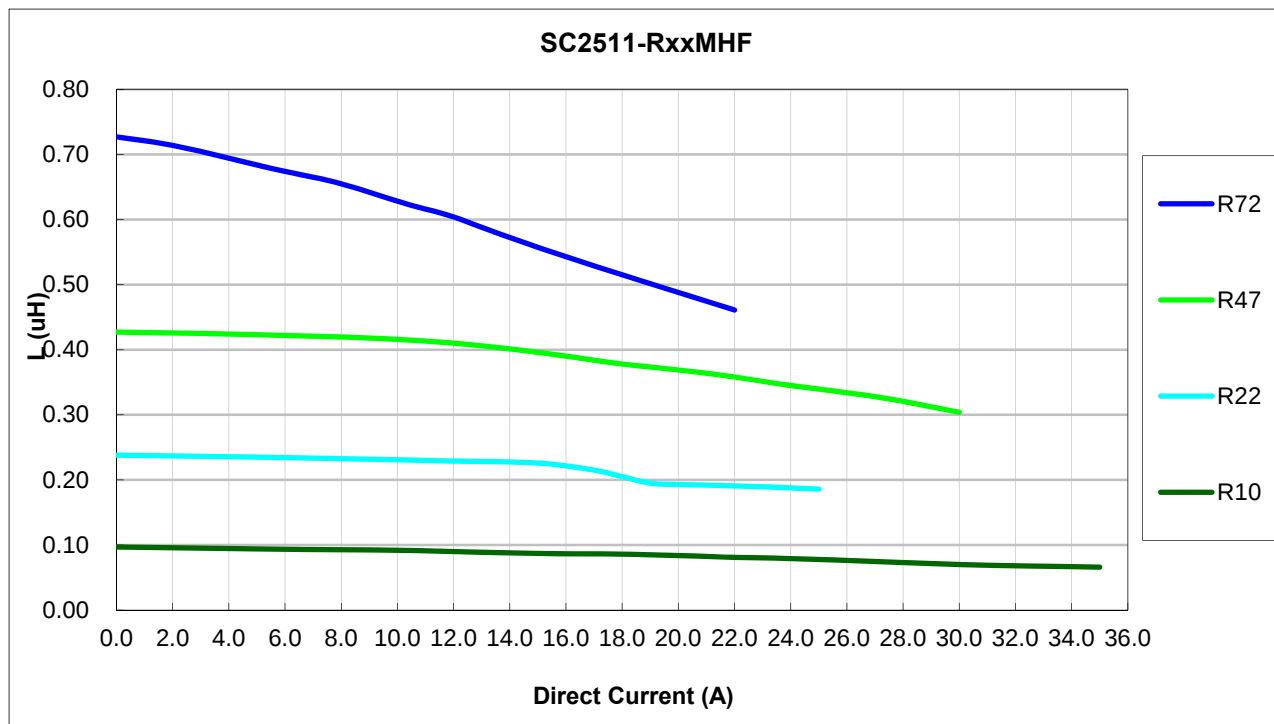
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4. Inductance Characteristics of SC2511 Series (Inductance vs Current):



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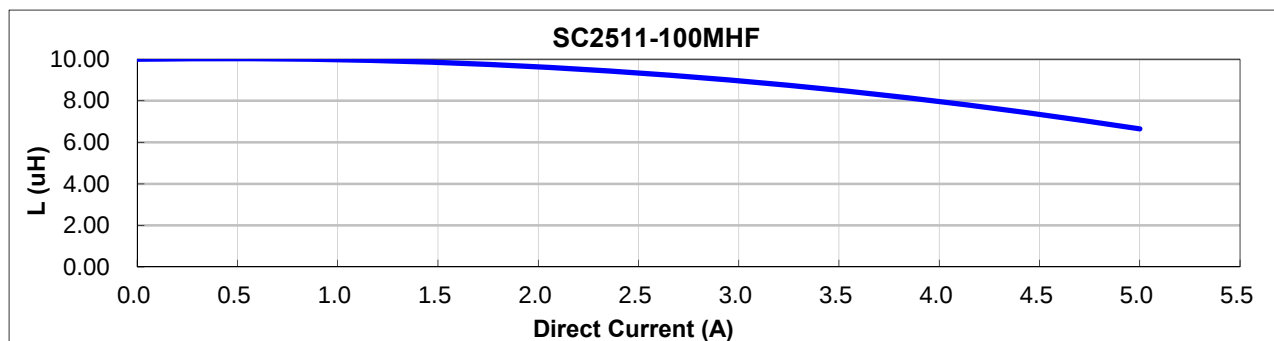
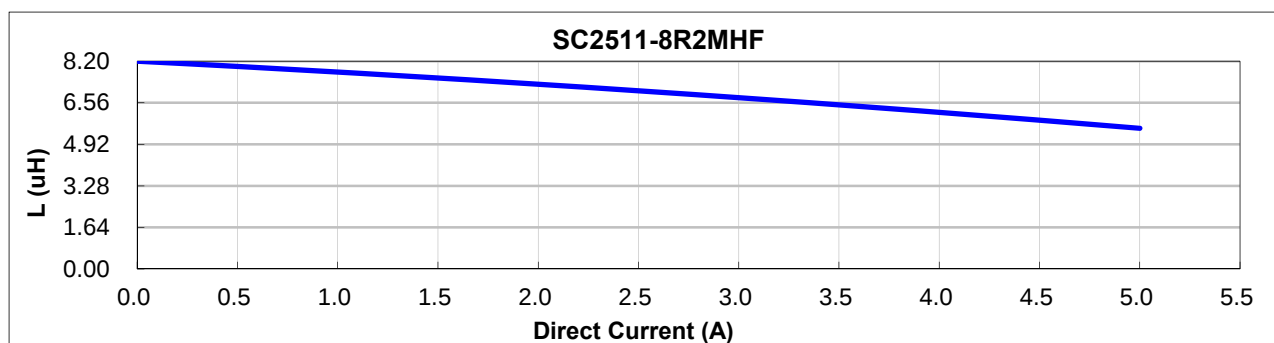
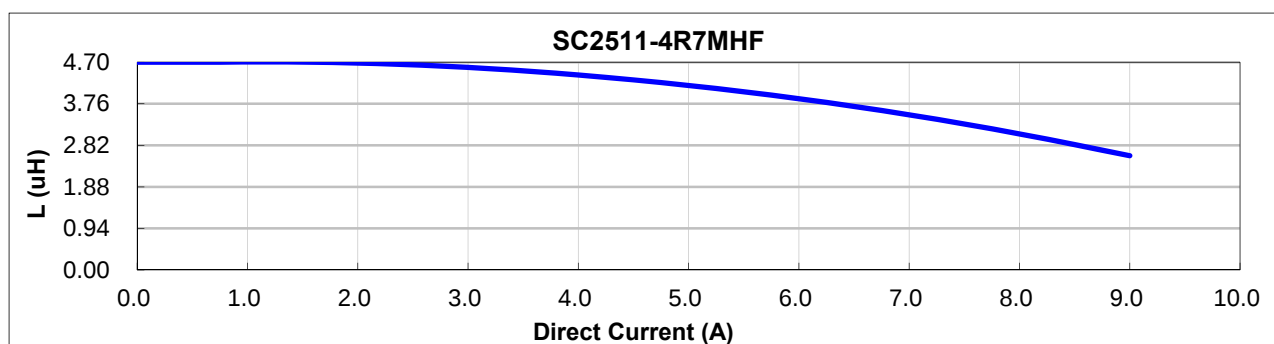
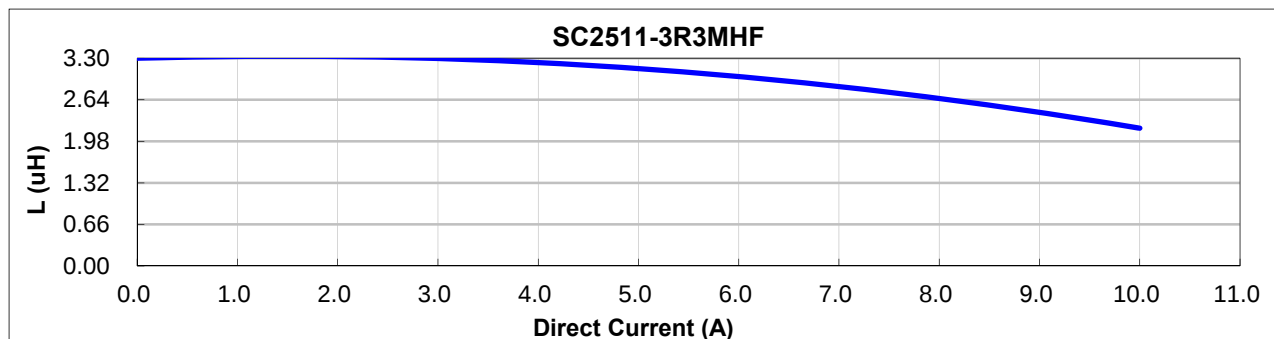
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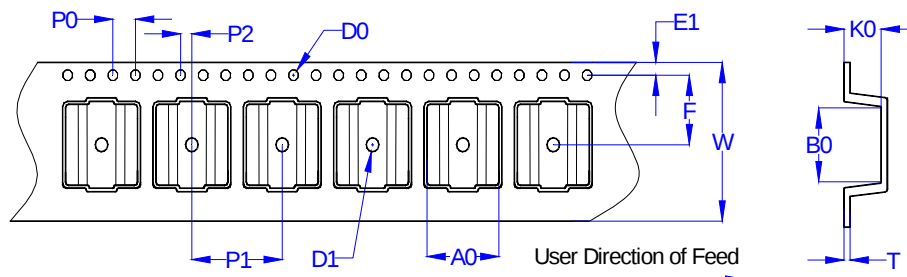


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6. PACKAGE SPECIFICATION.(UNIT:mm):

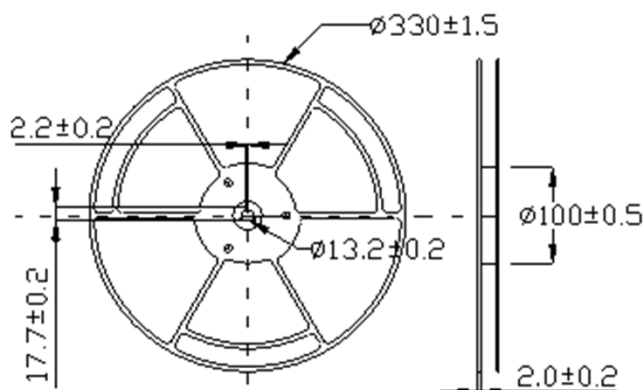
(1).ENCAPSULATION MODE:



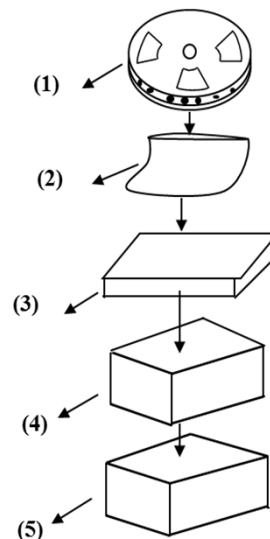
(2).DIMENSION(mm):

W	A0	B0	K0	P1	P0	P2	D0	D1	F	E1	T
16.0+0.3/-0.1	7.0±0.10	7.6±0.10	3.20±0.10	12.0±0.10	4.00±0.10	2.00±0.10	1.50+0.10/-0	1.50+0.10/-0	7.5±0.10	1.75±0.10	0.35±0.05

(3).REEL SIZE:



(4).PACKAGE MODE:



(5).PACKAGING LIST:

No.	Packing Part	Dimension (mm)	Material	Quantity
1	Reel	330	Plastic	1500Pcs/Reel
2	Bag	450x360x0.075	Plastic	1Reel/Bag
3	Small Box	340X335X45	Paper	2Bag/Small Box
4	Middle Box	356X350X226	Paper	4Small Boxes/Middle Box
5	Outer Box	378X362X252	Paper	1Middle Box/Outer Box

(6).WEIGHT: N.W: 0.63 g/pcs (APPROX), TOTAL 7.56 Kg(APPROX),G.W:TOTAL 13.16Kg (APPROX).

(7).Storage conditions: -40°C~85°C ,75%RH (Max.).

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7.RELIABILITY TEST:

TEST ITEMS	SPECIFICATIONS	TEST METHOD AND REMARKS
Solder ability	The electrodes shall be at least 90% covered with new solder coating	According to IEC68-2-20. 1. Soldering temperature: $245 \pm 5^{\circ}\text{C}$ 2. Solder: 99.3Sn/0.7Cu 3. Flux: Rosin 4. Immersion time: $5 \pm 1\text{Sec}$
Soldering heat resistance	1. Appearance :no damage 2. Inductance change: within $\pm 10\%$ of initial value	1. Preheat temperature 150°C . 2. Preheat time: 1min 3. Solder temperature $260 \pm 5^{\circ}\text{C}$ 4. Dipping time: $10 \pm 1\text{Sec}$ 5. Measured at room temperature after placing for 24hours
Vibration(OUT LAB)	1. Appearance: no damage 2. All Electrical and mechanical parameters within tolerance	According to MIL-STD-202 Method 201A. 1. Frequency: 10 to 55Hz. 2. Amplitude: 1.52mm 3. Direction and time X Y and Z Direction for 2 hours each
Humidity resistance test	1. Appearance: no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-1 Method Ca: 1. Temp: $40 \pm 2^{\circ}\text{C}$ 2. Humidity: 90%-95%RH 3. Test time: $500 \pm 2\text{H}$ 4. The component should be stabilized at normal condition for 24 Hours before test
High temperature resistance test	1. Appearance: no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-2. 1. 1. Temperature: $85 \pm 3^{\circ}\text{C}$ 2. Test time: $500 + 24\text{H}$ 3. The component should be stabilized at normal condition for 24hours before test
Low Temperature resistance test	1. Appearance: no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-1 Method A(Ad). 1. Temperature: $-40 \pm 3^{\circ}\text{C}$ 2. Test time: $500 + 24\text{H}$ 3. The component should be stabilized at normal condition for 24hours before test
Temperature cycles test	1. Appearance: no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-14 Method N(Nb). 1. High-temp: 85 ± 3 duration: 30min 2. room -temp: $25 \pm 2^{\circ}\text{C}$ Duration 3H 3. Low-temp: -40 ± 3 Duration 30min 4. room-temp: $25 \pm 2^{\circ}\text{C}$ Duration 3H 5. Number of cycle: 10cycles 6. The component should be stabilized at normal condition for 24hours before test

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Soldering Reflow Chart

Stage	Precaution	Recommended temperature profile
Reflow soldering	Temperature profile can be referenced after confirming of adhesion , temperature of resistance to soldering heat , component size , soldering etc. sufficient . Note: please refer to the latest IPC/JEDEC J-STD-020: "Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices"	Temperature °C 260 250 220 125 25 10s (MAX) 60s to 90s Natural cooling 150s to 210s 240s to 480s

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