

# Reliability Test – Power Inductors

## SMD Power Inductor

- SDT/ SSL/ SSL\_HC/ SCD/ SCMD/ SCDS/ SDS/ SDT/ SLF series

### 1-1.Mechanical Performances

No	Item	Specification	Test Method
1-1-1	Vibration	Appearance: No damage Inductance: within $\pm 0\%$ of initial value Q change: within $\pm 0\%$ of initial value	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
1-1-2	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150 , 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 260 $\pm$ Immersion Time: 10 $\pm$ sec
1-1-3	Solder ability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150 , 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 230 $\pm$ Immersion Time: 4 $\pm$ sec

### 1-2.Environmental Performances

No	Item	Specification	Test Method															
1-2-1	Temperature Shock	Appearance: No damage Inductance: within $\pm 0\%$ of initial value Q change: within $\pm 0\%$ of initial value	10 cycles (Air to Air) 1 cycles shall consist of: 30 minutes exposure to -55 30 minutes exposure to 125 15 seconds maximum transition between temperatures Measured after exposure in the room condition for 24hrs															
1-2-2	Temperature Cycle		One cycle: <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature ( )</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25 <math>\pm</math></td> <td>30</td> </tr> <tr> <td>2</td> <td>25 <math>\pm</math></td> <td>3</td> </tr> <tr> <td>3</td> <td>85 <math>\pm</math></td> <td>30</td> </tr> <tr> <td>4</td> <td>25 <math>\pm</math></td> <td>3</td> </tr> </tbody> </table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature ( )	Time (min)	1	-25 $\pm$	30	2	25 $\pm$	3	3	85 $\pm$	30	4	25 $\pm$	3
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1	-25 $\pm$	30																
2	25 $\pm$	3																
3	85 $\pm$	30																
4	25 $\pm$	3																
1-2-3	Humidity Resistance		Temperature: 40 $\pm$ Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs															
1-2-4	High Temperature Resistance		Temperature: 85 $\pm$ Relative Humidity: 20% Applied Current: Rated Current Time: 1000hrs Measured after exposure in the room condition for 24hrs															

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No	Item	Specification	Test Method
1-2-5	Low Temperature Resistance		Temperature: -25 B Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs