

Wire-wound Ferrite Power Inductors LCXN/LCXP series

RELIABILITY DATA

1. Operating Temperature Range	
Specified Value	-40~+125°C (Including self-generated heat)
Test Methods and Remarks	Including self-generated heat
2. Storage Temperature Range	
Specified Value	-40~+85°C
Test Methods and Remarks	-5 to 40°C for the product with taping.
3. Rated current	
Specified Value	Within the specified tolerance
4. Impedance	
Specified Value	Within the specified tolerance
Test Methods and Remarks	Measuring equipment : Impedance analyzer (HP4291A) or its equivalent Measuring frequency : 100±1 MHz
5. DC Resistance	
Specified Value	Within the specified tolerance
6. High Temperature Exposure (Storage)	
Specified Value	Appearance: No significant abnormality in appearance. Impedance change : Within ±30% of the initial value
Test Methods and Remarks	1000 hours at 125 deg C Unpowered
7. Temperature Cycling	
Specified Value	Appearance: No significant abnormality in appearance. Impedance change : Within +50/-10% of the initial value
Test Methods and Remarks	1000 cycles (-40 deg C to +125 deg C) 30 min. maximum dwell time at each temperature extreme. 1 min. maximum transition time.
8. Biased Humidity	
Specified Value	Appearance: No significant abnormality in appearance. Impedance change : Within ±30% of the initial value
Test Methods and Remarks	1000 hours, 85 deg C/85% RH. Rated current
9. Operational Life	
Specified Value	Appearance: No significant abnormality in appearance. Impedance change : Within ±30% of the initial value
Test Methods and Remarks	1000 hours, 85 deg C Rated current

▶ This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our specification.
For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our Web site (<http://www.ty-top.com/>).

10. Resistance to Solvents

Specified Value	Appearance : No significant abnormality in appearance.
Test Methods and Remarks	① Soak a test sample in isopropyl alcohol (IPA) at 25 ± 5 deg C for 3 to 3.5 minutes. ② Take the test sample out and brush 10 times using a brush soaked in IPA. ③ Repeat ① and ② twice more.

11. Mechanical Shock

Specified Value	Appearance : No significant abnormality in appearance. Impedance change : Within $\pm 30\%$ of the initial value
Test Methods and Remarks	Apply 3 shocks in each direction along 3 mutually perpendicular axes of the test specimen (18 shocks in total). Peak value: 100g Duration: 6ms Test pulse: Half-sine Velocity change: 3.7m/s.

12. Vibration

Specified Value	Appearance : No significant abnormality in appearance. Impedance change : Within $\pm 30\%$ of the initial value
Test Methods and Remarks	$5g^r$ s for 20 min., 12 cycles each of 3 orientations (36 cycles in total) Test from: 10 Hz to 2000 Hz

13. Resistance to Soldering Heat (Reflow)

Specified Value	Appearance : No significant abnormality in appearance. Impedance change : Within $\pm 30\%$ of the initial value
Test Methods and Remarks	Reflow peak temperature: 260 ± 5 deg C Duration time: 10 ± 1 sec. Measure after inductors are kept at room temperature for 24 ± 4 hours.

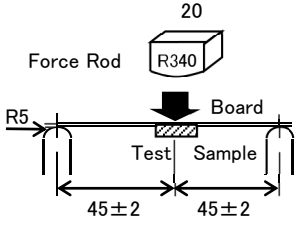
14. ESD

Specified Value	Appearance : No significant abnormality in appearance. Impedance change : Within $\pm 30\%$ of the initial value
Test Methods and Remarks	Per AEC-Q200-002

15. Solderability

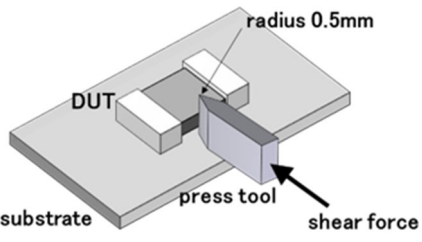
Specified Value	More than 90% of terminal electrode shall be covered with fresh solder.
Test Methods and Remarks	Per J-STD-002 a) Method B Solder at 235 ± 5 deg C for 5 sec. c) Method D Solder at 260 ± 5 deg C for 30 sec.

16. Board Flex

Specified Value	Appearance : No significant abnormality in appearance. Impedance change : Within $\pm 30\%$ of the initial value
Test Methods and Remarks	Solder the test samples to the test boards by the reflow soldering. Apply a force in a downward direction until amount of deflection reaches 2mm. The 2-mm deflection shall be held for 60 sec. Test board dimensions: 100mm × 40mm × 1.6mm. 

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17. Terminal Strength (SMD)

Specified Value	Appearance :No significant abnormality in appearance.
Test Methods and Remarks	Apply a force of 17.7N for 60±5 sec. 

18. Standard condition

Specified Value	Note on standard condition: "standard condition" referred to herein is defined as follows: 5 to 35°C of temperature, 45 to 85% relative humidity and 86 to 106kPa of air pressure. When there are questions concerning measurement results: In order to provide correlation data, the test shall be conducted under condition of 20±2°C of temperature, 60 to 70% relative humidity and 86 to 106kPa of air pressure. Unless otherwise specified, all the tests are conducted under the "standard condition."
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■ Derating of Rated Current

● LCMC/LCMG series

Derating of current is necessary for LCMC/LCMG series depending on ambient temperature. Please refer to the chart shown below for appropriate derating of current.

