■RELIABILITY DATA

1. Operating Temperature Range	
Specified Value	−40～＋125℃(Including self-generated heat) ， End of part number "D"⇒−55～＋150℃(Including self-generated heat)

2. Storage Temperature Range	
Specified Value	−40～＋85℃ ， End of part number "D"⇒−55～＋110℃

3. Rated Current	
Specified Value	Idc1: The decreasing-rate of inductance value is within 30 % Idc2: The temperature of the element is increased within 40℃

4. Inductance	
Specified Value	Refer to each specification.
Test Methods and Remarks	Measuring frequency : 1MHz Measuring equipment : E4991(or its equivalent)

5. DC Resistance	
Specified Value	Refer to each specification.
Test Methods and Remarks	Measuring equipment: HIOKI RM3545 (or its equivalent)

6. High Temperature Exposure (Storage)	
Specified Value	Appearance:No abnormality Inductance change: Within ±10%
Test Methods and Remarks	Temperature: Maximum operating temperature Duration: 1000 hours at Unpowered Measure after inductors are kept at room temperature for 24±4 hours.

7. Temperature Cycling	
Specified Value	Appearance:No abnormality Inductance change: Within ±10%
Test Methods and Remarks	Temperature: Minimum operating temperature to Maximum operating temperature Number of cycles: 1000 cycles Maximum dwell time at each temperature extreme: 30 min Maximum transition time: Within 1 min. Measure after inductors are kept at room temperature for 24±4 hours.

8. Biased Humidity	
Specified Value	Appearance:No abnormality Inductance change: Within ±10%
Test Methods and Remarks	Temperature: 85°C Humidity: 85% RH. Duration: 1000 hrs. Unpowered Measure after inductors are kept at room temperature for 24±4 hours.

9. Operational Life	
Specified Value	Appearance:No abnormality Inductance change: Within ±10%
Test Methods and Remarks	Temperature: 85℃, End of part number "D"⇒110℃ Duration: 1000 hours, Rated current Measure after inductors are kept at room temperature for 24±4 hours.

10. External Visual	
Specified Value	No abnormality
Test Methods and Remarks	Visual inspection shall be performed.

11. Physical Dimension	
Specified Value	Refer to detailed specification
Test Methods and Remarks	Verify physical dimensions to the applicable device specification.

12. Mechanical Shock	
Specified Value	Appearance：No abnormality Inductance change： Within ±10%
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: 1500g Duration: 0.5ms Test pulse: Half-sine Velocity change: 4.7m/s.

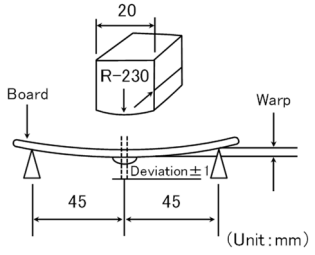
13. Vibration	
Specified Value	Appearance：No abnormality Inductance change： Within ±10%
Test Methods and Remarks	5g's for 20 min., 12 cycles each of 3 orientations (36 cycles in total) Test from: 10 Hz to 2000 Hz

14. Resistance to Soldering Heat	
Specified Value	Appearance：No abnormality Inductance change： Within ±10%
Test Methods and Remarks	No pre-heat of samples Solder temperature: 260±5° C Immersion time: 10±1 sec. Measure after inductors are kept at room temperature for 24±4 hours.

15. ESD	
Specified Value	Appearance：No abnormality Inductance change： Within ±10%
Test Methods and Remarks	Per AEC-Q200-002

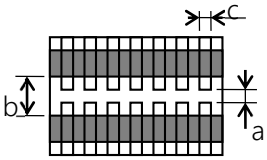
16. Solderability	
Specified Value	More than 95% of terminal electrode shall be covered with fresh solder.
Test Methods and Remarks	Per J-STD-002 a) Method B Solder at 235±5° C for 5 sec. c) Method D Solder at 260±5° C for 30 sec.

17. Electrical Characterization	
Specified Value	Inductance at room temperature： Refer to detailed specification
Test Methods and Remarks	Min, Max, Mean and Standard deviation at room temperature as well as Min and Max operating temperatures.

18. Board Flex	
Specified Value	Appearance：No abnormality
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 

19. Terminal Strength	
Specified Value	Appearance : No abnormality
Test Methods and Remarks	Per AEC-Q200-006 Solder test samples to the test boards shown in Fig 1.. Apply a force of 17.7N for 60±5 sec.

Fig.1



Size(L×W)	a	b	c
1.6×0.8	1.0	3.0	1.2
2.0×1.25	1.2	4.0	1.65

Unit[mm]