Wire-wound Ferrite Power Inductors LBXH series for Telecommunications Infrastructure and Industrial Equipment Wire-wound Ferrite Power Inductors LMXH series for Medical Devices classified as GHTF Class C (Japan Class III)

RELIABILITY DATA

1. Operating Temperature Range		
Specified Value	$-40 \sim +125^{\circ} C$ (Including self-generated heat)	
Test Methods and Remarks	Including self-generated heat	

2. Storage Tempera	2. Storage Temperature Range		
Specified Value	$-40 \sim +125^{\circ}C$		
Test Methods and Remarks	-5 to 40°C for the product with taping.		

3. Rated current	
Specified Value	Within the specified tolerance

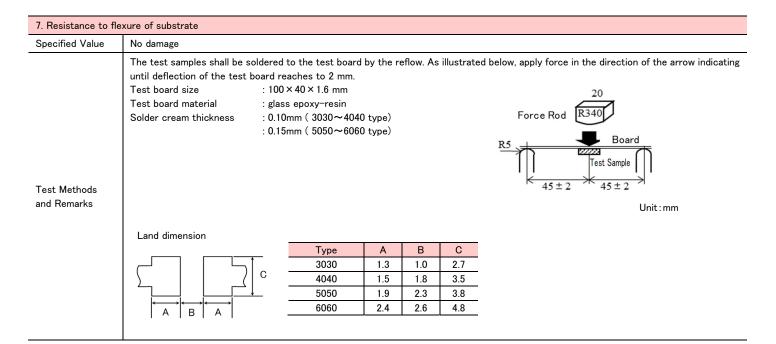
4. Inductance		
Specified Value	Within the specified tolera	ance
Test Methods	Measuring equipment	: LCR Meter (HP 4285A or equivalent)
and Remarks	Measuring frequency	: 100kHz, 1V

5. DC Resistance		
Specified Value	Within the specified tolerar	nce
Test Methods and Remarks	Measuring equipment	: DC ohmmeter(HIOKI 3227 or equivalent)

6. Temperature characteristic						
Specified Value	Inductance change : Within ±20%					
	With referer	leasurement of inductance shall be taken at temperature range within $-40^{\circ}\text{C} \rightarrow +125^{\circ}\text{C}$. /ith reference to inductance value at $+20^{\circ}\text{C}$., change rate shall be calculated. :hange of maximum inductance deviation in step 1 to 5				
Test Methods	Step	Temperature(°C)				
and Remarks	1	20				
and Remarks	2	Minimum operating temperature				
	3	20 (Standard temperature)				
	4	Maximum operating temperature				
	5	20				

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Specified Value	Shall not come off PC board				
	The test samples shall be soldered to the test board by the reflow.				
	Applied force	: 10N			
	Duration	: 5s.			
Test Methods and Remarks	Solder cream thickness	: 0.10mm(3030~4040 type)			
		: 0.15mm(5050~6060 type)			
	🗭 10 N , S \$				

9. Resistance to vi	bration				
Specified Value	Inductance change : Within $\pm 10\%$ No significant abnormality in appearance.				
		e soldered to the test board by the reflow. d to below test conditions. 10~55Hz			
T . M	Total Amplitude	1.5mm (May not exceed acceleration 196m/s^2)			
Test Methods	Sweeping Method	10Hz to 55Hz to 10Hz for 1min.			
and Remarks	Time	X Y For 2 hours on each X, Y, and Z axis. Z			
	Recovery : At least 2hrs of recovery under the standard condition after the test, followed by the measurement within 48hrs.				

10. Solderability			
Specified Value	At least 90% of surface of terminal electrode is covered by new solder.		
Test Methods and	The test samples shall be dipped in flux, and then immersed in molten solder as shown in below table. Flux : Ethanol solution containing rosin 25%.		
Remarks	Solder Temperature	245±5°C	
	Time	5±1.0 sec.	
XImmersion depth : All sides of mounting terminal shall be immersed.			inal shall be immersed.

11. Resistance to soldering heat			
Specified Value	Inductance change : Within $\pm 10\%$ No significant abnormality in appearance.		
Test Methods and Remarks	The test sample shall be exposed to reflow oven at 230±5°C for 40 seconds, with peak temperature at 260±5°C for 5 seconds, 2 times. Test board material : glass epoxy-resin Test board thickness : 1.0mm		

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12. Thermal shock					
Specified Value	Inductance change : Within \pm 10% No significant abnormality in appearance.				
	The test samples shall be soldered to the test board by the reflow. The test samples shall be placed at specified temperature for spectrum by step 1 to step 4 as shown in below table in sequence. The temperature cycle shall be repeated 1000 cycles.				
Test Methods	段階	Temperature (°C)	Duration (min)	•	
and Remarks	1	-40 ± 3	30±3		
	2	Room temperature	Within 3		
	3	$+105 \pm 3$	30 ± 3]	
	4	Room temperature	Within 3		

13. Damp heat					
Specified Value	Inductance change : Within \pm 10% No significant abnormality in appearance.				
Test Methods		The test samples shall be soldered to the test board by the reflow. The test samples shall be placed in thermostatic oven set at specified temperature and humidity as shown in below table.			
and Remarks	Temperature	85±2°C]		
	Humidity	85%RH			
	Time	1000+24/-0 hour			

14. Low temperature life test					
Specified Value	Inductance change : Within $\pm 10\%$ No significant abnormality in appearance.				
Test Methods and Remarks	The test samples shall be soldered to the test board by the reflow. After that, the test samples shall be placed at test conditions as shown in below table.				
	Temperature	-40±2°C			
	Time	1000 + 24 / -0 hour			

15. High temperature life test						
Specified Value	Inductance change : Within $\pm 10\%$ No significant abnormality in appearance.					
Test Methods and Remarks	The test samples shall be soldered to the test board by the reflow. After that, the test samples shall be placed at test conditions as shown in below table.					
	Temperature	125±3°C				
	Time	1000 hour				

16. Loading at high	n temperature life test			
Specified Value	Inductance change : Within \pm 10% No significant abnormality in appearance.			
Test Methods and Remarks	The test samples shall be soldered to the test board by the reflow soldering. Temperature $1) 85 \pm 2^{\circ}C$ $2) 105 \pm 3^{\circ}C$			
	Applied current	 Rated current (+40°C) Rated current (+20°C) 		
	Time	1000+24/-0 hour		

17. Standard condition				
Specified Value	Standard test condition : Unless otherwise specified, temperature is 20±15°C and 65±20% of relative humidity. When there is any question concerning measurement result: In order to provide correlation data, the test shall be condition of 20±2°C of temperature, 65±5% relative humidity. Inductance is in accordance with our measured value.			

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Derating of Rated Current

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

