Multilayer Metal Power Inductors MCOIL[™] LBCN series for Telecommunications Infrastructure and Industrial Equipment Multilayer Metal Power Inductors MCOIL[™] LMCN series for Medical Devices classified as GHTF Class C (Japan Class III)

RELIABILITY DATA

1. Operating Tempe	rature Range			
Specified Value	-40~+125°C(Including self-generated heat) , End of part number "D"⇒-55~+150°C(Including self-generated heat)			
	in the Children of the Childre			
2. Storage Tempera	ture Range			
Specified Value	-40~+85°C , End of part number "D"⇒-55~+110°C			
	·			
3. Rated Current				
Specified Value	Idc1: The decreasing-rate of inductance value is within 30 %			
Specified value	Idc2: The temperature of the element is increased within 40°C			
4. Inductance				
Specified Value	Refer to each specification.			
Test Methods and	Measuring frequency : 1MHz			
Remarks	Measuring equipment : E4991 (or its equivalent)			
5. DC Resistance				
Specified Value	Refer to each specification.			
Test Methods and	Measuring equipment: HIOKI RM3545 (or its equivalent)			
Remarks				
6. Resistance to Fle				
Specified Value	No mechanical damage.			
	Warp : 2mm			
	Testing board : glass epoxy-resin substrate			
	Thickness : 0.8mm			
	20			
Test Methods and	Board R-230 Warn			
Remarks	Board Warp			
	Deviation ± 1			
	45 45			
	<u> </u>			
	' '(Unit:mm)			
7 0-141 '1''				
7. Solderability	At least 0004 of towning plantwide is account by your colder.			
Specified Value	At least 90% of terminal electrode is covered by new solder.			
Test Methods and	Solder temperature :245±3°C (Sn/3.0Ag/0.5Cu)			
Remarks	Duration :4±1 sec.			
0 Decister t- 0	Idavian			
8. Resistance to So				
Specified Value	Appearance: No significant abnormality			
	Inductance change: Within ±10%			
	Solder temperature : 260±5°C			
T . M .:	Duration :10±0.5 sec.			
Test Methods and	Preheating temperature :150 to 180°C			
Remarks	Preheating time : 3 min.			
	Flux :Immersion into ethanol solution with colophony for 3 to 5 sec.			
	Recovery :2 to 3 hrs of recovery under the standard condition after the test. (See Note 1)			

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/).

Specified Value	1	Appearance: No significant abnormality				
	Inductance change: Within ±10% Conditions for 1 cycle					
Test Methods and Remarks	Step	temperature (°C)	time (min.)			
	Step					
	1	(Minimum Operating Temperature) $\pm 0/-3$	30±3			
	2	Room temperature	2~3			
	3	(Maximum Operating Temperature) $+3/-0$	30 ± 3			
	4	Room temperature	2~3			
	Number of cycles: 1000					
	Trainbor (57 System 1000				
	Recovery: 2 to 3 hrs of recovery under the standard condition after the test. (See Note 1)					

10. Damp Heat (St	eady state)				
Specified Value	Appearance: No significant abnormality				
	Inductance change: Within ±10%				
	Temperature	:60±2°C			
Test Methods and	Humidity	:90 to 95%RH			
Remarks	Duration	:1000+24/-0 hrs			
	Recovery	:2 to 3 hrs of recovery under the standard condition after the removal from test chamber.(See Note 1)			
11. Loading under D	amp Heat				
0 '6 1741	Appearance: No	significant abnormality			

11. Loading under Jamp Heat				
Specified Value	Appearance: No significant abnormality			
	Inductance change:	Within ±10%		
Test Methods and Remarks	Temperature	:60±2°C		
	Humidity	:90 to 95%RH		
	Applied current	:Idc2max		
	Duration	:1000+24/-0 hrs		
	Recovery	:2 to 3 hrs of recovery under the standard condition after the removal from test chamber.(See Note 1)		

12. Loading at High Temperature					
Specified Value	Appearance: No significant abnormality				
	Inductance change: Within ±10%				
Test Methods and Remarks	Temperature :85±2°C (End of part number "D"⇒ 110±2°C)				
	Applied current :Idc2max				
	Duration :1000 +24/-0 hrs.				
	Recovery :2 to 3 hrs of recovery under the standard condition after the removal from test chamber.(See Note 1)				

(Note 1) Measurement shall be made after 48 ± 2 hrs of recovery under the standard condition.

Note on standard condition: "standard condition" referred to herein is defined as follows:

5 to 35°C of temperature, 25 to 85% relative humidity.

When there are questions concerning measurement results:

In order to provide correlation data, the test shall be conducted under condition of $20\pm2^{\circ}\text{C}$ 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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