Multilayer Metal Power Inductors MCOIL[™] LSCN series for General Electronic Equipment for Consumer Multilayer Metal Power Inductors MCOIL[™] LLCN series for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)

■RELIABILITY DATA

Flux

Recovery

1. Operating Temperature Range		
1. Operating Temp Specified Value	-	
Specified value	-40~+125°C (Including self-generated heat)	
2. Storage Tempe	ratura Ranga	
Specified Value	-40~+85°C	
Opcomed Value	1000	
3. Rated Current		
	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	Measuring frequency : 1MHz	
and Remarks	Measuring equipment : E4991(or its equivalent)	
5. DC Resistance		
Specified Value	Refer to each specification.	
Test Methods	Measuring equipment: HIOKI RM3545 (or its equivalent)	
and Remarks		
0.0		
	Flexure of Substrate	
Specified Value	No mechanical damage.	
	Warp : 2mm Testing board : glass epoxy-resin substrate	
	Thickness : 0.8mm	
	20	
	R-230	
Test Methods	Board Warp	
and Remarks		
	$\downarrow 45 \downarrow 45 \downarrow 45$	
	(Unit:mm)	
7. Solderability		
Specified Value	At least 90% of terminal electrode is covered by new solder.	
Test Methods	Solder temperature : 245±3°C (Sn/3.0Ag/0.5Cu)	
and Remarks	Duration : 4±1 sec.	
8. Resistance to Soldering		
Specified Value	Appearance: No significant abnormality	
Specified Value	Inductance change: Within ±10%	
	Solder temperature : 260±5°C	
	Duration : 10±0.5 sec.	
Test Methods	Preheating temperature : 150 to 180°C	
and Remarks	Preheating time : 3 min.	
	I Flore	

: Immersion into ethanol solution with colophony for 3 to 5 sec.

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/).

9. Thermal Shock Appearance: No significant abnormality Specified Value Inductance change: Within $\pm 10\%$ Conditions for 1 cycle Step $temperature (^{\circ}\!C)$ time (min.) $-40 + 0/\overline{-3}$ 1 30 ± 3 2 Room temperature 2~3 Test Methods 3 +85 +3/-0 30 ± 3 and Remarks 4 2~3 Room temperature

	Number of cycles: 100
	Recovery: 2 to 3 hrs of recovery under the standard condition after the test. (See Note 1)
10. Damp Heat (S	Steady state)
Specified Value	Appearance: No significant abnormality
	Inductance change: Within ±10%
Test Methods and Remarks	Temperature : 60±2°C
	Humidity : 90 to 95%RH
	Duration : 500 +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	Damp 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 : 500 +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 Hig	h Temperature
Specified Value	Appearance: No significant abnormality
	Inductance change: Within ±10%
	Temperature : 85±2°C
Test Methods	Applied current: Idc2max
and Remarks	Duration : 500 +24/-0 hrs

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

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

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

Recovery

When there are questions concerning measurement results:

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

2 to 3 hrs of recovery under the standard condition after the removal from test chamber. (See Note 1)

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