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Project Inspection Report

Company : N/A
Address : N/A
Sample Name : KM 33uf50 5-11
Sample Number : 2pcs
Check Number : 2pcs
Date of Received : 04/03/2018
Date of Tested : 04/03/2018

WE HEREBY CERTIFY THAT:

The test(s) shown in the attachment were conducted according to the indicating procedures. We assume full responsibility for the accuracy and completeness of these tests and vouch for the qualifications of all personnel performing them.

Inspected by Engineer
Allen

Reviewed by Project Manager
Felix

Note:

1. This report will be invalid if reproduced in whole or in part.
2. This report refers only to the specimen(s) submitted to test, and is invalid if used separately.
3. This report is ONLY valid with the examination seal and signature of this institute.
4. The tested specimen(s) will only be preserved for thirty days from the date issued, if not collected by the applicant.



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Items test

- External visual inspection
- Electrical Level 1 Test
- Programming test
- Solder ability Analysis
- Radiography (X-ray)
- ROHS test
- Key Functional Testing (KFT)
- Baking
- Tape and Reel
- Internal visual inspection

Methods & Equipment

1.1 Optical Microscope

- Equipment Spec.:
Top view: FINIAL Hi-scope System SEZ-260: X7~ X45
FJ-3A:X50-X500

1.2 Functional testing Equipment

- MIXED SIGNAL IC TESTER TR6850:
64 to 256 pin logic I/O pin with 64 pin increments.
High-precision measurement unit.
40MSPS/16bit arbitrary waveform generator, 10MSPS/14 bit digitizer.
Easy programming & debugging:



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Analysis Summary

Electrical Level 1 Test Results:

Total quantity tested: 2pcs.

Total quantity passed: 0pcs.

Total quantity failed: 2pcs.

Note: The measured Capacitance value is below the minimum Capacitance. By analyzing the following conclusions: Electrolyte of leakage make the capacitance decreases.

Internal Visual Inspection

Internal Visual Inspection device was verified on (1) sample. No abnormal was found on the AL surface. Dried up electrolyte paper was found at the device surface.

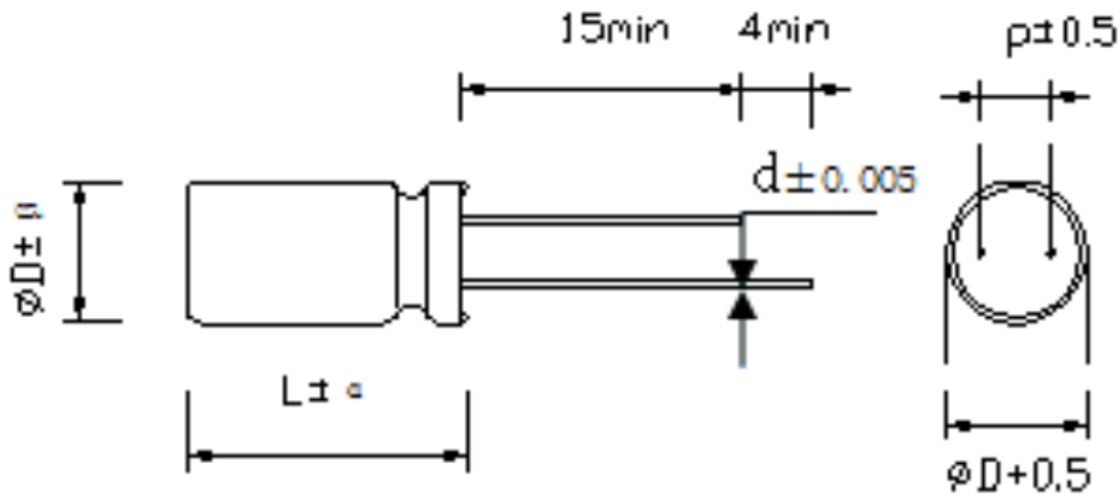
Electrical Level 1 Test Result	
Tested Parameters	Result
Rate Voltages	pass
Capacitance Tolerance	fail

1. Device Description

FEATURES:

- Capacitance Tolerance: $\pm 20\%$
- Capacitance Value Range: $C = 39.5\mu\text{F Max @F} = 120\text{Hz}$
 $26.5\mu\text{F Min}$
- Rated Voltage : $V = 50\text{ V}$

2. Package dimensions





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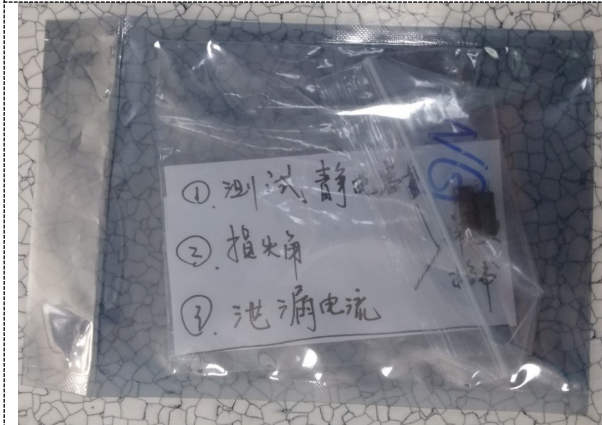


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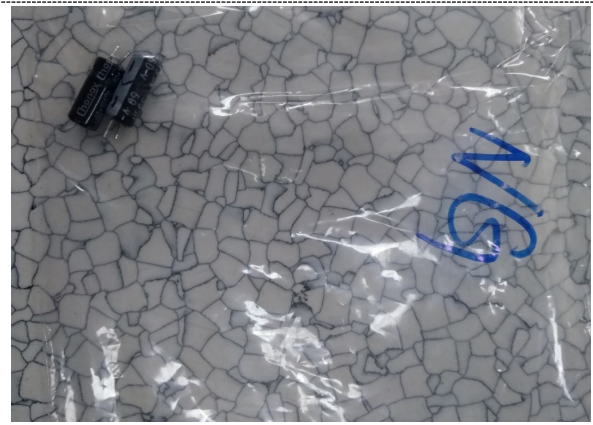
3. Receiving Inspection

Cross Weight:	0.5KG	Parts Total	2PCS
Number Of Boxes	N/A	Box Condition	Non Present
Package type	N/A	Moisture protection	Non Present
MSL	N/A	ESD protection	Non Present

Received View 1



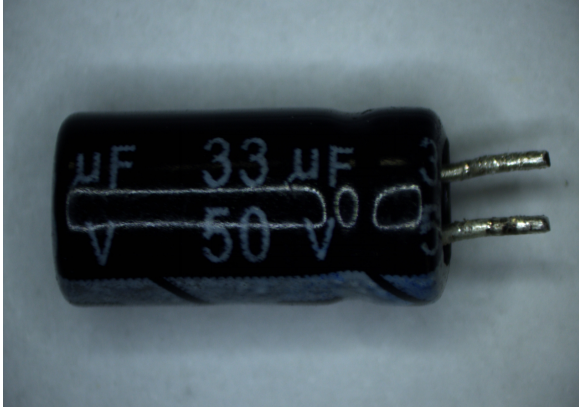

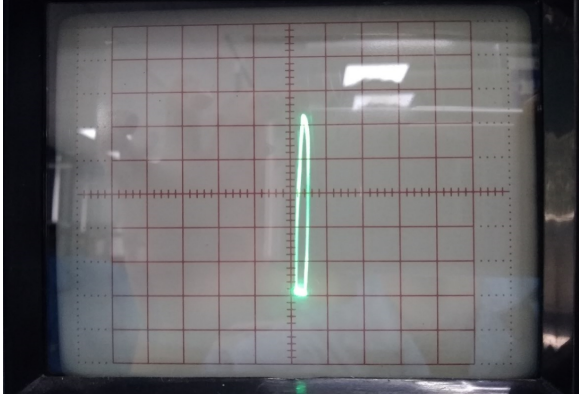
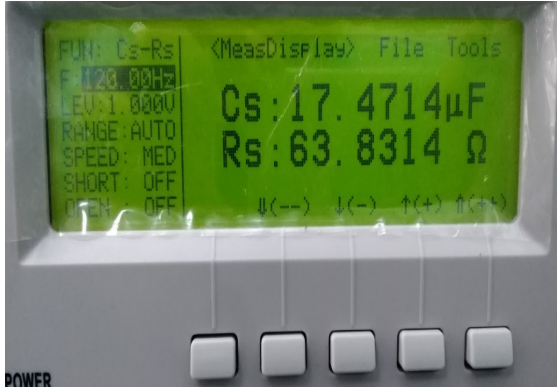
Received View 2



4. Electrical Level 1 Test

Using curve tracer and Precision LCR Meter verified the following datasheet parameters at 20°C :

- Rated Voltage: $V = 50V$
- Capacitance Tolerance: $\pm 20\%$
- Capacitance Value Range: $C = 39.5\mu F$ Max @ $f = 120Hz$
 $26.5\mu F$ Min

Top	Bottom
	
<p>Rated Voltages = 50V(pass)</p>	<p>Capacitance = 17.47uF (fail) Tolerance = -32% (fail)</p>
	



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Detail

Test Samples	Test Parameters	
	Rated Voltages (V)	Capacitance (uF)
Sample one	50V	15.34uF
Sample two	50V	17.47uF

Electrical Level 1 Test Results:

Total quantity tested: 2pcs.

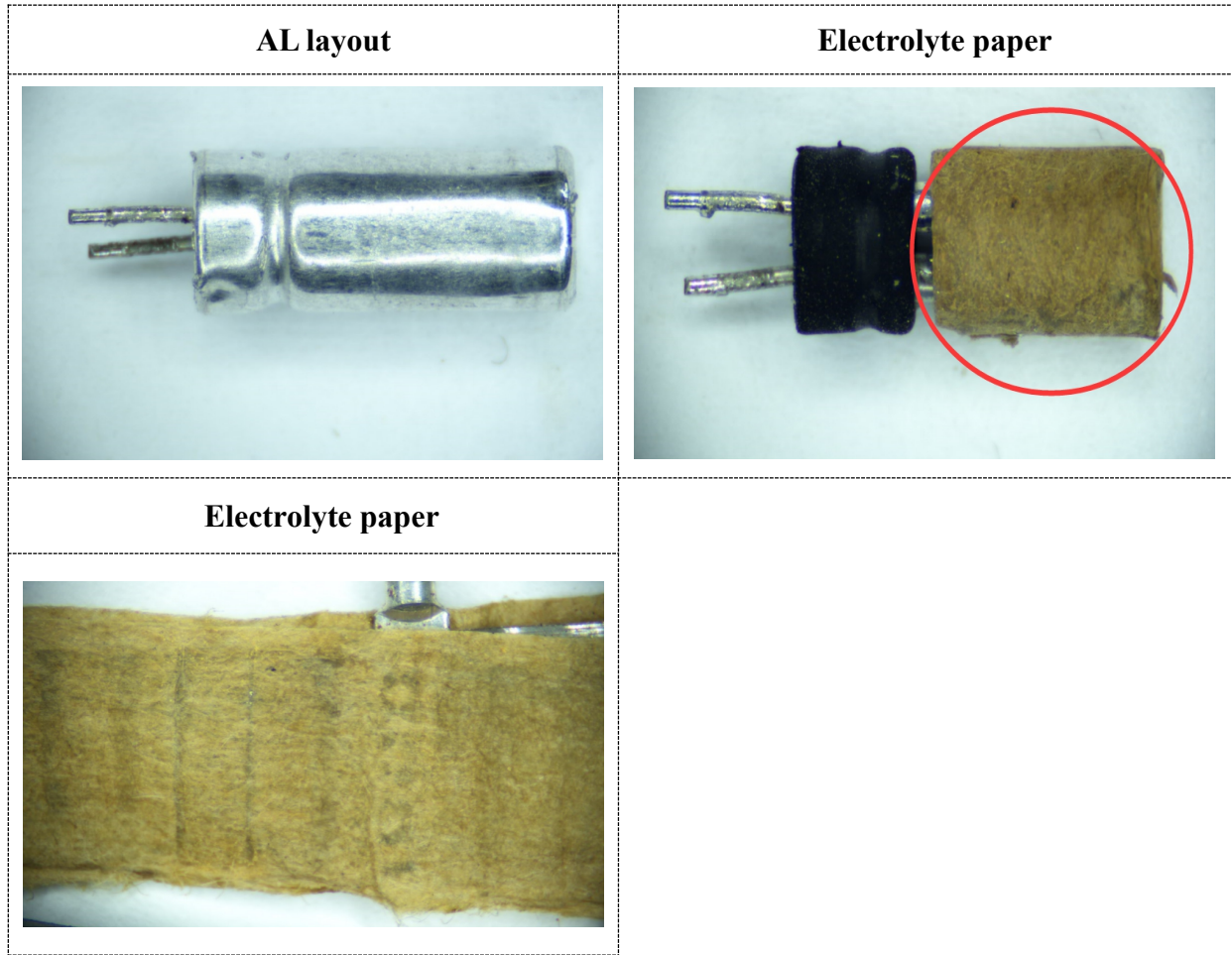
Total quantity passed: 0pcs.

Total quantity failed: 2pcs.

Note: The measured Capacitance value is below the minimum Capacitance. The breakdown of the equipment may be caused by the oxygen ion supplied by the working electrolyte under the action of an applied electric field, which can form a new oxide film at the damaged site and make the anodic oxide film filled and repaired. It may even become a through hole to break the device.

5. Internal Visual Inspection

Internal Visual Inspection device was verified on (1) sample. No abnormal was found on the AL surface. Dried up electrolyte paper was found at the device surface.



Summary and Suggestions

From the above analysis results, Leakage reason comes from increase in temperature, overvoltage, a vibration, or a defective seal may accelerate deterioration of the sealing performance. Leakage results in a decrease in capacitance, an increase in equivalent series resistance, and a corresponding increase to power dissipation. Leakage reduces the working electrolyte and loses the ability to repair the anodized film media, thereby losing the self-healing effect. When the electrolytic capacitor is left for a long time, the leakage current tends to increase due to the action of the primary battery. Therefore, before using an electrolytic capacitor that has been placed for a long time, it is necessary to apply a rated voltage until its electrical characteristics return to normal. In addition, pay attention to the MSL condition and according to the datasheet specification application.



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