

RELIABILITY TEST DATA OF MONOLITHIC CERAMIC CAPACITOR

Comparison data

1005 C0G 100pF +/-5% 50V

MURATA P/N: GRM1555C1H101JA01

VS

1005 C0G 100pF +/-5% 50V

MURATA P/N: GRM1555C1H101JD01

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MEASURING EQUIPMENT:

HP4278A LCR METER

R8340A IR METER

TEMPERATURE CHARACTERISTICS (TYPICAL)

MURATA P/N: GRM1555C1H101JA01

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MURATA P/N: GRM1555C1H101JD01

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TEMPERATURE RANGE : -55~+125 deg. C

-55deg.C: -0.24~0.58%

TEMPERATURE COEFFICIENT : 0+/-30ppm/deg.C

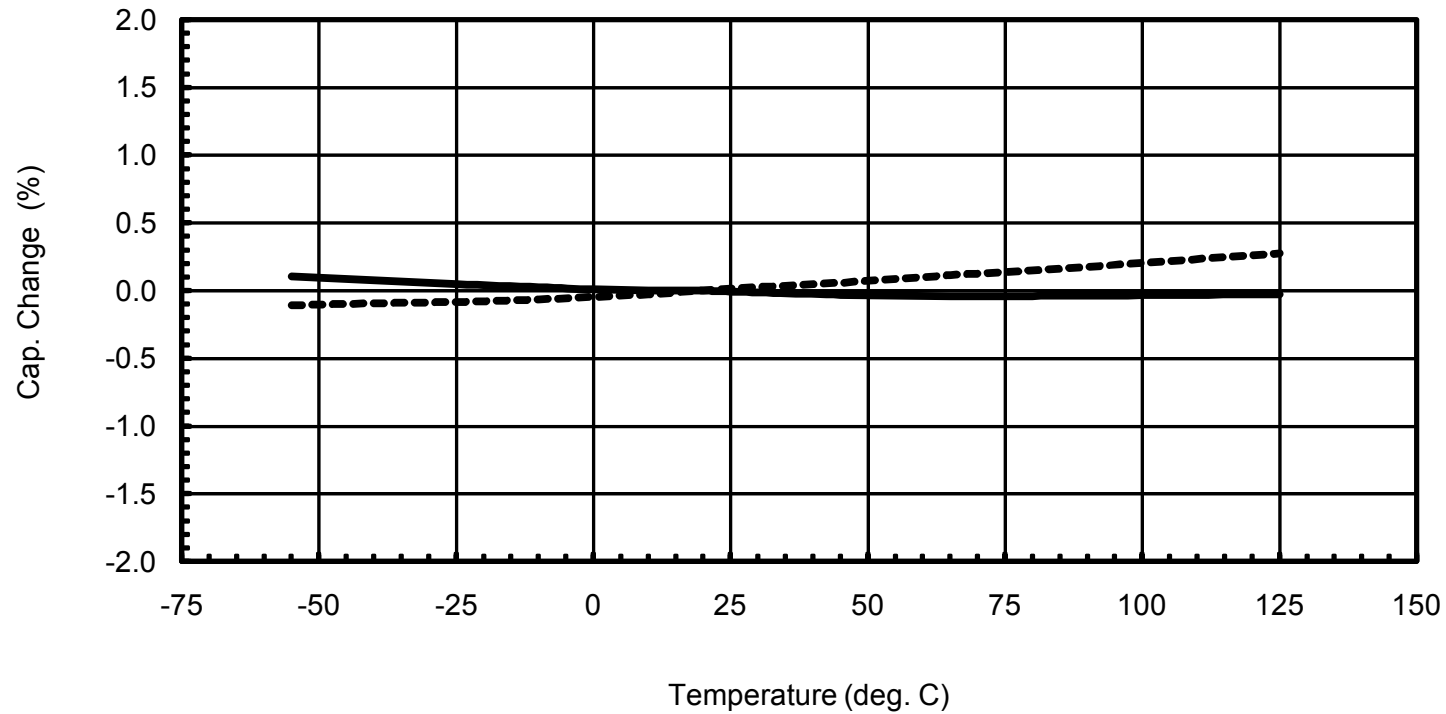
-30deg.C: -0.17~0.40%

CAPACITANCE CHANGE FROM 25 deg. C:

-10deg.C: -0.11~0.25%

1MHz,1Vrms

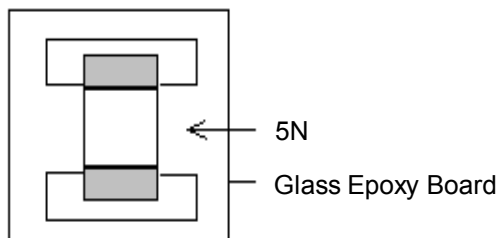
n=5pcs



ADHESIVE STRENGTH OF TERMINATION

MURATA P/N: GRM1555C1H101JA01

MURATA P/N: GRM1555C1H101JD01



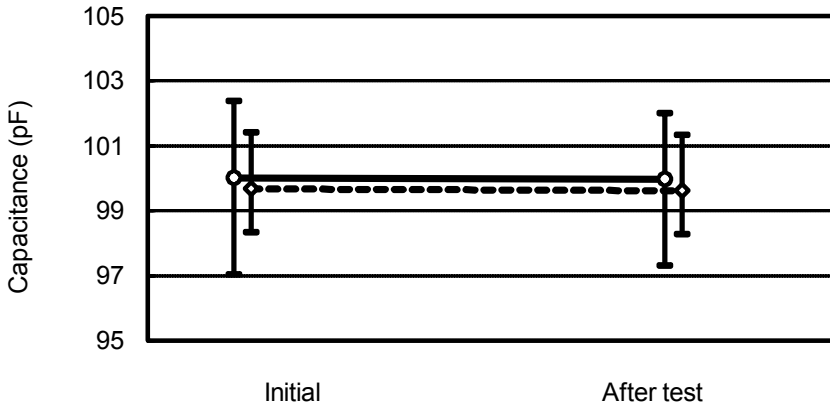
No.	Item	<u>New product</u>	<u>Previous product</u>
		NO MECHANICAL DAMAGE	NO MECHANICAL DAMAGE
1		OK	OK
2		OK	OK
3		OK	OK
4		OK	OK
5		OK	OK
6		OK	OK
7		OK	OK
8		OK	OK
9		OK	OK
10		OK	OK

VIBRATION RESISTANCE (TYPICAL)

MURATA P/N: GRM1555C1H101JA01
 MURATA P/N: GRM1555C1H101JD01



TEST CONDITION : FREQUENCY: 10 - 55Hz
 SWEEPTIME: 1 MINUTE(10 - 55 - 10Hz)
 TOTAL AMPLITUDE : 1.5 mm
 DURATION : 6 HOURS
 (2 hours each in three mutually perpendicular directions) n=18pcs



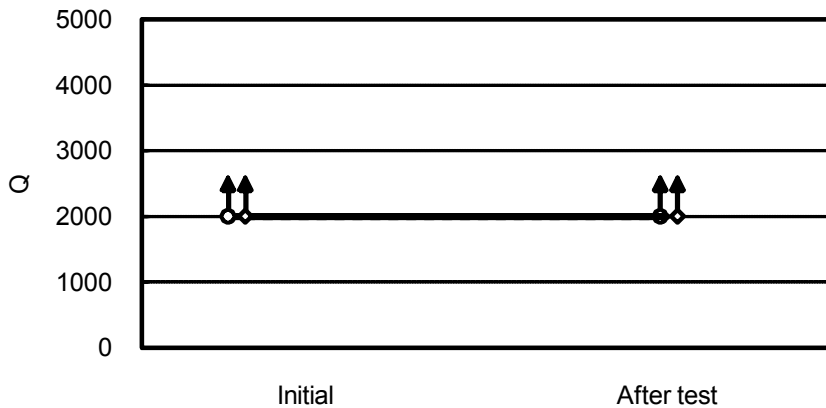
New product

	Initial	After test
Ave	100.02	99.98
Max	102.39	102.01
Min	97.05	97.31

Previous product

	Initial	After test
Ave	99.68	99.62
Max	101.42	101.35
Min	98.34	98.28

Criteria
 Within 95 ~ 105 pF



New product

	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Previous product

	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Criteria
 1000 min.

Appearance : No marking defects

RESISTANCE TO SOLDERING HEAT (TYPICAL)

MURATA P/N: GRM1555C1H101JA01

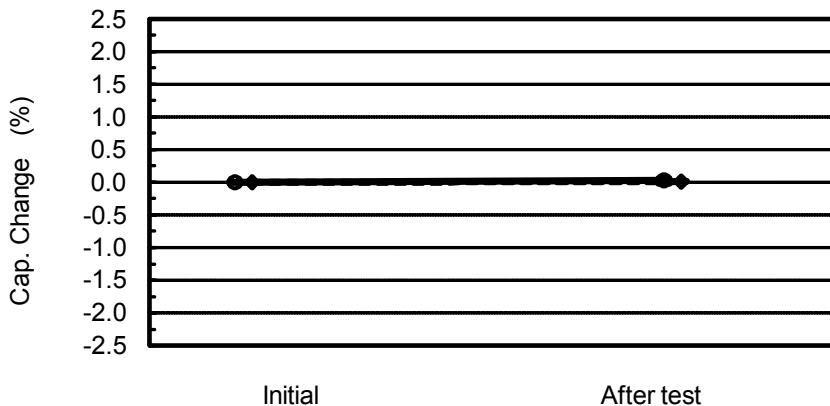
MURATA P/N: GRM1555C1H101JD01

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TEST CONDITION : SOLDER TEMPERATURE : 270 +/- 5 deg. C
 IMMERSION TIME : 10 +/- 0.5sec.

n=18pcs



New product

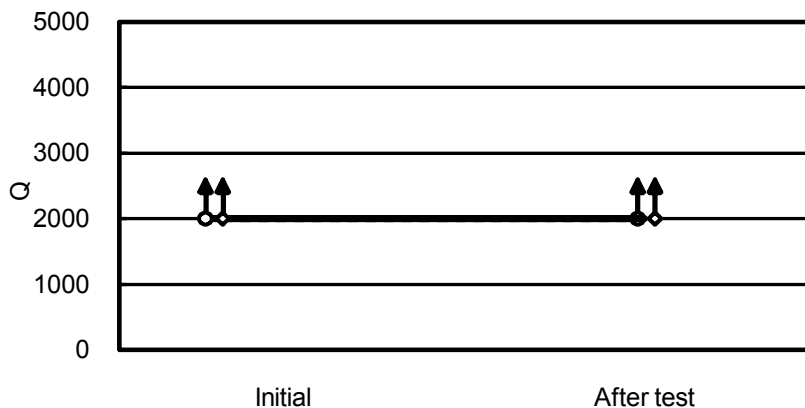
	Initial	After test
Ave	0.00	0.03
Max	0.00	0.05
Min	0.00	-0.01

Previous product

	Initial	After test
Ave	0.00	0.01
Max	0.00	0.02
Min	0.00	0.01

Criteria

Within +/-2.5%



New product

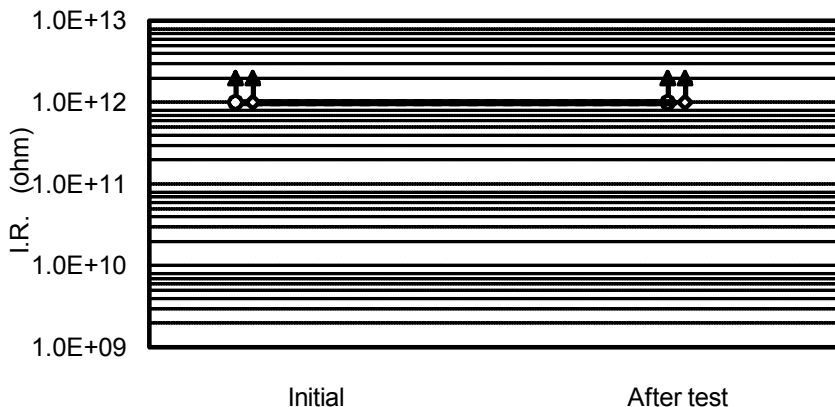
	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Previous product

	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Criteria

1000 min.



New product

	Initial	After test
Ave	1.0E+12<	1.0E+12<
Max	1.0E+12<	1.0E+12<
Min	1.0E+12<	1.0E+12<

Previous product

	Initial	After test
Ave	1.0E+12<	1.0E+12<
Max	1.0E+12<	1.0E+12<
Min	1.0E+12<	1.0E+12<

Criteria

1.0E+10ohm min.
 (1.0E+06=1.0X10⁶)

Appearance : No marking defects
 Dielectric Strength 150VDC, 1-5 seconds : No failure

SOLDERABILITY OF TERMINATION

MURATA P/N: GRM1555C1H101JA01		
MURATA P/N: GRM1555C1H101JD01		
<p style="text-align: center;">SOLDER TEMPERATURE : 245 +/- 5 deg. C IMMERSION TIME : 2 +/- 0.5sec.</p>		
No.	Item <u>New product</u> COVERAGE : 75% MIN.	<u>Previous product</u> COVERAGE : 75% MIN.
1	OK	OK
2	OK	OK
3	OK	OK
4	OK	OK
5	OK	OK
6	OK	OK
7	OK	OK
8	OK	OK
9	OK	OK
10	OK	OK

TEMPERATURE CYCLE (TYPICAL)

MURATA P/N: GRM1555C1H101JA01

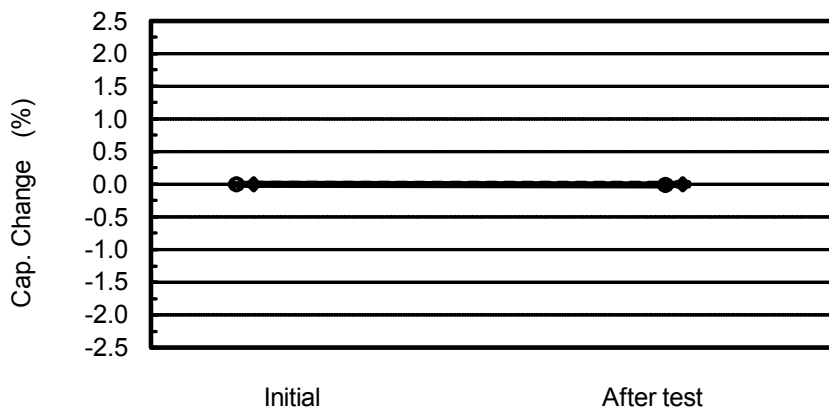
MURATA P/N: GRM1555C1H101JD01

TEST CONDITION :

Step	1	2	3	4
Temp. (deg.C)	Min. Operating Temp. +0 -3	Room Temp.	Max. Operating Temp. +3 -0	Room Temp.
Time(min)	30+/-3	2 to 3	30+/-3	2 to 3

5CYCLES

n=18pcs



New product

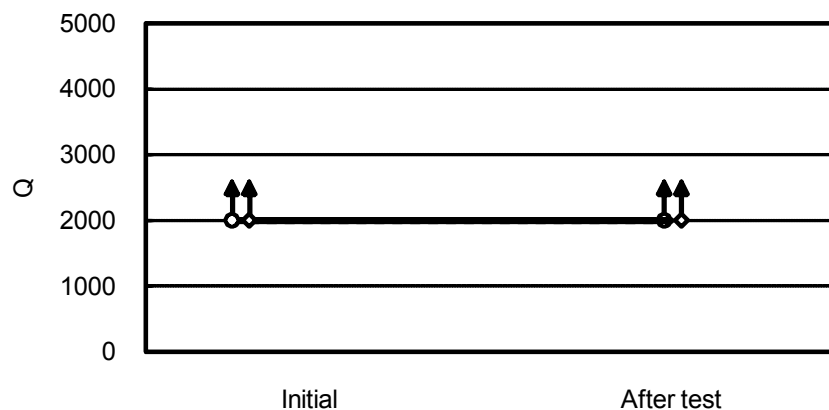
	Initial	After test
Ave	0.00	-0.01
Max	0.00	0.01
Min	0.00	-0.02

Previous product

	Initial	After test
Ave	0.00	0.00
Max	0.00	0.02
Min	0.00	-0.01

Criteria

Within +/-2.5%



New product

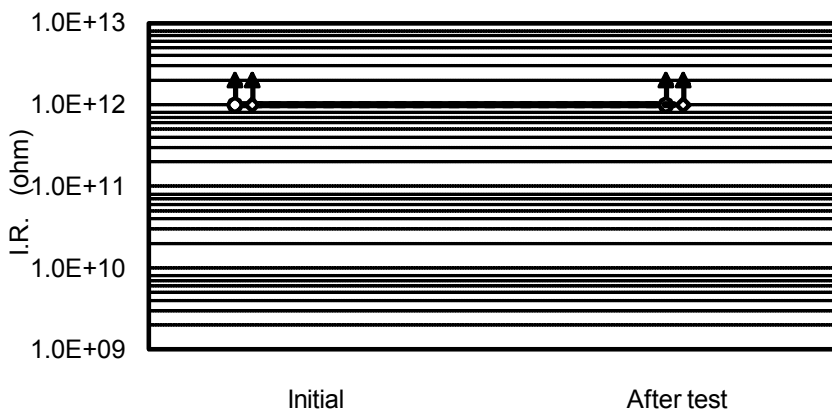
	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Previous product

	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Criteria

1000 min.



New product

	Initial	After test
Ave	1.0E+12<	1.0E+12<
Max	1.0E+12<	1.0E+12<
Min	1.0E+12<	1.0E+12<

Previous product

	Initial	After test
Ave	1.0E+12<	1.0E+12<
Max	1.0E+12<	1.0E+12<
Min	1.0E+12<	1.0E+12<

Criteria

1.0E+10ohm min.
(1.0E+06=1.0X10⁶)

Appearance : No marking defects

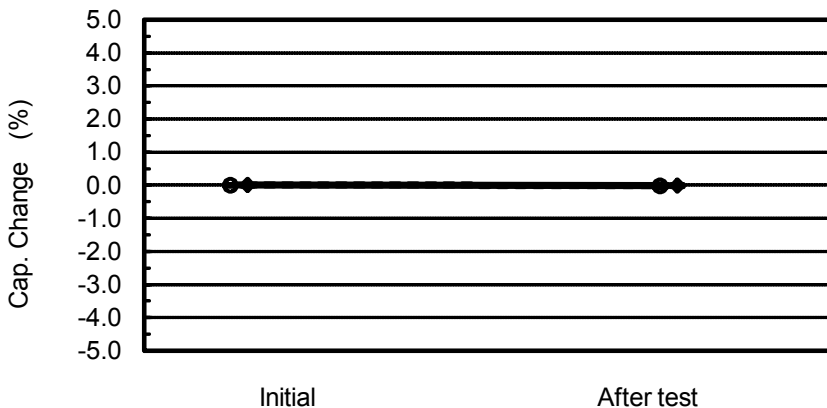
Dielectric Strength 150VDC, 1-5 seconds : No failure

HUMIDITY (TYPICAL)

MURATA P/N: GRM1555C1H101JA01
MURATA P/N: GRM1555C1H101JD01

TEST CONDITION : TEMPERATURE : 40 +/- 2 deg. C
HUMIDITY : 90 - 95%RH
DURATION : 500 +/- 12 HOURS

n=18pcs



New product

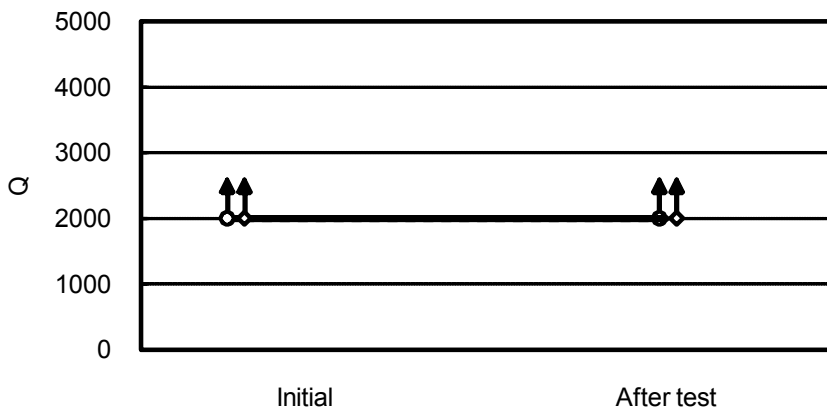
	Initial	After test
Ave	0.00	-0.02
Max	0.00	0.01
Min	0.00	-0.05

Previous product

	Initial	After test
Ave	0.00	-0.01
Max	0.00	0.00
Min	0.00	-0.02

Criteria

Within +/-5.0%



New product

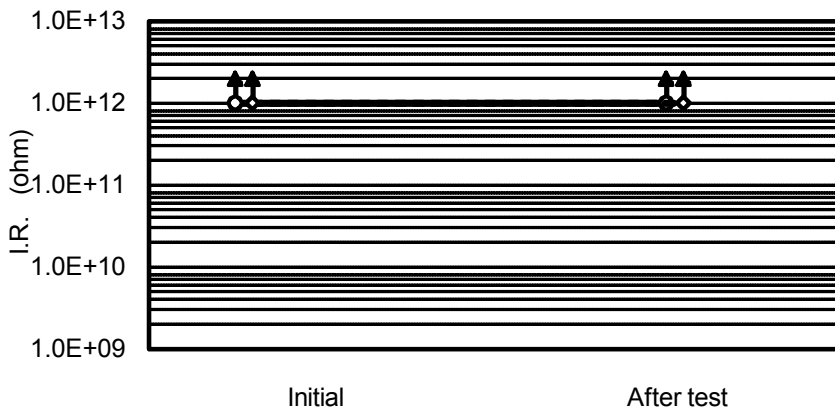
	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Previous product

	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Criteria

350 min.



New product

	Initial	After test
Ave	1.0E+12<	1.0E+12<
Max	1.0E+12<	1.0E+12<
Min	1.0E+12<	1.0E+12<

Previous product

	Initial	After test
Ave	1.0E+12<	1.0E+12<
Max	1.0E+12<	1.0E+12<
Min	1.0E+12<	1.0E+12<

Criteria

1.0E+09ohm min.
(1.0E+06=1.0X10⁶)

Appearance : No marking defects

HUMIDITY LOAD (TYPICAL)

MURATA P/N: GRM1555C1H101JA01

MURATA P/N: GRM1555C1H101JD01

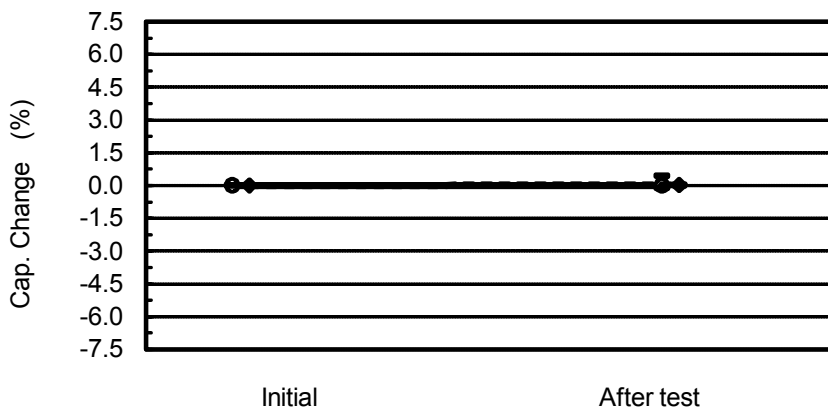
TEST CONDITION :TEMPERATURE : 40 +/- 2 deg. C

HUMIDITY : 90 ~ 95%RH

VOLTAGE : 50VDC

DURATION : 500 +/- 12 HOURS

n=18pcs



New product

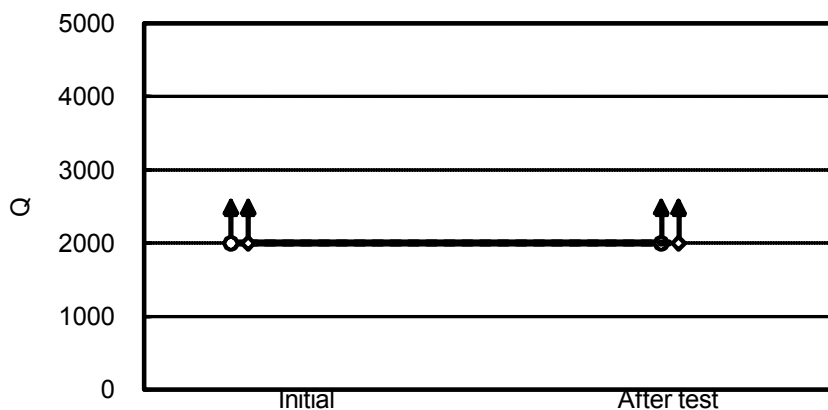
	Initial	After test
Ave	0.00	0.00
Max	0.00	0.44
Min	0.00	-0.11

Previous product

	Initial	After test
Ave	0.00	0.01
Max	0.00	0.02
Min	0.00	0.00

Criteria

Within +/-7.5%



New product

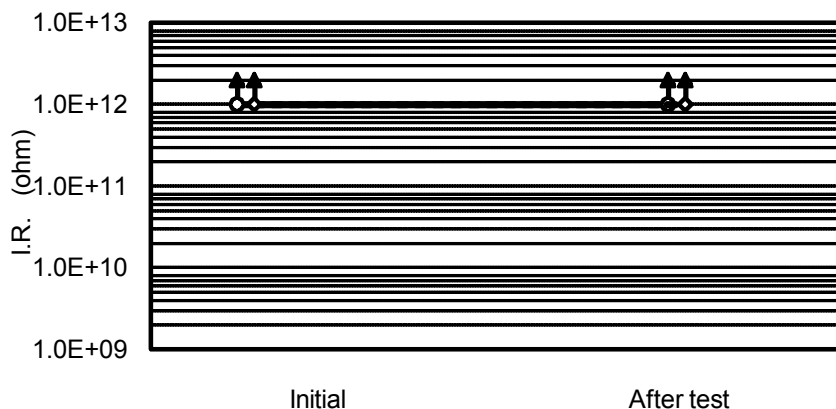
	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Previous product

	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Criteria

200min



New product

	Initial	After test
Ave	1.0E+12<	1.0E+12<
Max	1.0E+12<	1.0E+12<
Min	1.0E+12<	1.0E+12<

Previous product

	Initial	After test
Ave	1.0E+12<	1.0E+12<
Max	1.0E+12<	1.0E+12<
Min	1.0E+12<	1.0E+12<

Criteria

5.0E+08ohm min.

(1.0E+06=1.0X10⁶)

Appearance : No marking defects

HIGH TEMPERATURE LOAD (TYPICAL)

MURATA P/N: GRM1555C1H101JA01

MURATA P/N: GRM1555C1H101JD01

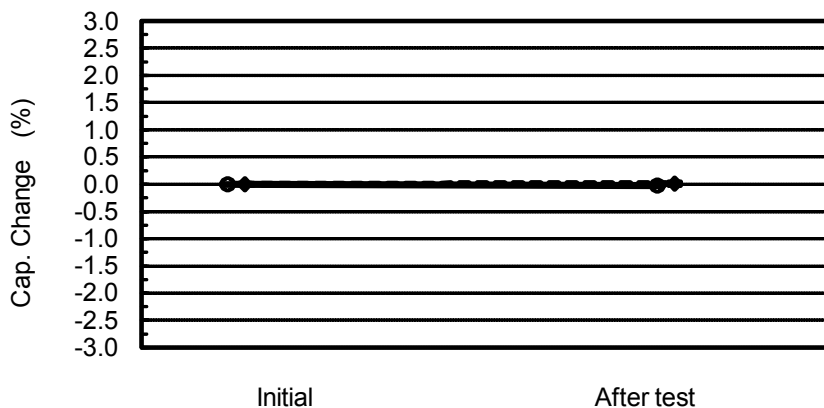


TEST CONDITION :TEMPERATURE:125 +/- 3 deg. C

VOLTAGE :100VDC

DURATION :1000 +/- 12 HOURS

n=18pcs



New product

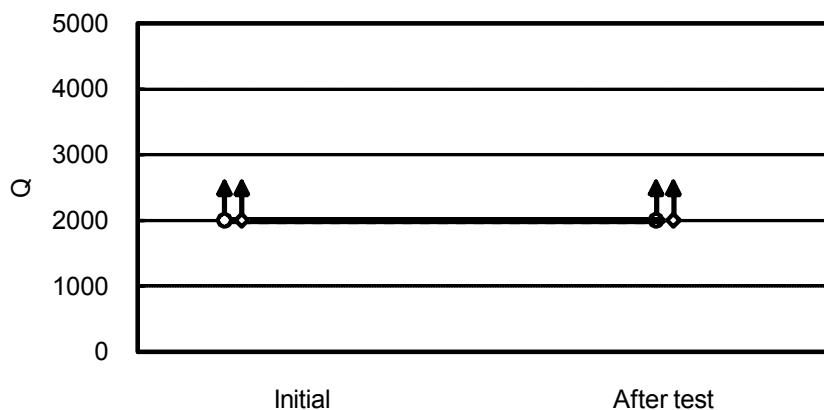
	Initial	After test
Ave	0.00	-0.02
Max	0.00	-0.01
Min	0.00	-0.03

Previous product

	Initial	After test
Ave	0.00	0.01
Max	0.00	0.03
Min	0.00	-0.01

Criteria

Within +/-3.0%



New product

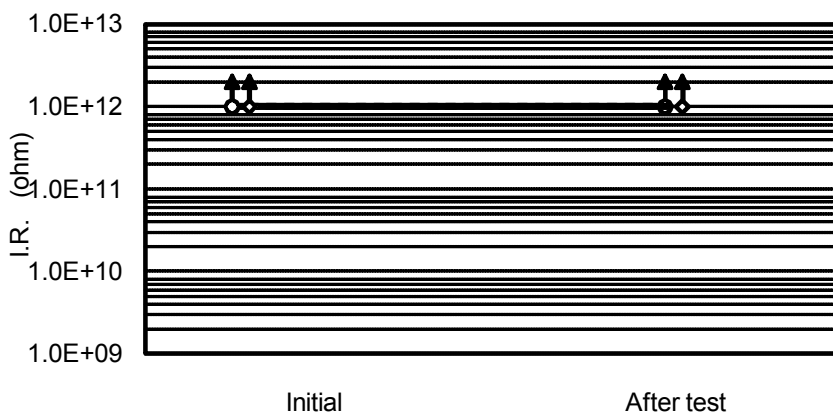
	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Previous product

	Initial	After test
Ave	2000<	2000<
Max	2000<	2000<
Min	2000<	2000<

Criteria

350 min.



New product

	Initial	After test
Ave	1.0E+12<	1.0E+12<
Max	1.0E+12<	1.0E+12<
Min	1.0E+12<	1.0E+12<

Previous product

	Initial	After test
Ave	1.0E+12<	1.0E+12<
Max	1.0E+12<	1.0E+12<
Min	1.0E+12<	1.0E+12<

Criteria

1.0E+09ohm min.
(1.0E+06=1.0X10⁶)

Appearance : No marking defects