

Document Receipt Acknowledgement

Date:
Section:
Name:



Document Number: IMC-154-002

REF No: PCT-00000518

Date: May 8th 2015

Attention:

ANGLIA COMPONENTS LTD

Product Withdrawal Notice

DE Series

Dear. Valued Customer

Thank you very much for your great and continued support for business with Murata.
This is the official notification that some of our products will be discontinued as detailed below.
Please review this, and place Last Time Buy Order by the Last Time Order Due Date as needed.
Your understanding and support are highly appreciated.

1. Product Type, Customer/Murata/Alternative Part Numbers:

Product Type: Old type of Safety certified lead type ceramic capacitor

DC1kV and lower rated voltage lead type ceramic capacitor

Please refer to the attached documents for detailed Part Numbers' information.

2. Reasons/Background:

Due to new VA items development and or SMD request, both object item's business volume have been decreasing in number year by year. And we've already developed VA items for both. So we strongly recommend these VA items for your new models.

3. Product Withdrawal Schedule:

Last Time Order Due (*): Mar., 31st, 2016

End of Production: Jun., 30th, 2016

Last Date of Shipment: Sep., 30th, 2016

* : Last Time Order is the subject to Minimum Order Quantity and Package Quantity.

4. Contact Window:

Should you have any questions or concerns,
please contact Murata Sales, Representative, or Distributor in your area.

Yours faithfully.

Murata Electronics (UK) Limited
Product Marketing Engineer
Simon Hau

Izumo Murata Manufacturing, Co., Ltd.
Product Eng. Sec./Prod.Develop Dept.2
Yoshikazu Sugitani

RELIABILITY TEST DATA

HIGH VOLTAGE CERAMIC CAPACITOR

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RELIABILITY TEST DATA

HIGH VOLTAGE CERAMIC CAPACITOR

MURATA PN : DEA1X3A101J***

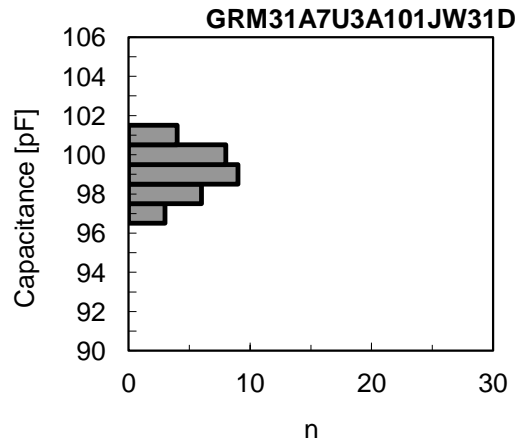
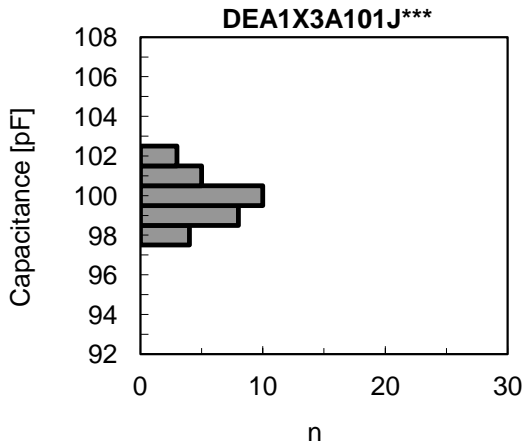
MURATA PN : GRM31A7U3A101JW31D

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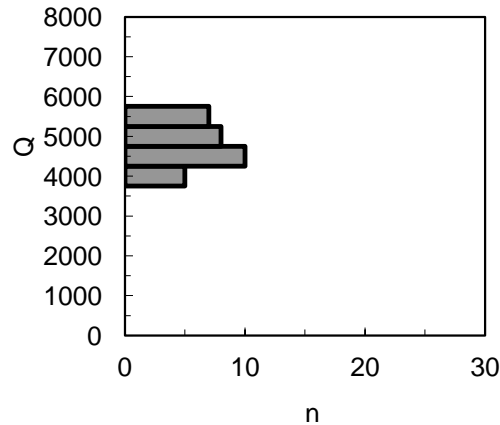
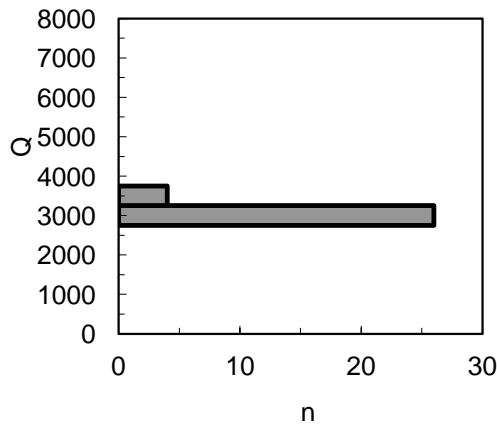
1. INITIAL (Cap., Q , Q ,I.R.)

Condition : (Cap., Q) 1.0 MHz, 1.0 V(r.m.s.)
 (I.R.) DC 500 V, 60 s
 (Temp.) 20 °C

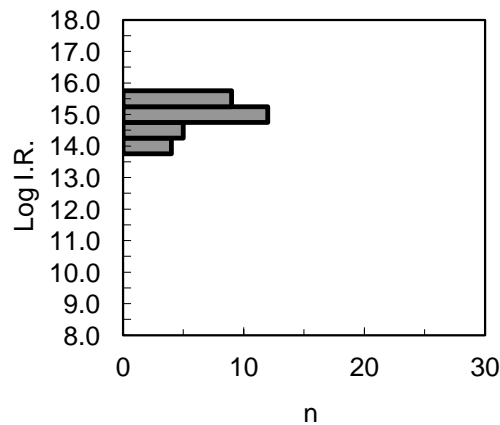
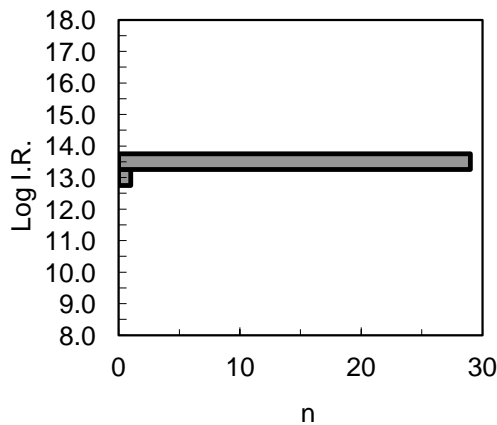
Sample Qty. : 30 pcs.



Spec.
 DEH
 Within
 100 pF ± 5%
 (95 to 105 pF)
 GRM
 100 pF ± 5%
 (95 to 105 pF)



Spec.
 DEH
 0.2% max.
 GRM
 1000 min.



Spec.
 10,000 MΩ min.
 (Log I.R. : 10 min.)

Room Condition

Temperature	: between 15 to 35 ° C
Relative humidity	: between 45 to 75 %
Atm. pressure	: between 86 to 106 kPa

2. TEMPERATURE CHARACTERISTIC

Condition : 1.0MHz, 1.0V(r.m.s.)

Specification : DEH

between -1,000 and +350 ppm / °C

(Temp. Range : 20 to 85 °C, Reference Temp. : 20 °C)

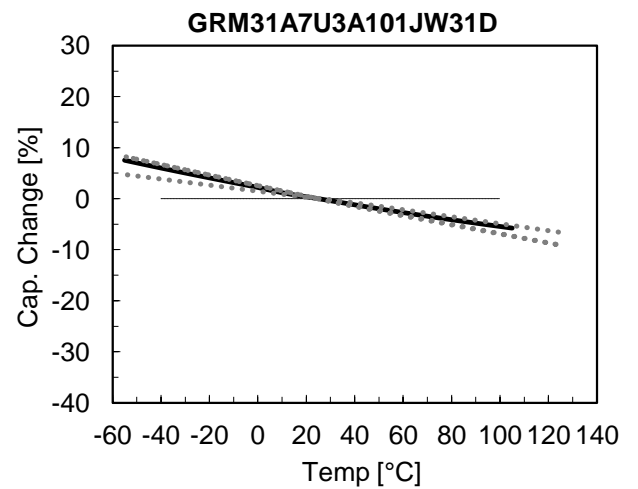
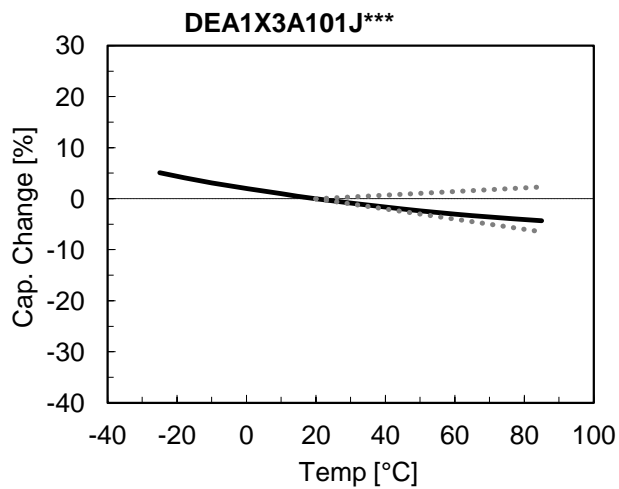
GRM

750 ± 120ppm/°C (Temp. Range : 25 to 125 °C)

-750+120,-347ppm/°C (Temp. Range : -55 to 25 °C)

Reference Temp. : 25 °C

Sample Qty. : 5 pcs.

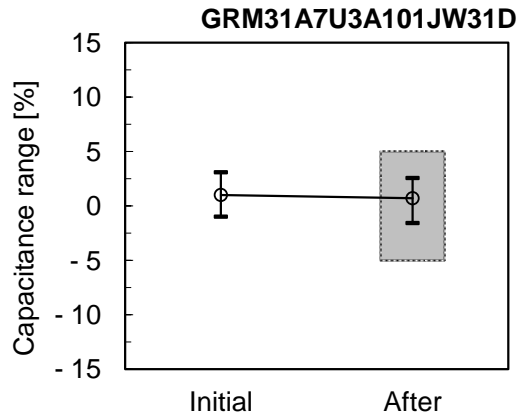
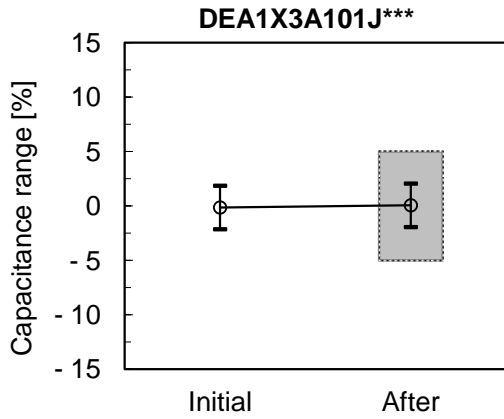


3.VIBRATION RESISTANCE

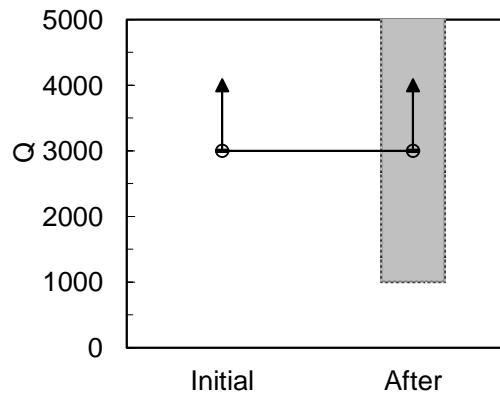
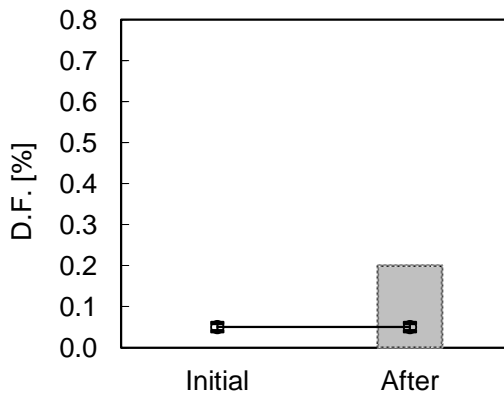
Condition : Solder the capacitor to the supporting board.
 Amplitude ... 1.5 mm
 Frequency ... 10 to 55 to 10Hz : 1 min

2 h in each 3 mutually perpendicular directions.
 (Total of 6 h)

Sample Qty. : 10 pcs.



Spec.
 Within
 Nom. Cap. $\pm 5\%$



Spec.
 1000 min.

4.SOLDERABILITY

Condition : Immerse the capacitor in ethanol(JIS-K-8101) and rosin(JIS-K-5902) (25% rosin in weight proportion) solution. And then, immerse in eutectic solder solution (Sn-3.0Ag-0.5Cu : 245°C ,H60A : 235°C) for 2s.

Specification : DEA

Lead wires shall be soldered with uniformly coated on the axial direction over 75% of the circumferential direction.

GRM

Solder covers more than 75% area of the external electrode, evenly and continuously.

Sample Qty. : 10 pcs.

Result :

No.	DEA1X3A101J***	GRM31A7U3A101JW31D
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

5. RESISTANCE to SOLDERING HEAT

Condition : DEA

Solder temp. ... 350 °C

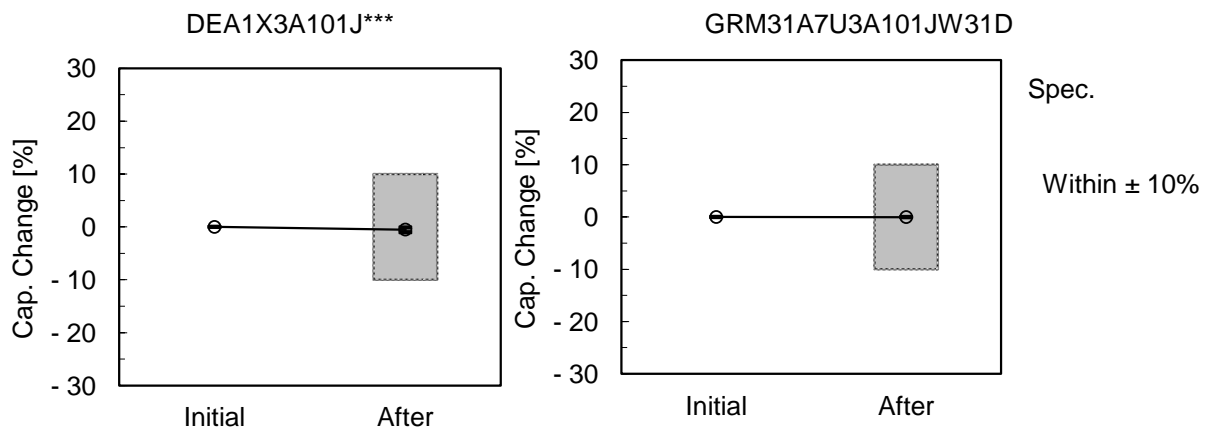
Immersion time ... 3.5 s

GRM

Solder temp. ... 260 °C

Immersion time ... 10 s

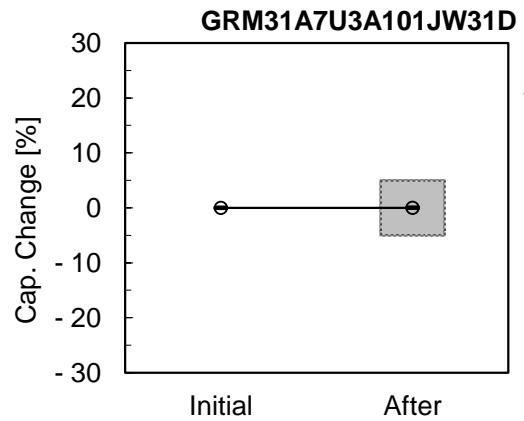
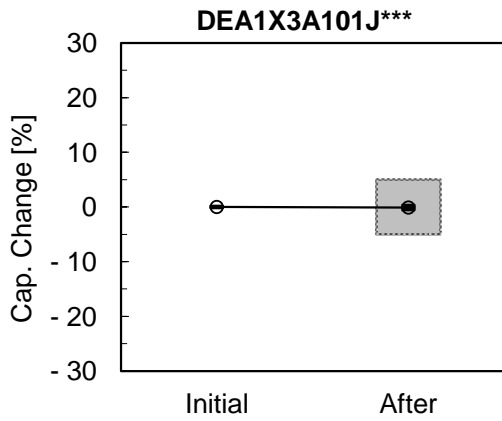
Sample Qty. : 10 pcs.



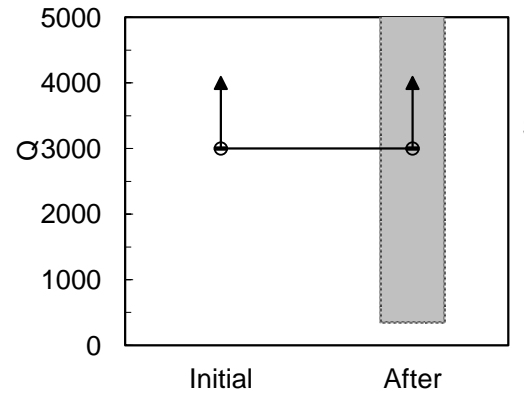
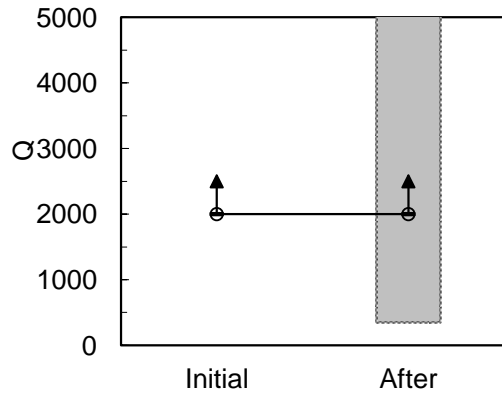
6. HUMIDITY (UNDER STEADY STATE)

Condition : Temperature ... 40 °C
 Relative humidity ... 95 %
 Duration ... 500 h

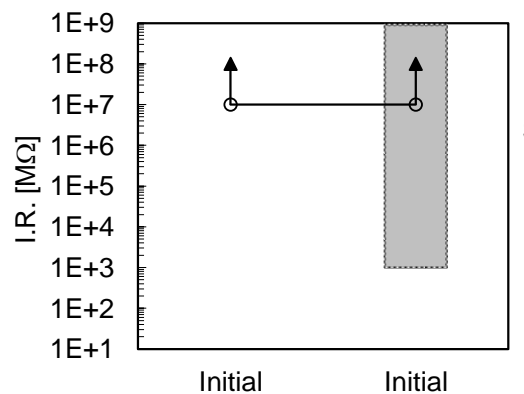
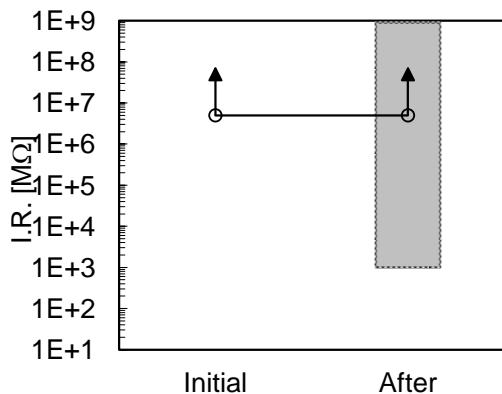
Sample Qty. : 10 pcs.



Spec.
 Within ± 5%



Spec.
 350 max.

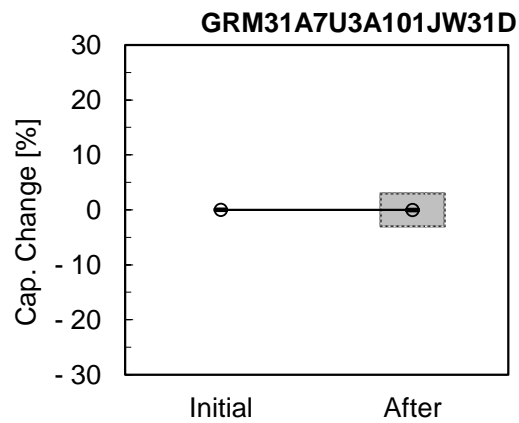
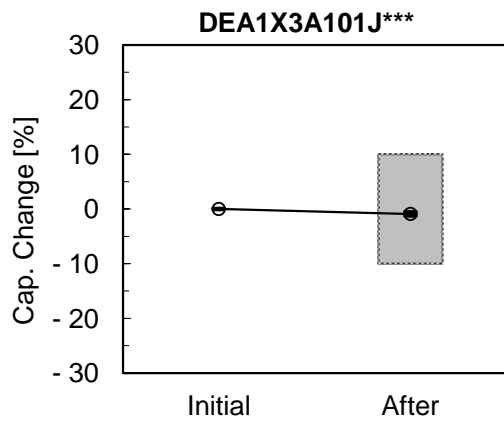


Spec.
 1,000 MΩ min.

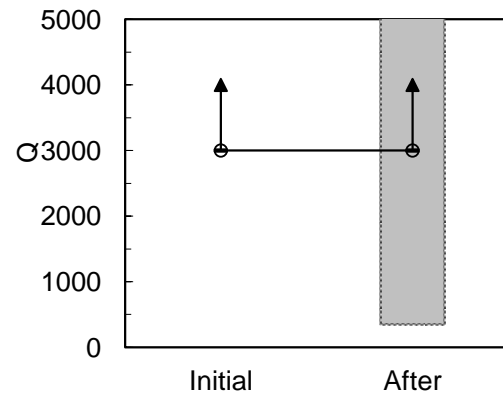
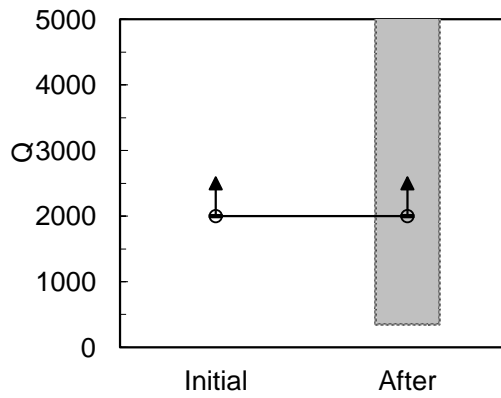
7.LIFE(HIGH TEMPERATURE LOADING)

Condition : Temperature ... 125 °C
 Voltage ... Rated Voltage × 150 % (GRM:120%)
 Duration ... 1,000 h

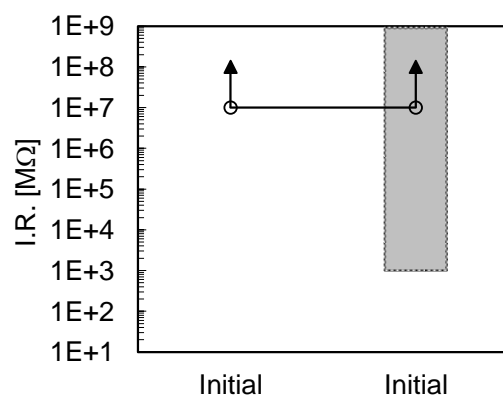
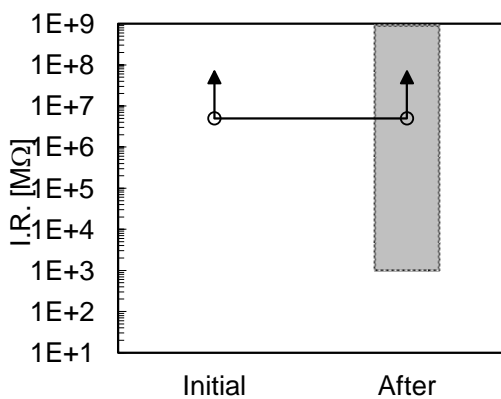
Sample Qty. : 10 pcs.



Spec.
 Within ± 3%



Spec.
 350 max.



Spec.
 1,000 MΩ min.

RELIABILITY TEST DATA

HIGH VOLTAGE CERAMIC CAPACITOR

MURATA PN : DEBB33A102K***

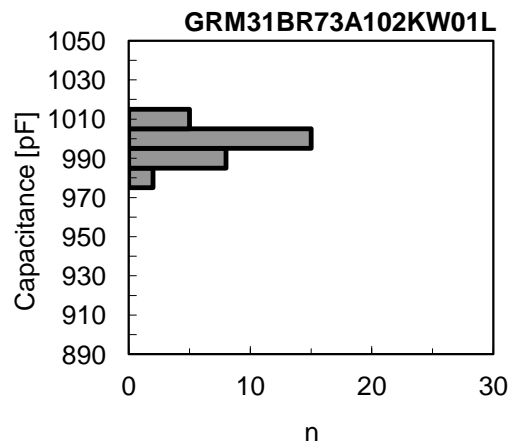
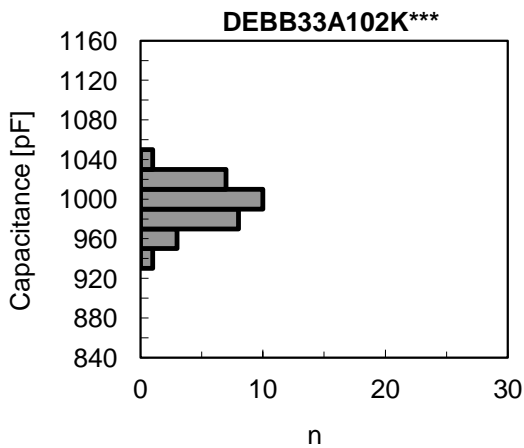
MURATA PN : GRM31BR73A102KW01L

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7. LIFE (HIGH TEMPERATURE LOADING)	... 6

1. INITIAL (Cap., D.F. , Q ,I.R.)

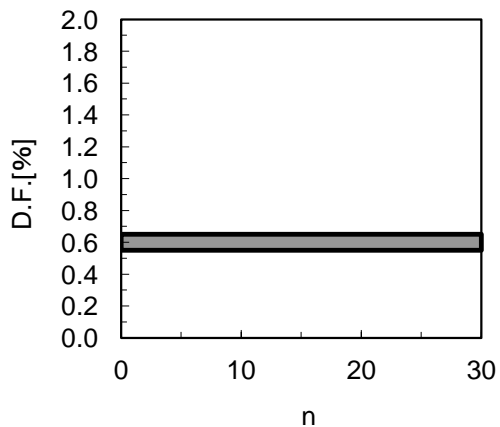
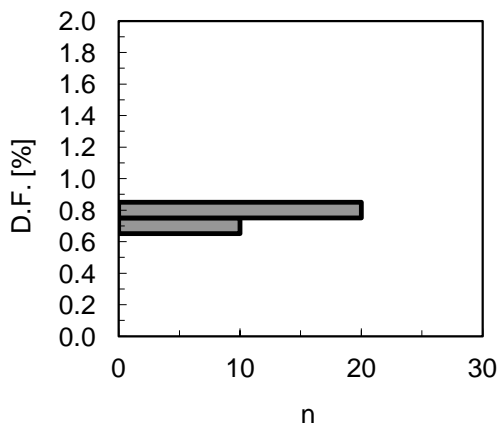
Condition : (Cap., D.F.) 1.0 kHz, 1.0 V(r.m.s.)
 (I.R.) DC 500 V, 60 s
 (Temp.) 20 °C

Sample Qty. : 30 pcs.



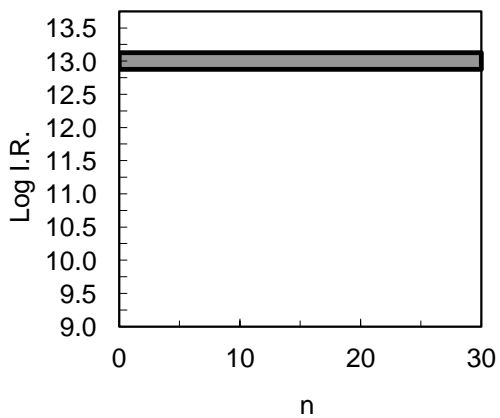
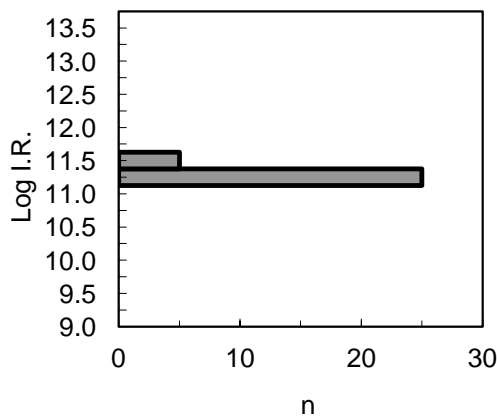
Spec.

Within
 1000 pF ± 10%
 (900 to 1100 pF)



Spec.

2.5% max.



Spec.

10,000 MΩ min.
 (Log I.R. : 10 min.)

Room Condition

Temperature	: between 15 to 35 ° C
Relative humidity	: between 45 to 75 %
Atm. pressure	: between 86 to 106 kPa

2. TEMPERATURE CHARACTERISTIC

Condition : 1.0 kHz, 1.0 V(r.m.s.)

Specification : DEB

+10/-10%(Temp. Range : -25 to 85 °C)

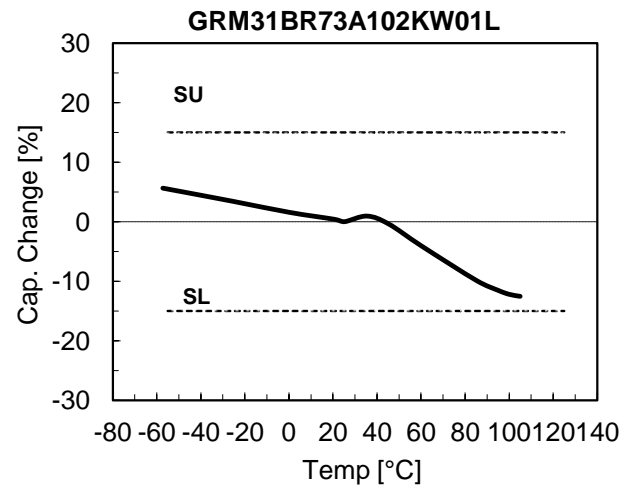
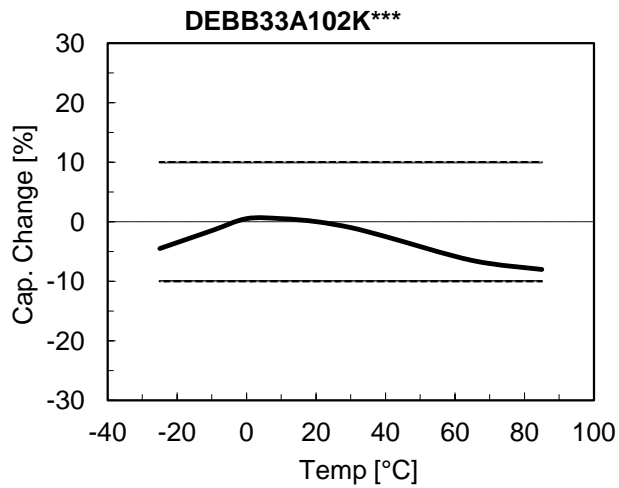
Reference Temp. : 20 °C

GRM

±15 % (Temp. Range : -55 to 125 °C)

Reference Temp. : 25 °C

Sample Qty. : 5 pcs.

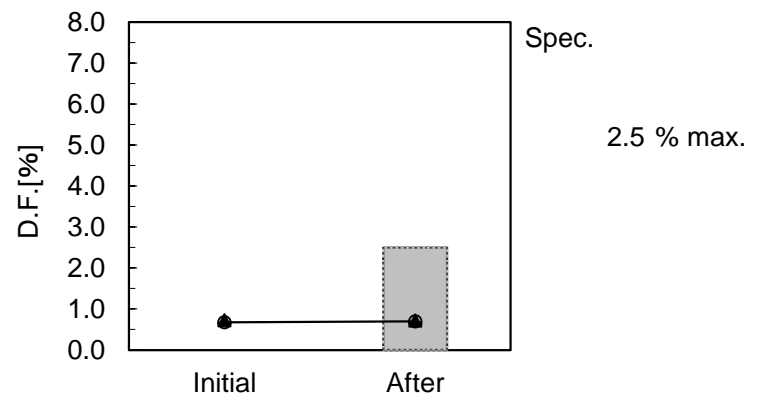
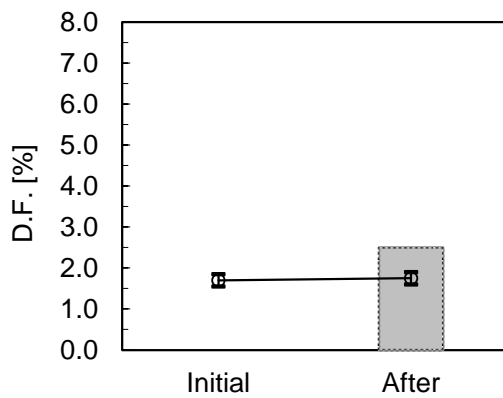
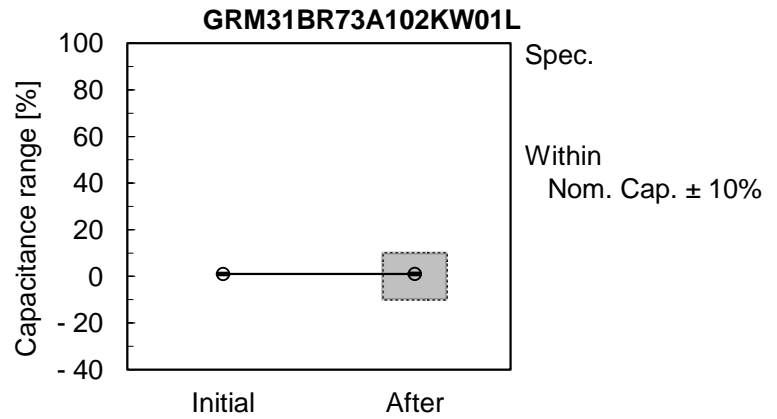
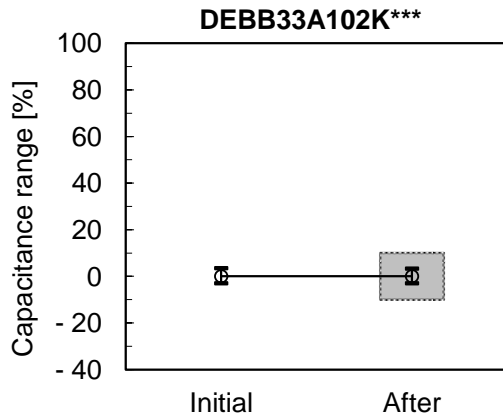


3.VIBRATION RESISTANCE

Condition : Solder the capacitor to the supporting board.
 Amplitude ... 1.5 mm
 Frequency ... 10 to 55 to 10Hz : 1 min

2 h in each 3 mutually perpendicular directions.
 (Total of 6 h)

Sample Qty. : 10 pcs.



4.SOLDERABILITY

Condition : Immerse the capacitor in ethanol(JIS-K-8101) and rosin(JIS-K-5902) (25% rosin in weight proportion) solution. And then, immerse in eutectic solder solution (Sn-3.0Ag-0.5Cu : 245°C ,H60A : 235°C) for 2s.

Specification : DEB

Lead wires shall be soldered with uniformly coated on the axial direction over 75% of the circumferential direction.

GRM

Solder covers more than 75% area of the external electrode, evenly and continuously.

Sample Qty. : 10 pcs.

Result :

No.	DEBB33A102K***	GRM31BR73A102KW01L
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

5. RESISTANCE to SOLDERING HEAT

Condition : DEB

Solder temp. ... 350°C

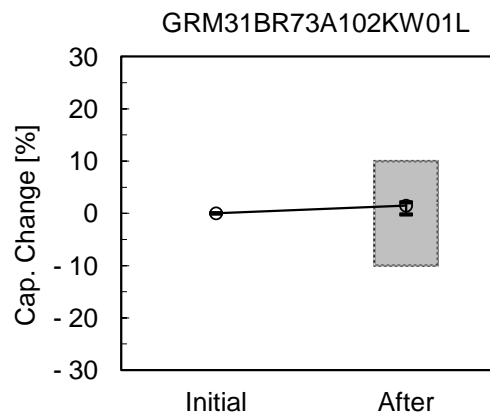
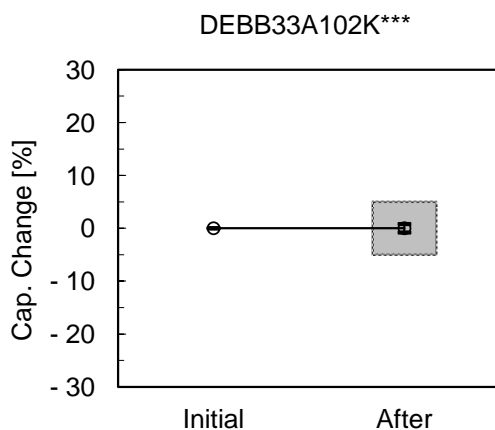
Immersion time ... 3.5 s

GRM

Solder temp. ... 260 °C

Immersion time ... 10 s

Sample Qty. : 10 pcs.



Spec.

DE

Within $\pm 5\%$

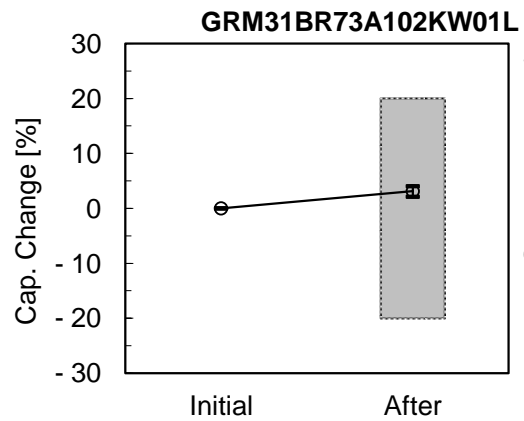
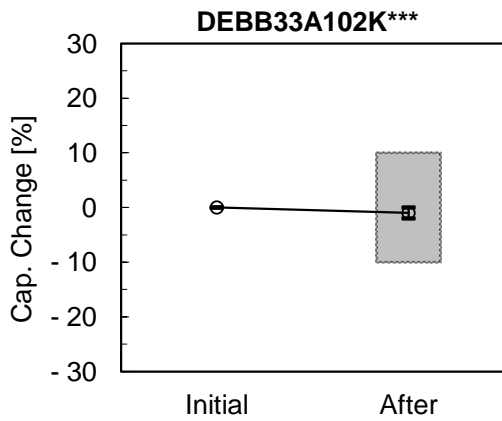
GRM

Within $\pm 10\%$

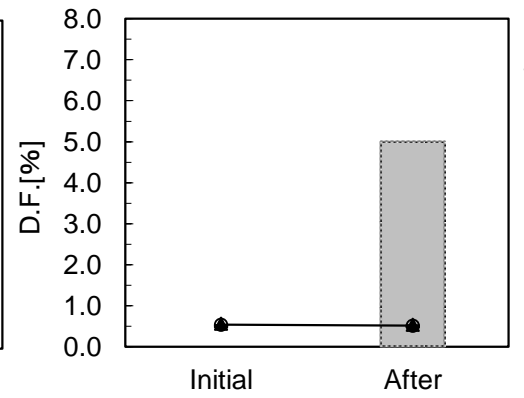
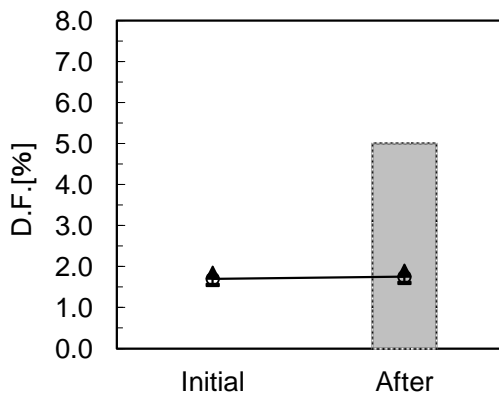
6. HUMIDITY (UNDER STEADY STATE)

Condition : Temperature ... 40 °C
 Relative humidity ... 95 %
 Duration ... 500 h

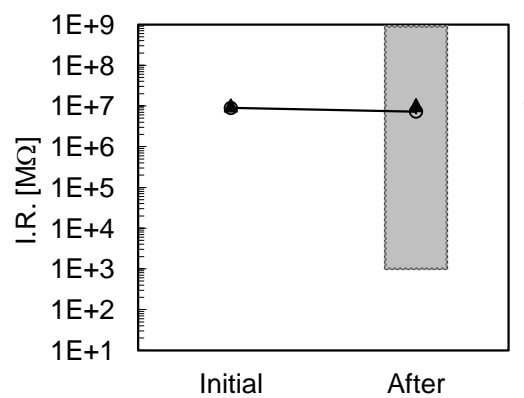
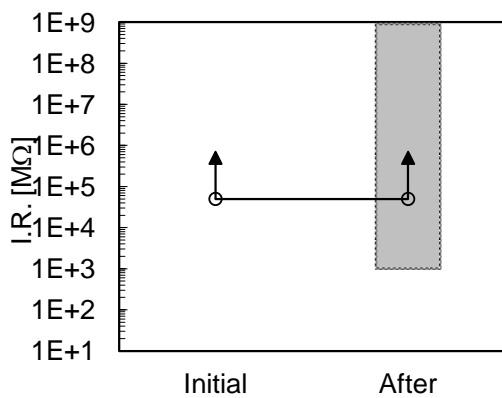
Sample Qty. : 10 pcs.



Spec.
 DE
 Within ± 10%
 GRM
 Within ± 20%



Spec.
 5 % max.



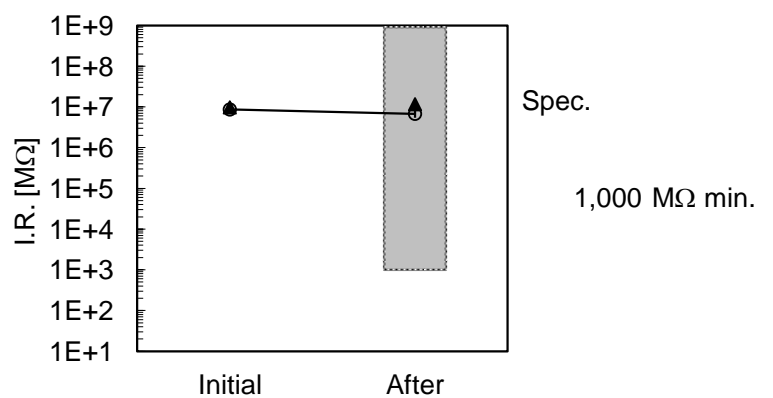
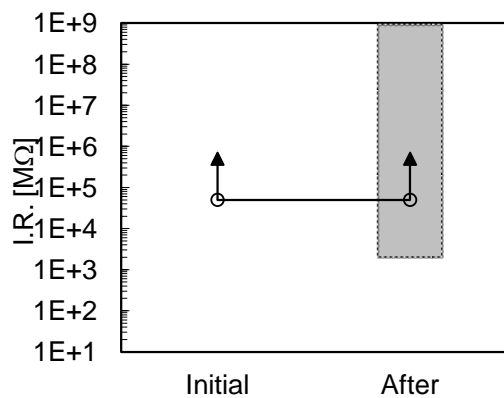
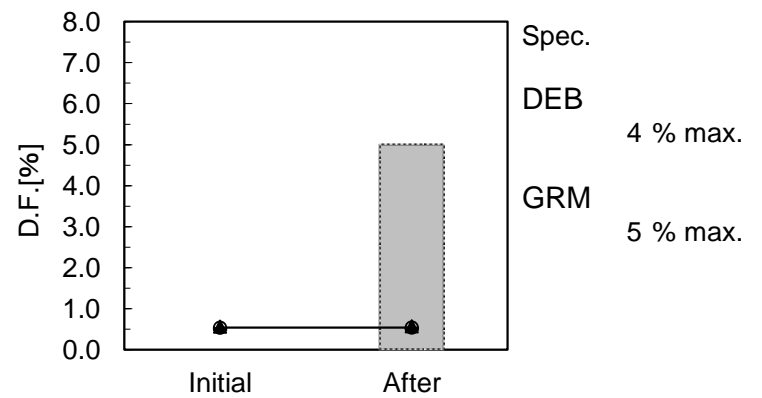
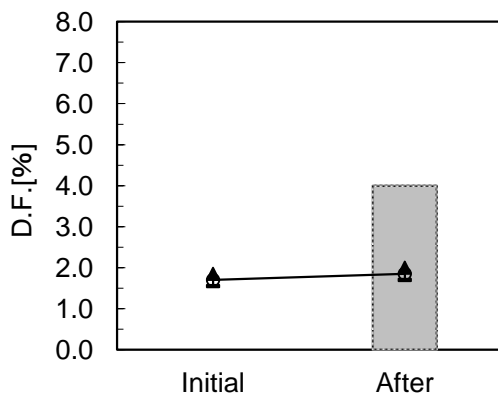
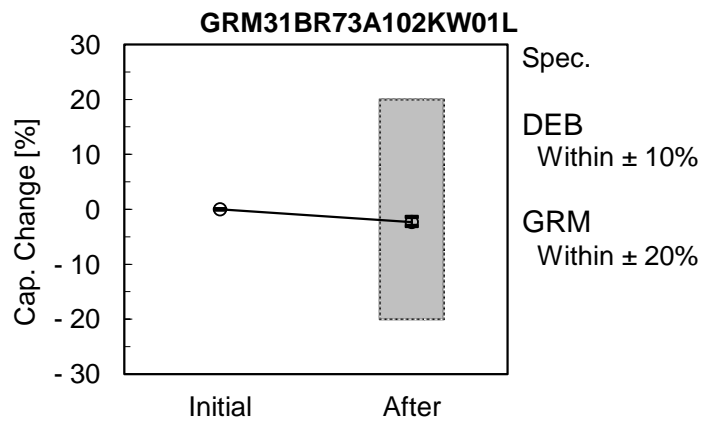
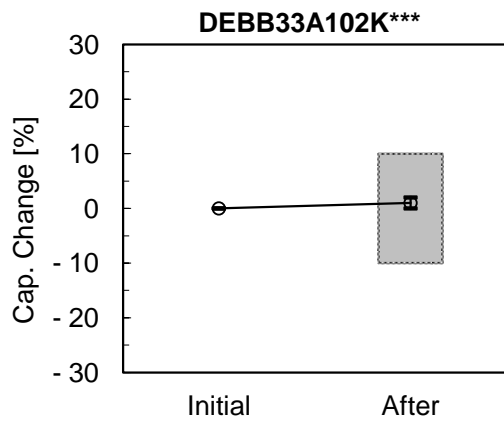
Spec.
 1,000 MΩ min.

7.LIFE(HIGH TEMPERATURE LOADING)

Condition : DEB
 Temperature ... 85 °C
 Voltage ... Rated Voltage x 150 %
 Duration ... 1,000 h

GRM
 Temperature ... 125 °C
 Voltage ... Rated Voltage x 110 %
 Duration ... 1,000 h

Sample Qty. : 10 pcs.



RELIABILITY TEST DATA

HIGH VOLTAGE CERAMIC CAPACITOR

MURATA PN : DEHR33A102K***

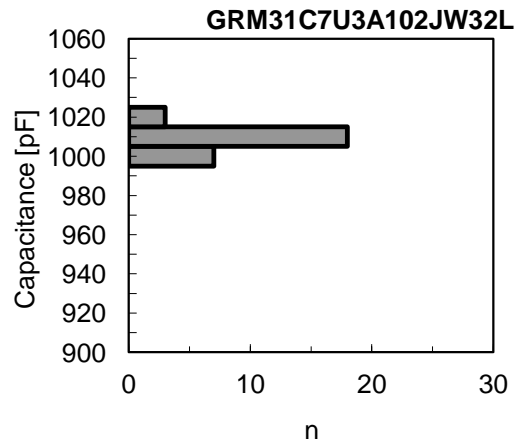
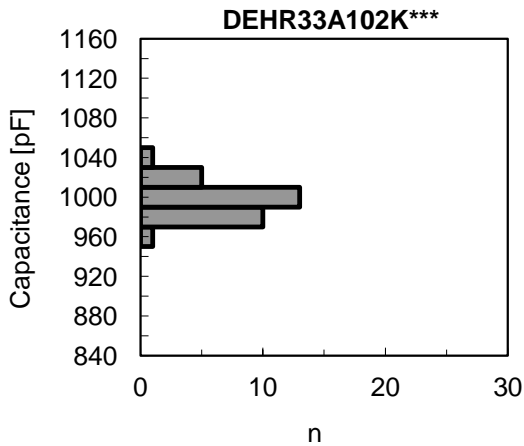
MURATA PN : GRM31C7U3A102JW32L

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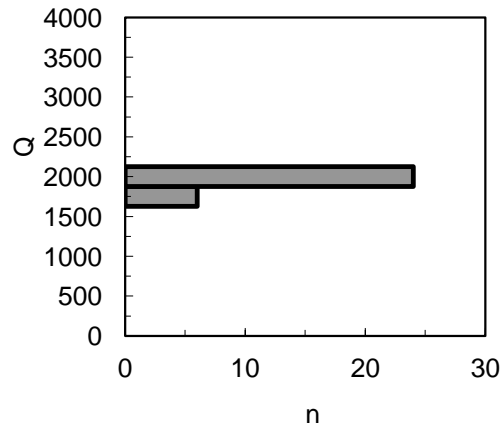
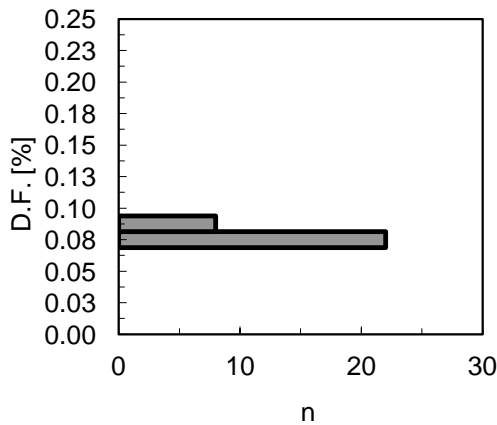
1. INITIAL (Cap., D.F. , Q ,I.R.)

Condition : (Cap., D.F.) 1.0 kHz, 1.0 V(r.m.s.)
 (I.R.) DC 500 V, 60 s
 (Temp.) 20 °C

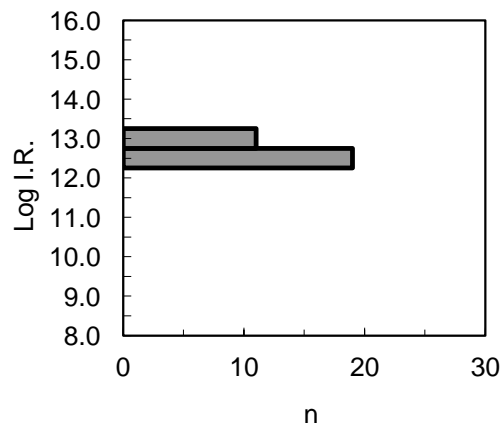
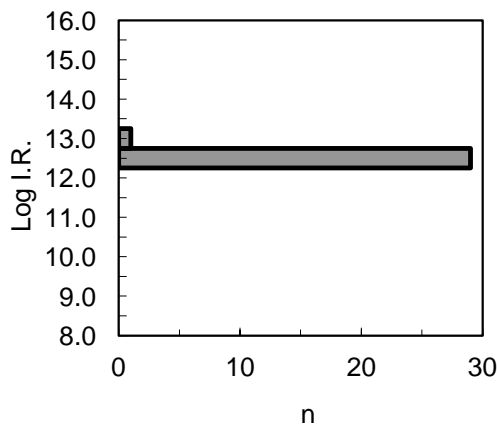
Sample Qty. : 30 pcs.



Spec.
 DEH
 Within
 1000 pF ± 10%
 (900 to 1100 pF)
 GRM
 1000 pF ± 5%
 (950 to 1050 pF)



Spec.
 DEH
 0.2% max.
 GRM
 1000 min.



Spec.
 10,000 MΩ min.
 (Log I.R. : 10 min.)

Room Condition

Temperature	: between 15 to 35 ° C
Relative humidity	: between 45 to 75 %
Atm. pressure	: between 86 to 106 kPa

2. TEMPERATURE CHARACTERISTIC

Condition : 1.0 kHz, 1.0 V(r.m.s.)

Specification : DEH

+15/-15%(Temp. Range : -25 to 85 °C)

+15/-30%(Temp. Range : 85 to 125 °C)

(Reference Temp. : 20 °C)

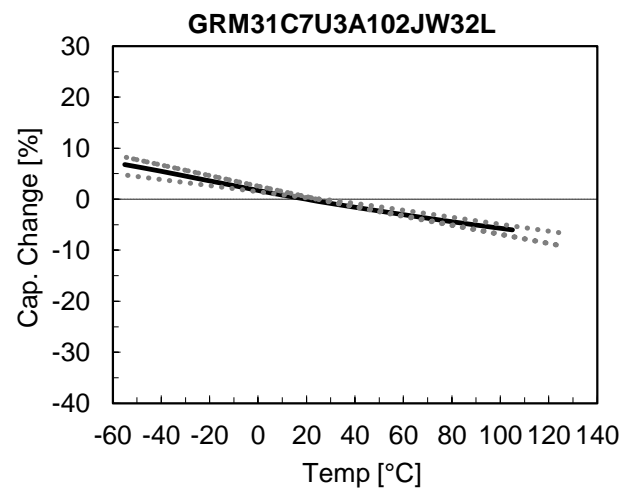
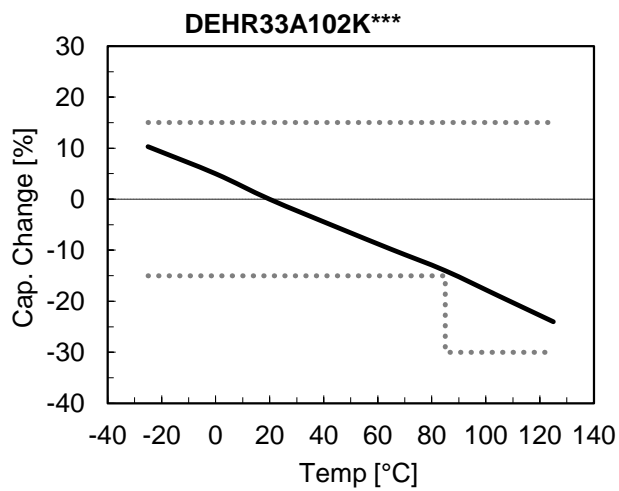
GRM

750 ± 120ppm/°C (Temp. Range : 25 to 125 °C)

-750+120,-347ppm/°C (Temp. Range : -55 to 25 °C)

Reference Temp. : 25 °C

Sample Qty. : 5 pcs.

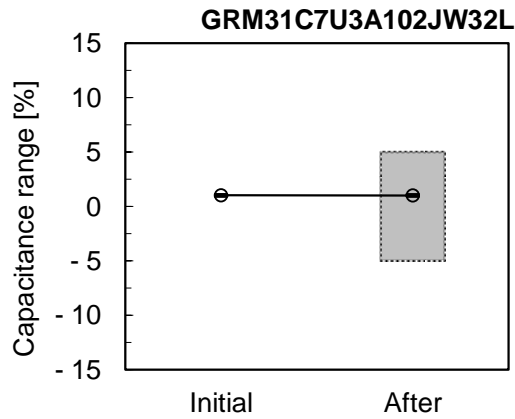
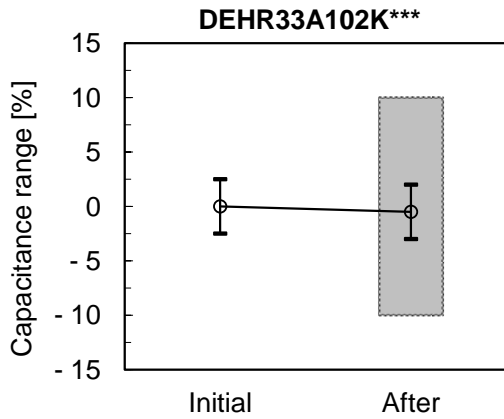


3.VIBRATION RESISTANCE

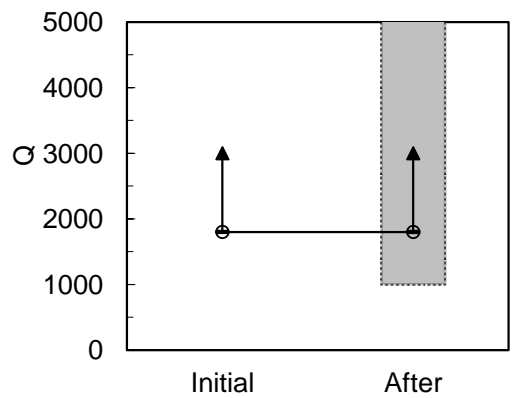
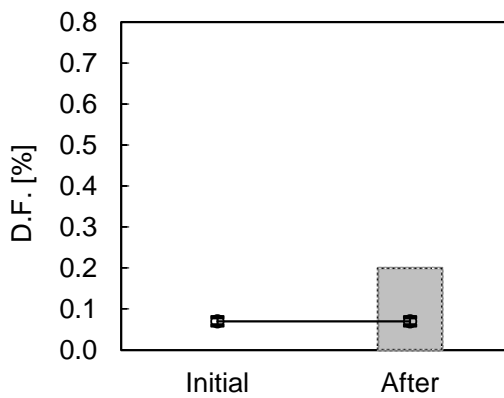
Condition : Solder the capacitor to the supporting board.
 Amplitude ... 1.5 mm
 Frequency ... 10 to 55 to 10Hz : 1 min

2 h in each 3 mutually perpendicular directions.
 (Total of 6 h)

Sample Qty. : 10 pcs.



Spec.
 DEH
 Within
 Nom. Cap. $\pm 10\%$
 GRM
 Nom. Cap. $\pm 5\%$



Spec.
 DEH
 0.2 % max.
 GRM
 1000 min.

4.SOLDERABILITY

Condition : Immerse the capacitor in ethanol(JIS-K-8101) and rosin(JIS-K-5902) (25% rosin in weight proportion) solution. And then, immerse in eutectic solder solution (Sn-3.0Ag-0.5Cu : 245°C ,H60A : 235°C) for 2s.

Specification : DEH

Lead wires shall be soldered with uniformly coated on the axial direction over 75% of the circumferential direction.

GRM

Solder covers more than 75% area of the external electrode, evenly and continuously.

Sample Qty. : 10 pcs.

Result :

No.	DEHR33A102K***	GRM31C7U3A102JW32L
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

5. RESISTANCE to SOLDERING HEAT

Condition : DEH

Solder temp. ... 350 °C

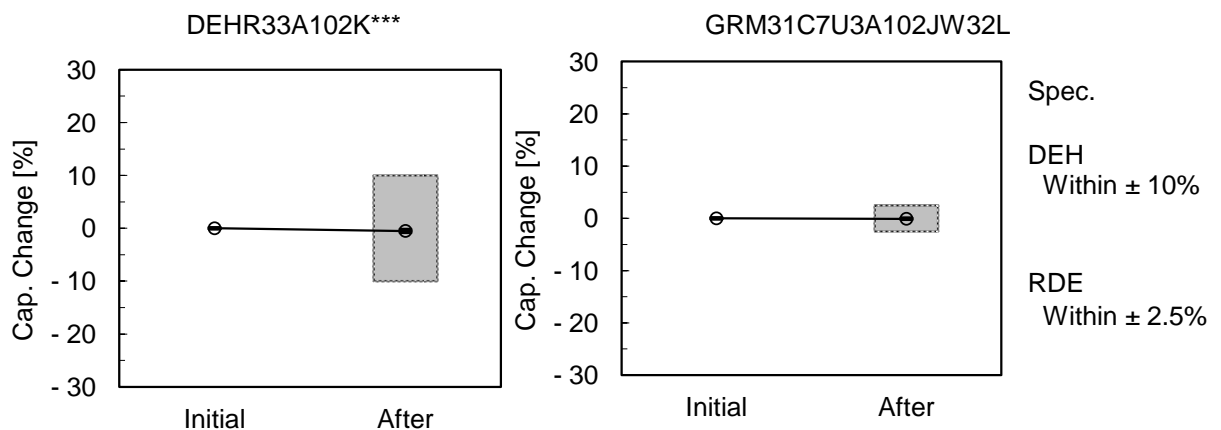
Immersion time ... 3.5 s

GRM

Solder temp. ... 260 °C

Immersion time ... 10 s

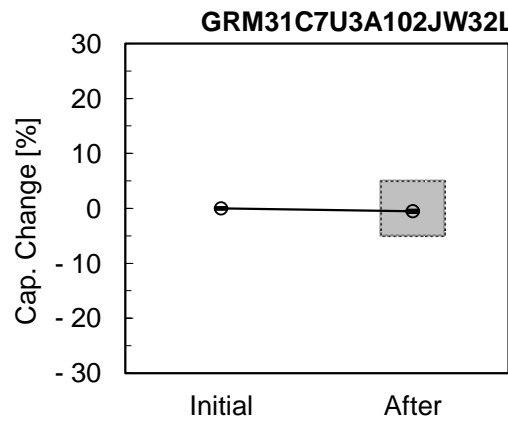
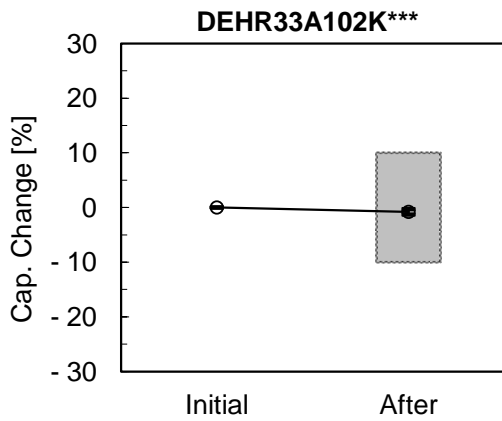
Sample Qty. : 10 pcs.



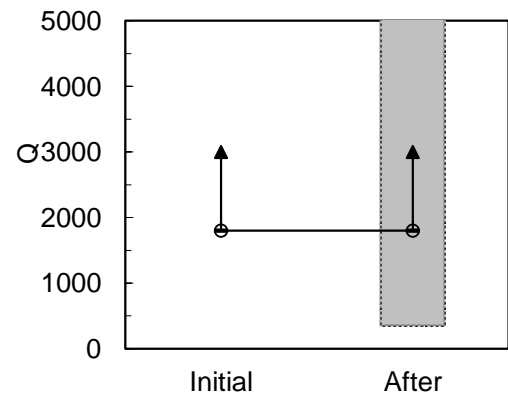
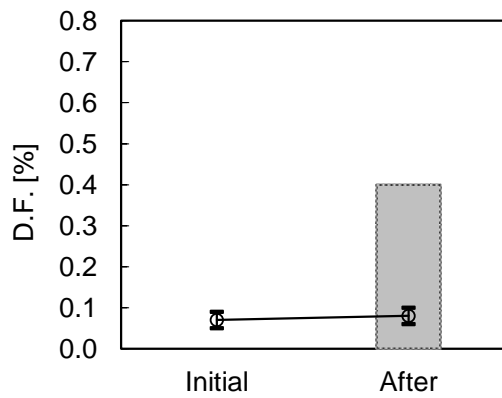
6. HUMIDITY (UNDER STEADY STATE)

Condition : Temperature ... 40 °C
 Relative humidity ... 95 %
 Duration ... 500 h

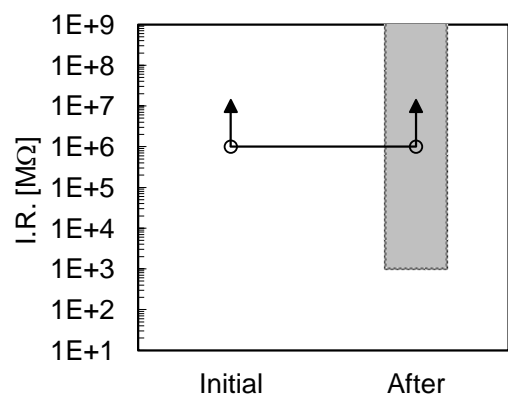
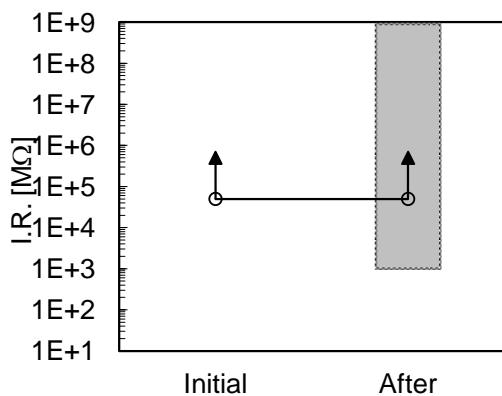
Sample Qty. : 10 pcs.



Spec.
 DEH
 Within ± 10%
 GRM
 Within ± 5%



Spec.
 DEH
 0.4 % max.
 GRM
 350 max.

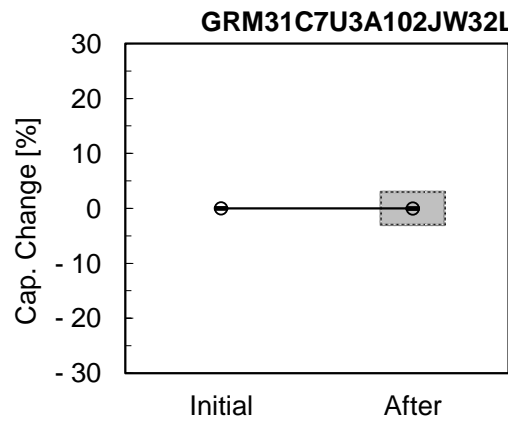
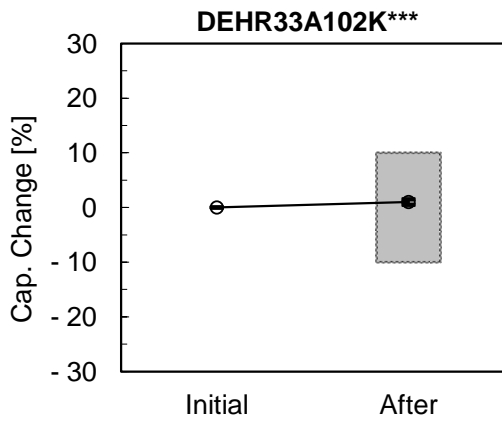


Spec.
 1,000 MΩ min.

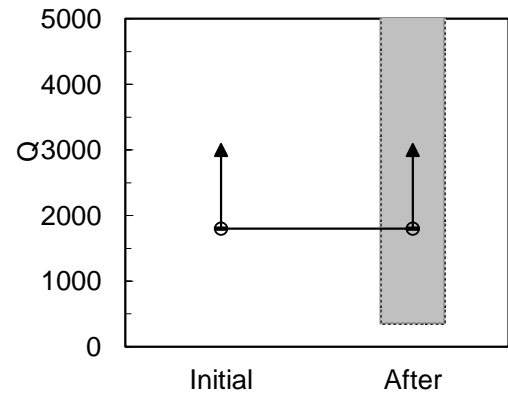
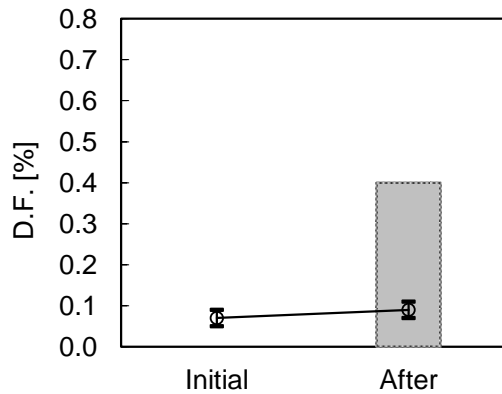
7.LIFE(HIGH TEMPERATURE LOADING)

Condition : Temperature ... 125 °C
 Voltage ... Rated Voltage × 150 % (RDE:120%)
 Duration ... 1,000 h

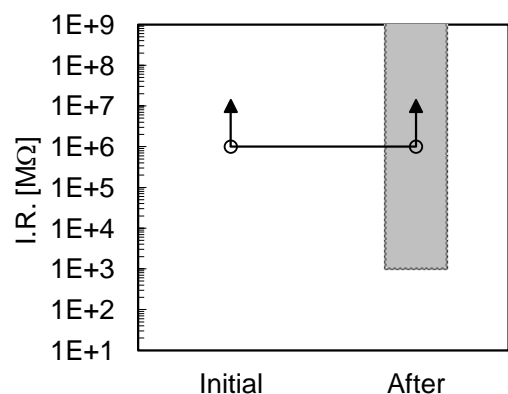
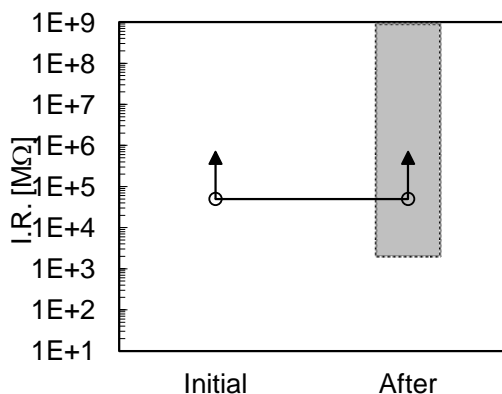
Sample Qty. : 10 pcs.



Spec.
 DEH
 Within ± 10%
 GRM
 Within ± 3%



Spec.
 DEH
 0.4 % max.
 GRM
 350 max.



Spec.
 DEH
 2000 MΩ min.
 GRM
 1,000 MΩ min.

RELIABILITY TEST DATA

HIGH VOLTAGE CERAMIC CAPACITOR

MURATA PN : DESD33A102K***

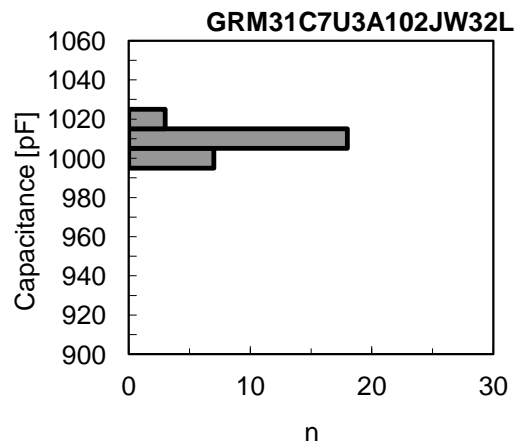
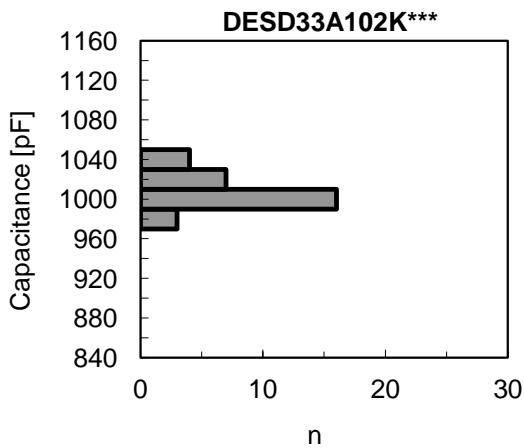
MURATA PN : GRM31C7U3A102JW32L

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2. TEMPERATURE CHARACTERISTIC	... 2
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5. RESISTANCE to SOLDERING HEAT	... 4
6. HUMIDITY (UNDER STEADY STATE)	... 5
7. LIFE (HIGH TEMPERATURE LOADING)	... 6

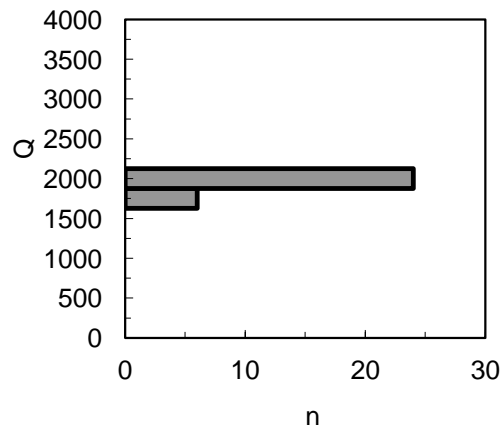
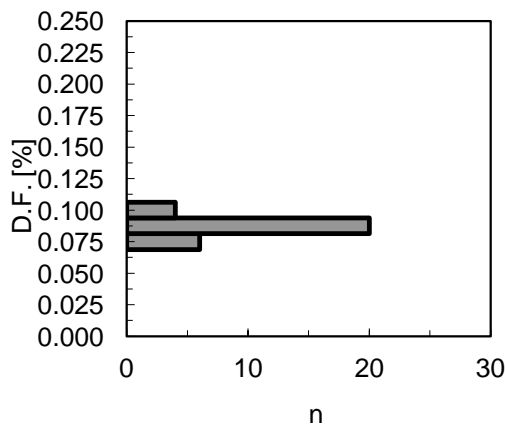
1. INITIAL (Cap., D.F. , Q ,I.R.)

Condition : (Cap., D.F.) 1.0 kHz, 1.0 V(r.m.s.)
 (I.R.) DC 500 V, 60 s
 (Temp.) 20 °C

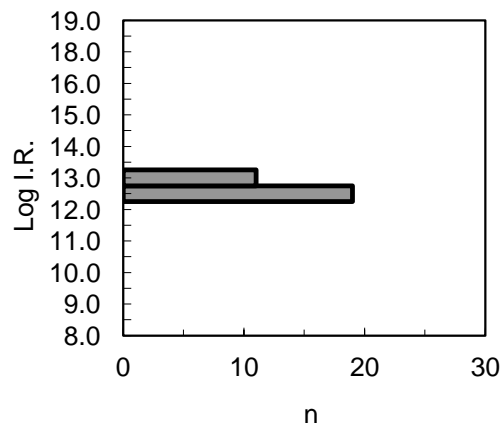
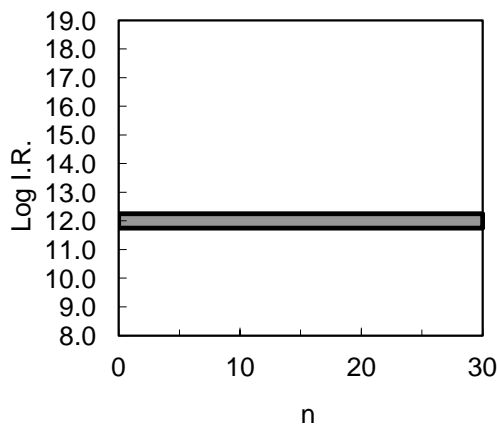
Sample Qty. : 30 pcs.



Spec.
 DES
 Within
 1000 pF ± 10%
 (900 to 1100 pF)
 GRM
 1000 pF +5/-5%
 (950 to 1050 pF)



Spec.
 DES
 0.3% max.
 GRM
 1000 min.



Spec.
 10,000 MΩ min.
 (Log I.R. : 10 min.)

Room Condition

Temperature	: between 15 to 35 ° C
Relative humidity	: between 45 to 75 %
Atm. pressure	: between 86 to 106 kPa

2. TEMPERATURE CHARACTERISTIC

Condition : 1.0 kHz, 1.0 V(r.m.s.)

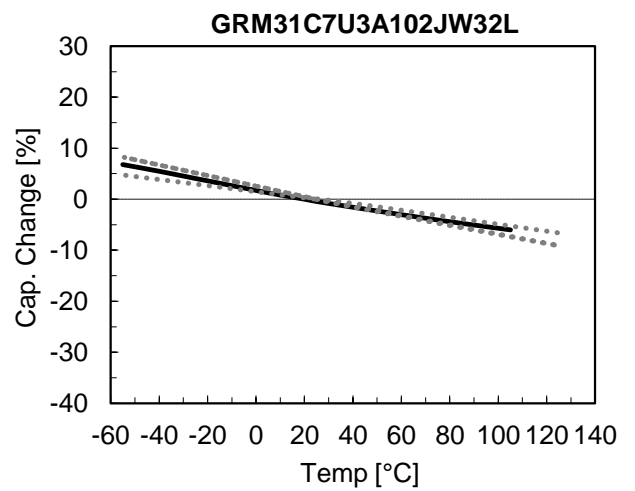
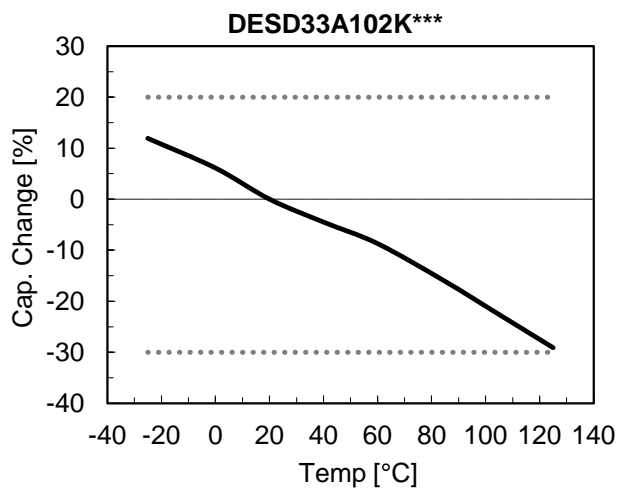
Specification : DES

+20/-30%(Temp. Range : -25 to 125 °C)
(Reference Temp. : 20 °C)

GRM

750 ± 120ppm/°C (Temp. Range : 25 to 125 °C)
-750+120,-347ppm/°C (Temp. Range : -55 to 25 °C)
Reference Temp. : 25 °C

Sample Qty. : 5 pcs.

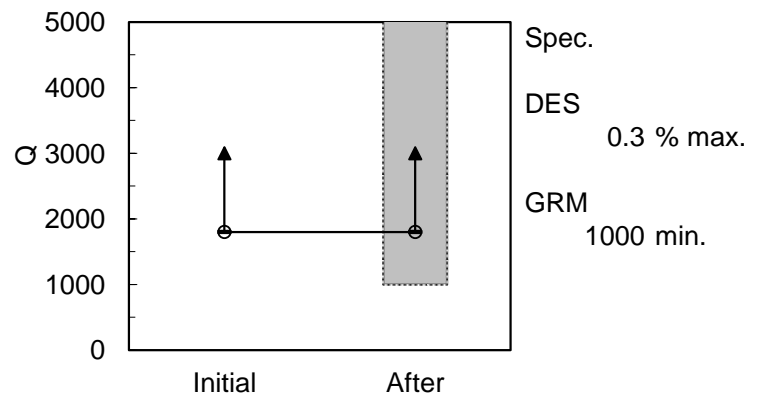
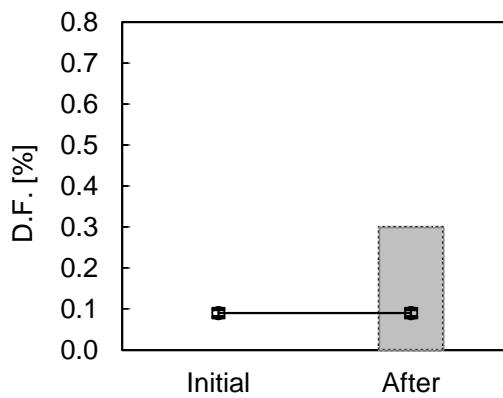
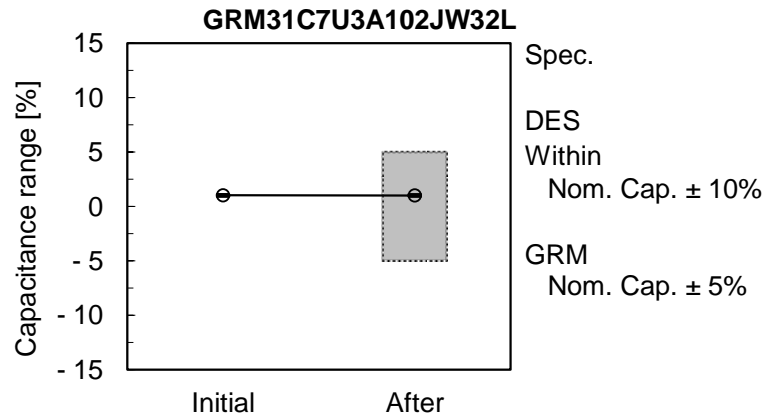
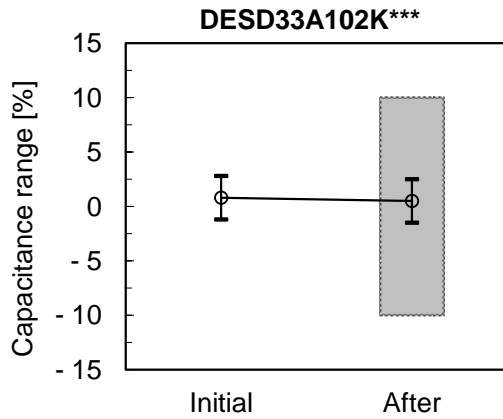


3.VIBRATION RESISTANCE

Condition : Solder the capacitor to the supporting board.
 Amplitude ... 1.5 mm
 Frequency ... 10 to 55 to 10Hz : 1 min

2 h in each 3 mutually perpendicular directions.
 (Total of 6 h)

Sample Qty. : 10 pcs.



4.SOLDERABILITY

Condition : Immerse the capacitor in ethanol(JIS-K-8101) and rosin(JIS-K-5902) (25% rosin in weight proportion) solution. And then, immerse in eutectic solder solution (Sn-3.0Ag-0.5Cu : 245°C ,H60A : 235°C) for 2s.

Specification : DES

Lead wires shall be soldered with uniformly coated on the axial direction over 75% of the circumferential direction.

GRM

Solder covers more than 75% area of the external electrode, evenly and continuously.

Sample Qty. : 10 pcs.

Result :

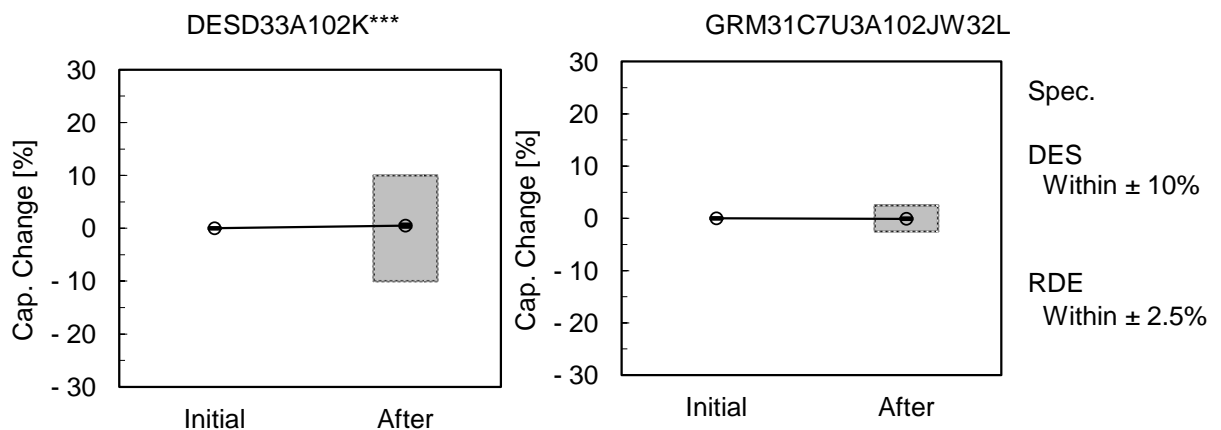
No.	DESD33A102K***	GRM31C7U3A102JW32L
1	OK	OK
2	OK	OK
3	OK	OK
4	OK	OK
5	OK	OK
6	OK	OK
7	OK	OK
8	OK	OK
9	OK	OK
10	OK	OK

5. RESISTANCE to SOLDERING HEAT

Condition : DES
Solder temp. ... 350 °C
Immersion time ... 3.5 s

GRM
Solder temp. ... 260 °C
Immersion time ... 10 s

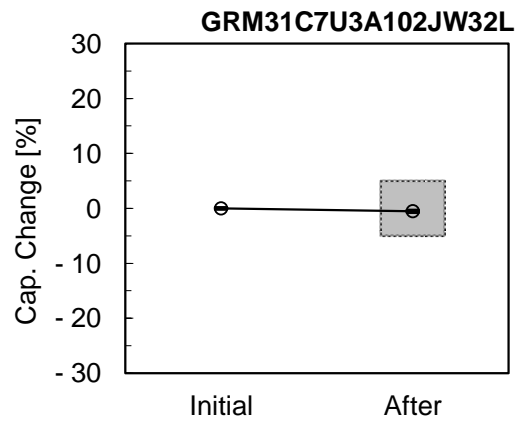
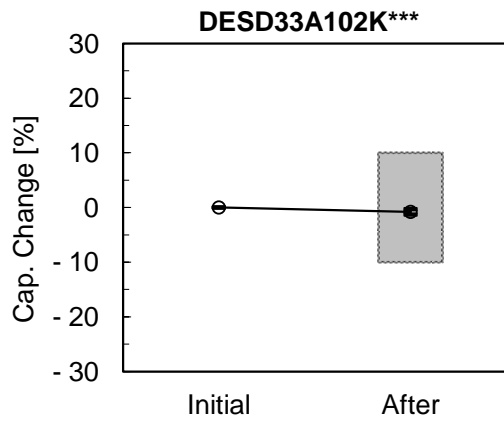
Sample Qty. : 10 pcs.



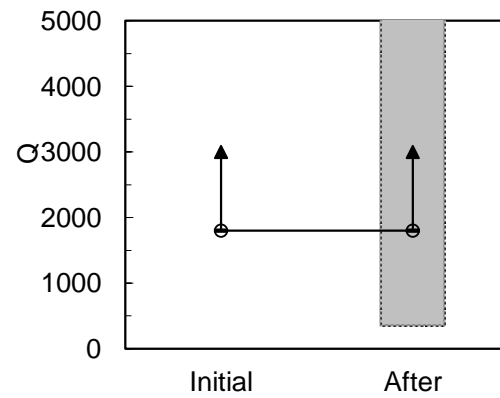
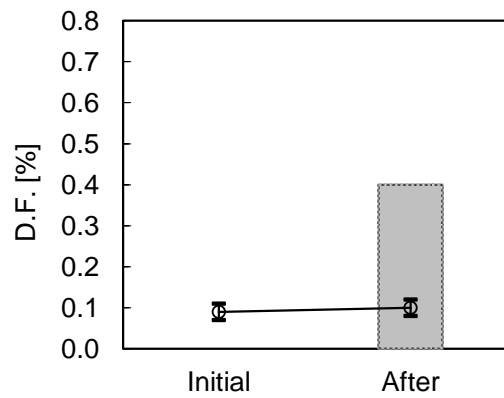
6. HUMIDITY (UNDER STEADY STATE)

Condition : Temperature ... 40 °C
 Relative humidity ... 95 %
 Duration ... 500 h

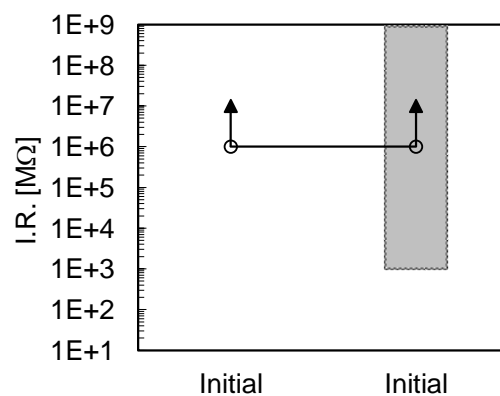
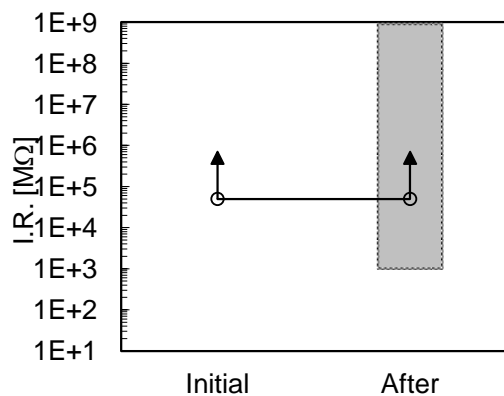
Sample Qty. : 10 pcs.



Spec.
 DES
 Within ± 10%
 GRM
 Within ± 5%



Spec.
 DES
 0.4 % max.
 GRM
 350 max.

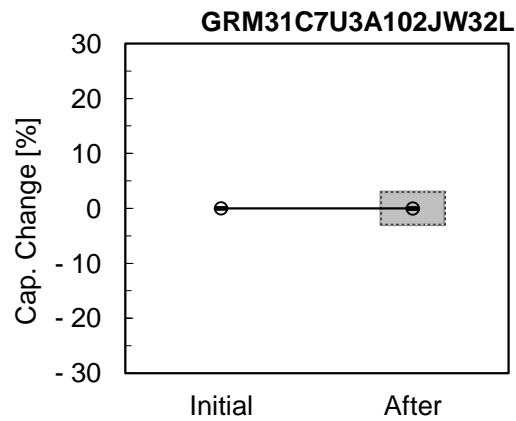
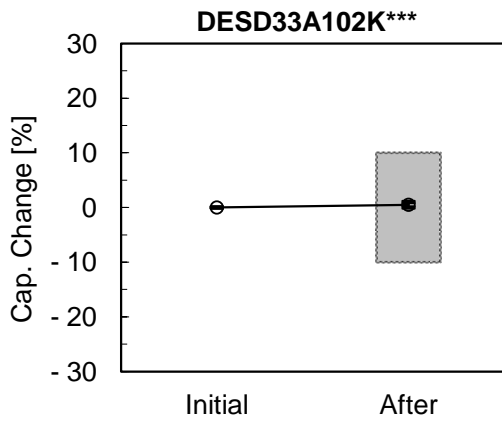


Spec.
 1,000 MΩ min.

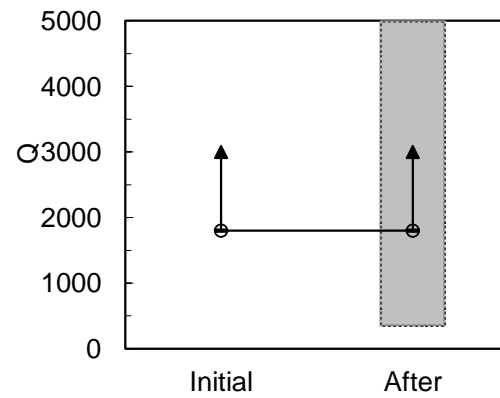
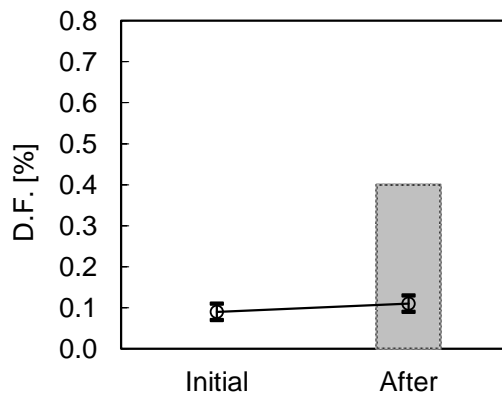
7.LIFE(HIGH TEMPERATURE LOADING)

Condition : Temperature ... 125 °C
 Voltage ... Rated Voltage × 150 % (GRM:120%)
 Duration ... 1,000 h

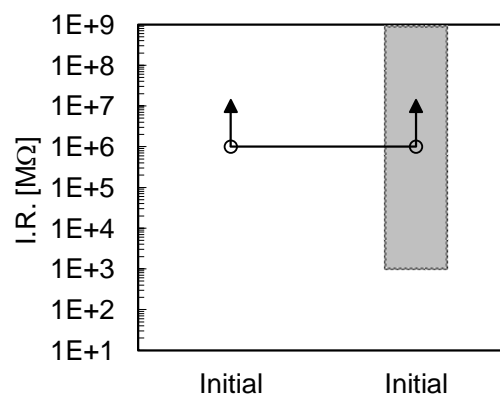
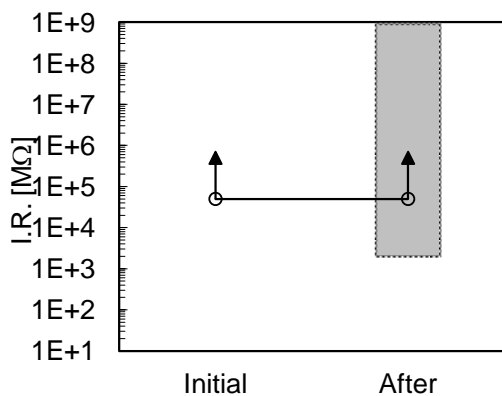
Sample Qty. : 10 pcs.



Spec.
 DES
 Within ± 10%
 GRM
 Within ± 3%



Spec.
 DES
 0.4 % max.
 GRM
 350 max.



Spec.
 DES
 2,000 MΩ min.
 GRM
 1,000 MΩ min.