



Type SA
Safety Standard Certified Lead Type Disc Ceramic Capacitors for General Purpose

Product specifications in this catalog are as of Dec. 2017, and are subject to change or obsolescence without notice.

Please consult the approval sheet before ordering. Please read rating and Cautions first.

⚠ CAUTION

1. OPERATING VOLTAGE

When DC-rated capacitors are to be used in AC or ripple current circuits, be sure to maintain the Vp-p value of the applied voltage or the Vo-p which contains DC bias within the rated voltage range. When the voltage is started to apply to the circuit or it is stopped applying, the irregular voltage may be generated for a transit period because of resonance or switching. Be sure to use a capacitor within rated voltage containing these irregular voltage.

Voltage	DC Voltage	DC+AC Voltage	AC Voltage	Pulse Voltage(1)	Pulse Voltage(2)
Positional Measurement	Vo-p	Vo-p	Vp-p	Vp-p	Vp-p

2. OPERATING TEMPERATURE AND SELF-GENERATED HEAT

Keep the surface temperature of a capacitor below the upper limit of its rated operating temperature range. Be sure to take into account the heat generated by the capacitor itself.

When the capacitor is used in a high-frequency current, pulse current or the like, it may have the self-generated heat due to dielectric-loss. Applied voltage should be the load such as self-generated heat is within 20 °C on the condition of atmosphere temperature 25 °C. When measuring, use a thermocouple of small thermal capacity-K of ϕ 0.1mm and be in the condition where capacitor is not affected by radiant heat of other components and wind of surroundings. Excessive heat may lead to deterioration of the capacitor's characteristics and reliability.(Never attempt to perform measurement with the cooling fan running. Otherwise, accurate measurement cannot be ensured.)

3. TEST CONDITION FOR WITHSTANDING VOLTAGE

(1) TEST EQUIPMENT

Test equipment for AC withstanding voltage should be used with the performance of the wave similar to 50/60 Hz sine wave.

If the distorted sine wave or over load exceeding the specified voltage value is applied, the defective may be caused.

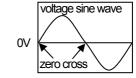
(2) VOLTAGE APPLIED METHOD

When the withstanding voltage is applied, capacitor's lead or terminal should be firmly connected to the out-put of the withstanding voltage test equipment, and then the voltage should be raised from near zero to the test voltage.

If the test voltage without the raise from near zero voltage would be applied directly to capacitor, test voltage should be applied with the *zero cross. At the end of the test time, the test voltage should be reduced to near zero, and then capacitor's lead or terminal should be taken off the out-put of the withstanding voltage test equipment.

If the test voltage without the raise from near zero voltage would be applied directly to capacitor, the surge voltage may arise, and therefore, the defective may be caused.

*ZERO CROSS is the point where voltage sine wave pass 0V. - See the right figure -



4. FAIL-SAFE

When capacitor would be broken, failure may result in a short circuit. Be sure to provide an appropriate fail-safe function like a fuse on your product if failure would follow an electric shock, fire or fume.

5. VIBRATION AND IMPACT

Do not expose a capacitor or its leads to excessive shock or vibration during use.

6. SOLDERING

When soldering this product to a PCB/PWB, do not exceed the solder heat resistance specification of the capacitor. Subjecting this product to excessive heating could melt the internal junction solder and may result in thermal shocks that can crack the ceramic element.

When soldering capacitor with a soldering iron, it should be performed in following conditions.

Temperature of iron-tip: 400 °C max. Soldering iron wattage: 50W max. Soldering time: 3.5s max.

7. BONDING, RESIN MOLDING AND COATING

In case of bonding, molding or coating this product, verify that these processes do not affect the quality of capacitor by testing the performance of the bonded, molded or coated product in the intended equipment.

In case of the amount of applications, dryness / hardening conditions of adhesives and molding resins containing organic solvents (ethyl acetate, methyl ethyl ketone, toluene, etc.) are unsuitable, the outer coating resin of a capacitor is damaged by the organic solvents and it may result, worst case, in a short circuit.

The variation in thickness of adhesive, molding resin or coating may cause a outer coating resin cracking and/or ceramic element cracking of a capacitor in a temperature cycling.

8. TREATMENT AFTER BONDING, RESIN MOLDING AND COATING

When the outer coating is hot (over 100 $^{\circ}$ C) after soldering, it becomes soft and fragile. So please be careful not to give it mechanical stress.

Failure to follow the above cautions may result, worst case, in a short circuit and cause fuming or partial dispersion when the product is used.

9. OPERATING AND STORAGE ENVIRONMENT

The insulating coating of capacitors does not form a perfect seal; therefore, do not use or store capacitors in a corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. And avoid exposure to moisture. Before cleaning, bonding, or molding this product, verify that these processes do not affect product quality by testing the performance of a cleaned, bonded or molded product in the intended equipment. Store the capacitors where the temperature and relative humidity do not exceed -10 to 40 °C and 15 to 85%.

Use capacitors within 6 months after delivered. Check the solderability after 6 months or more.

10. LIMITATION OF APPLICATIONS

Please contact us before using our products for the applications listed below which require especially high reliability for the prevention of defects which might directly cause damage to the third party's life, body or property.

- 1. Aircraft equipment
- 2. Aerospace equipment
- 3. Undersea equipment
- 4. Power plant control equipment
- 5. Medical equipment
- 6. Transportation equipment (vehicles, trains, ships, etc.)
- 7. Traffic signal equipment
- 8. Disaster prevention / crime prevention equipment
- 9. Data-processing equipment exerting influence on public
- 10. Application of similar complexity and/or reliability requirements to the applications listed in the above.

NOTICE

1. CLEANING (ULTRASONIC CLEANING)

To perform ultrasonic cleaning, observe the following conditions.

Rinse bath capacity: Output of 20 watts per liter or less.

Rinsing time: 5 min maximum.

Do not vibrate the PCB/PWB directly.

Excessive ultrasonic cleaning may lead to fatigue destruction of the lead wires.

2. CAPACITANCE CHANGE OF CAPACITORS

· Class 1 capacitors

Capacitance might change a little depending on a surrounding temperature or an applied voltage. Please contact us if you use for the strict time constant circuit.

· Class 2 and 3 capacitors

Class 2 and 3 capacitors like temperature characteristic B, E and F have an aging characteristic, whereby the capacitor continually decreases its capacitance slightly if the capacitor leaves for a long time. Moreover, capacitance might change greatly depending on a surrounding temperature or an applied voltage. So, it is not likely to be able to use for the time constant circuit.

Please contact us if you need a detail information.

3. PERFORMANCE CHECK BY EQUIPMENT

Before using a capacitor, check that there is no problem in the equipment's performance and the specifications.

Generally speaking, CLASS 2 ceramic capacitors have voltage dependence characteristics and temperature dependence characteristics in capacitance. So, the capacitance value may change depending on the operating condition in a equipment. Therefore, be sure to confirm the apparatus performance of receiving influence in a capacitance value change of a capacitor, such as leakage current and noise suppression characteristic.

Moreover, check the surge-proof ability of a capacitor in the equipment, if needed, because the surge voltage may exceed specific value by the inductance of the circuit.

\triangle NOTE

- 1.Please make sure that your product has been evaluated in view of your specifications with our product being mounted to your product.
- 2. You are requested not to use our product deviating from this specification.

EGD08E

1. Application

This specification is applied to Safety Standard Certified Lead Type Disc Ceramic Capacitors Type SA used for General Electric equipment.

Type SA is Safety Standard Certified disc ceramic capacitor of Class X1,Y2.

Do not use these products in any automotive power train or safety equipment including battery chargers for electric vehicles and plug-in hybrids.

Approval standard and certified number

	Standard number	*Certified number	AC Rated volt. V(r.m.s.)
UL	UL60384-14	E37921	
ENEC	EN60294 14	40042000	V4.200
(VDE)	EN60384-14	40042990	X1:300 Y2:250
CQC	IEC60384-14	CQC15001137840	. =:200
KTC	KC60384-14	HU03008-17009	

^{*}Above Certified number may be changed on account of the revision of standards and the renewal of certification.

2. Rating

2-1. Operating temperature range $-40 \sim +125$ °C

2-2. Rated Voltage X1:AC300V(r.m.s.) Y2:AC250V(r.m.s.)

2-3. Part number configuration

ex.) DE2 B3 SA 471 K A3 B T02F
Product Temperature Capacitance Capacitance Capacitance tolerance code style code specification

Product code

DE2 denotes class X1,Y2.

•Temperature characteristic

Code	Temperature characteristic
1X	SL
B3	В
E3	E

Please confirm detailed specification on [Specification and test methods].

• Type name

This denotes safety certified type name Type SA.

• Capacitance

The first two digits denote significant figures; the last digit denotes the multiplier of 10 in pF. ex.) In case of 471.

$$47 \times 10^1 = 470 pF$$

• Capacitance tolerance

Please refer to [Part number list].

• Lead code

Code	Lead style
A*	Vertical crimp long type
J*	Vertical crimp short type
N*	Vertical crimp taping type

^{*} Please refer to [Part number list].

• Packing style code

Code	Packing type
В	Bulk type
Α	Ammo pack taping type

• Individual specification

In case part number cannot be identified without 'individual specification', it is added at the end of part number.

Code	S	pecification
T01F	Dielectric strength between lead wires: AC2000V(r.m.s.)	 Rated voltage : X1:AC300V(r.m.s.) Y2:AC250V(r.m.s.) Halogen Free
T02F	Dielectric strength between lead wires: AC2600V(r.m.s.)	(Br ≤ 900ppm, Cl ≤ 900ppm) Br + Cl ≤ 1500ppm → CP wire

Note) Murata part numbers might be changed depending on lead code or any other changes. Therefore, please specify only the type name(SA) and capacitance of products in the parts list when it is required for applying safety standard of electric equipment.

3. Marking

Type name : SA

Nominal capacitance : Actual value(under 100pF)
3 digit system(100pF and over)

Capacitance tolerance : Code
Class code and Rated voltage mark : X1 300~
Y2 250~

Manufacturing year : Letter code(The last digit of A.D. year.)

Manufacturing month : Code

Feb./Mar. \rightarrow 2 Aug./Sep. \rightarrow 8 Apr./May. \rightarrow 4 Oct./Nov. \rightarrow O Jun./Jul. \rightarrow 6 Dec./Jan. \rightarrow D

Company name code : (Made in Thailand)

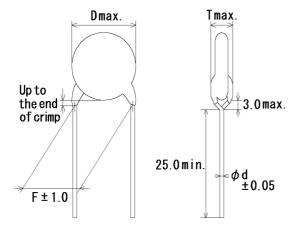
(Example)

SA 471K X1 300~ Y2 250~ 5D (M15

ETSA02A

4. Part number list

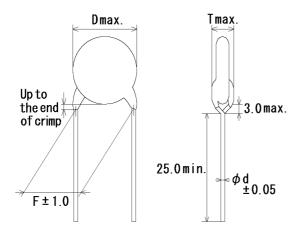
·Vertical crimp long type
(Lead code:A*)



Note) The mark '*' of lead code differ from lead spacing(F) and lead diameter(d).
Please see the following list about details.

	1								OTHE.	
T.C.	Сар.	Cap.	Customer Part Number	Murata Part Number	Dir	nensi	on (m	m)	Lead	Pack
1.0.	(pF)	tol.	Gustomer Fait Number	Murata r art Number	D	Т	F	d	code	qty. (pcs)
SL	10	±10%		DE21XSA100KA2BT01F	7.0	4.0	5.0	0.6	A2	500
SL	15	±10%		DE21XSA150KA2BT01F	6.0	5.0	5.0	0.6	A2	500
SL	22	±10%		DE21XSA220KA2BT01F	6.0	4.0	5.0	0.6	A2	500
SL	33	±10%		DE21XSA330KA2BT01F	7.0	4.0	5.0	0.6	A2	500
SL	47	±10%		DE21XSA470KA2BT01F	7.0	4.0	5.0	0.6	A2	500
SL	68	±10%		DE21XSA680KA2BT01F	8.0	4.0	5.0	0.6	A2	250
В	100	±10%		DE2B3SA101KA2BT01F	6.0	4.0	5.0	0.6	A2	500
В	150	±10%		DE2B3SA151KA2BT01F	6.0	4.0	5.0	0.6	A2	500
В	220	±10%		DE2B3SA221KA2BT01F	6.0	5.0	5.0	0.6	A2	500
В	330	±10%		DE2B3SA331KA2BT01F	6.0	4.0	5.0	0.6	A2	500
В	470	±10%		DE2B3SA471KA2BT01F	7.0	4.0	5.0	0.6	A2	500
В	680	±10%		DE2B3SA681KA2BT01F	7.0	4.0	5.0	0.6	A2	500
Е	1000	±20%		DE2E3SA102MA2BT01F	6.0	4.0	5.0	0.6	A2	500
Е	1500	±20%		DE2E3SA152MA2BT01F	7.0	4.0	5.0	0.6	A2	500
Е	2200	±20%		DE2E3SA222MA2BT01F	8.0	4.0	5.0	0.6	A2	250
Е	3300	±20%		DE2E3SA332MA2BT01F	9.0	4.0	5.0	0.6	A2	250
Е	4700	±20%		DE2E3SA472MA2BT01F	10.0	5.0	5.0	0.6	A2	250

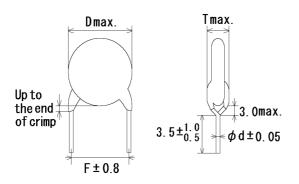
·Vertical crimp long type (Lead code:A*)



Note) The mark '*' of lead code differ from lead spacing(F) and lead diameter(d).
Please see the following list about details.

	Office.										
T.C.	Сар.	Сар.	p. Customer Part Number	Murata Part Number	Dir	nensi	Lead	Pack qty.			
1.0.	(pF)	tol.	Customer Fait Number	Murata r art Number	D	Т	F	d	code	(pcs)	
SL	10	$\pm 10\%$		DE21XSA100KA3BT02F	7.0	4.0	7.5	0.6	A3	250	
SL	15	$\pm 10\%$		DE21XSA150KA3BT02F	6.0	5.0	7.5	0.6	А3	500	
SL	22	±10%		DE21XSA220KA3BT02F	6.0	4.0	7.5	0.6	А3	500	
SL	33	±10%		DE21XSA330KA3BT02F	7.0	4.0	7.5	0.6	А3	250	
SL	47	±10%		DE21XSA470KA3BT02F	7.0	4.0	7.5	0.6	A3	250	
SL	68	±10%		DE21XSA680KA3BT02F	8.0	4.0	7.5	0.6	A3	250	
В	100	±10%		DE2B3SA101KA3BT02F	6.0	4.0	7.5	0.6	A3	500	
В	150	$\pm 10\%$		DE2B3SA151KA3BT02F	6.0	4.0	7.5	0.6	A3	500	
В	220	±10%		DE2B3SA221KA3BT02F	6.0	5.0	7.5	0.6	A3	500	
В	330	$\pm 10\%$		DE2B3SA331KA3BT02F	6.0	4.0	7.5	0.6	А3	500	
В	470	$\pm 10\%$		DE2B3SA471KA3BT02F	7.0	4.0	7.5	0.6	А3	250	
В	680	$\pm 10\%$		DE2B3SA681KA3BT02F	7.0	4.0	7.5	0.6	А3	250	
Е	1000	$\pm 20\%$		DE2E3SA102MA3BT02F	6.0	4.0	7.5	0.6	А3	500	
Е	1500	$\pm 20\%$		DE2E3SA152MA3BT02F	7.0	4.0	7.5	0.6	А3	250	
Е	2200	$\pm 20\%$		DE2E3SA222MA3BT02F	8.0	4.0	7.5	0.6	А3	250	
Е	3300	±20%		DE2E3SA332MA3BT02F	9.0	4.0	7.5	0.6	А3	250	
Е	4700	±20%		DE2E3SA472MA3BT02F	10.0	5.0	7.5	0.6	А3	250	
Е	10000	±20%		DE2E3SA103MA3BT02F	15.0	5.0	7.5	0.6	A3	100	

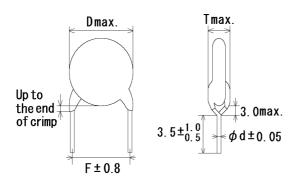
Vertical crimp short type (Lead code: J*)



Note) The mark '*' of lead code differ from lead spacing(F) and lead diameter(d).
Please see the following list about details.

									Unit :	mm
Τ.Ο	Cap.	Cap.	Overtown on Deat November	Museta Dart Nusshan	Din	nensi	on (mi	m)	Lead	Pack
T.C.	(pF)	toİ.	Customer Part Number	Murata Part Number	D	Т	F	d	code	qty. (pcs)
SL	10	±10%		DE21XSA100KJ2BT01F	7.0	4.0	5.0	0.6	J2	500
SL	15	±10%		DE21XSA150KJ2BT01F	6.0	5.0	5.0	0.6	J2	500
SL	22	$\pm 10\%$		DE21XSA220KJ2BT01F	6.0	4.0	5.0	0.6	J2	500
SL	33	$\pm 10\%$		DE21XSA330KJ2BT01F	7.0	4.0	5.0	0.6	J2	500
SL	47	$\pm 10\%$		DE21XSA470KJ2BT01F	7.0	4.0	5.0	0.6	J2	500
SL	68	$\pm 10\%$		DE21XSA680KJ2BT01F	8.0	4.0	5.0	0.6	J2	500
В	100	$\pm 10\%$		DE2B3SA101KJ2BT01F	6.0	4.0	5.0	0.6	J2	500
В	150	$\pm 10\%$		DE2B3SA151KJ2BT01F	6.0	4.0	5.0	0.6	J2	500
В	220	$\pm 10\%$		DE2B3SA221KJ2BT01F	6.0	5.0	5.0	0.6	J2	500
В	330	$\pm 10\%$		DE2B3SA331KJ2BT01F	6.0	4.0	5.0	0.6	J2	500
В	470	$\pm 10\%$		DE2B3SA471KJ2BT01F	7.0	4.0	5.0	0.6	J2	500
В	680	$\pm 10\%$		DE2B3SA681KJ2BT01F	7.0	4.0	5.0	0.6	J2	500
Е	1000	$\pm 20\%$		DE2E3SA102MJ2BT01F	6.0	4.0	5.0	0.6	J2	500
Е	1500	$\pm 20\%$		DE2E3SA152MJ2BT01F	7.0	4.0	5.0	0.6	J2	500
Е	2200	±20%		DE2E3SA222MJ2BT01F	8.0	4.0	5.0	0.6	J2	500
Е	3300	±20%		DE2E3SA332MJ2BT01F	9.0	4.0	5.0	0.6	J2	500
Е	4700	±20%		DE2E3SA472MJ2BT01F	10.0	5.0	5.0	0.6	J2	500

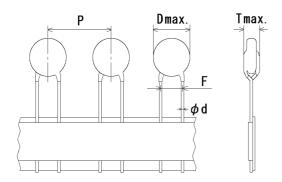
·Vertical crimp short type
(Lead code:J*)



Note) The mark '*' of lead code differ from lead spacing(F) and lead diameter(d).
Please see the following list about details.

	Offit: I										
T.C.	Сар.	Сар.	· I Cusiomer Part Number I	Murata Part Number	Dir	nensi	Lead	Pack qty.			
1.0.	(pF)	tol.	Odstomer Fart Number	Warata Fart Namber	D	Т	F	d	code	(pcs)	
SL	10	$\pm 10\%$		DE21XSA100KJ3BT02F	7.0	4.0	7.5	0.6	J3	500	
SL	15	$\pm 10\%$		DE21XSA150KJ3BT02F	6.0	5.0	7.5	0.6	J3	500	
SL	22	±10%		DE21XSA220KJ3BT02F	6.0	4.0	7.5	0.6	J3	500	
SL	33	±10%		DE21XSA330KJ3BT02F	7.0	4.0	7.5	0.6	J3	500	
SL	47	±10%		DE21XSA470KJ3BT02F	7.0	4.0	7.5	0.6	J3	500	
SL	68	±10%		DE21XSA680KJ3BT02F	8.0	4.0	7.5	0.6	J3	500	
В	100	±10%		DE2B3SA101KJ3BT02F	6.0	4.0	7.5	0.6	J3	500	
В	150	$\pm 10\%$		DE2B3SA151KJ3BT02F	6.0	4.0	7.5	0.6	J3	500	
В	220	±10%		DE2B3SA221KJ3BT02F	6.0	5.0	7.5	0.6	J3	500	
В	330	$\pm 10\%$		DE2B3SA331KJ3BT02F	6.0	4.0	7.5	0.6	J3	500	
В	470	$\pm 10\%$		DE2B3SA471KJ3BT02F	7.0	4.0	7.5	0.6	J3	500	
В	680	$\pm 10\%$		DE2B3SA681KJ3BT02F	7.0	4.0	7.5	0.6	J3	500	
Е	1000	$\pm 20\%$		DE2E3SA102MJ3BT02F	6.0	4.0	7.5	0.6	J3	500	
Е	1500	$\pm 20\%$		DE2E3SA152MJ3BT02F	7.0	4.0	7.5	0.6	J3	500	
Е	2200	$\pm 20\%$		DE2E3SA222MJ3BT02F	8.0	4.0	7.5	0.6	J3	500	
Е	3300	±20%		DE2E3SA332MJ3BT02F	9.0	4.0	7.5	0.6	J3	500	
Е	4700	±20%		DE2E3SA472MJ3BT02F	10.0	5.0	7.5	0.6	J3	500	
Е	10000	±20%		DE2E3SA103MJ3BT02F	15.0	5.0	7.5	0.6	J3	200	

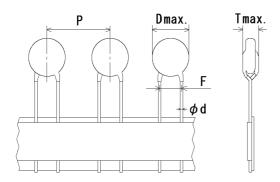
·Vartical crimp taping type (Lead code:N*)



Note) The mark '*' of lead code differ from lead spacing(F), lead diameter(d) and pitch of component(P). Please see the following list or taping specification about details.

	Offit: Hilli											
T.C.	Сар.	Сар.	Customer Part Number	Murata Part Number		Dimer	nsion	(mm)	Lead	Pack	
1.0.	(pF)	tol.	Customer Fait Number	Wurata Fart Number	D	Т	F	d	Р	code	qty. (pcs)	
SL	10	$\pm10\%$		DE21XSA100KN2AT01F	7.0	4.0	5.0	0.6	12.7	N2	1500	
SL	15	±10%		DE21XSA150KN2AT01F	6.0	5.0	5.0	0.6	12.7	N2	1500	
SL	22	±10%		DE21XSA220KN2AT01F	6.0	4.0	5.0	0.6	12.7	N2	1500	
SL	33	±10%		DE21XSA330KN2AT01F	7.0	4.0	5.0	0.6	12.7	N2	1500	
SL	47	±10%		DE21XSA470KN2AT01F	7.0	4.0	5.0	0.6	12.7	N2	1500	
SL	68	±10%		DE21XSA680KN2AT01F	8.0	4.0	5.0	0.6	12.7	N2	1500	
В	100	±10%		DE2B3SA101KN2AT01F	6.0	4.0	5.0	0.6	12.7	N2	1500	
В	150	±10%		DE2B3SA151KN2AT01F	6.0	4.0	5.0	0.6	12.7	N2	1500	
В	220	±10%		DE2B3SA221KN2AT01F	6.0	5.0	5.0	0.6	12.7	N2	1500	
В	330	\pm 10%		DE2B3SA331KN2AT01F	6.0	4.0	5.0	0.6	12.7	N2	1500	
В	470	\pm 10%		DE2B3SA471KN2AT01F	7.0	4.0	5.0	0.6	12.7	N2	1500	
В	680	\pm 10%		DE2B3SA681KN2AT01F	7.0	4.0	5.0	0.6	12.7	N2	1500	
Е	1000	$\pm 20\%$		DE2E3SA102MN2AT01F	6.0	4.0	5.0	0.6	12.7	N2	1500	
Е	1500	$\pm 20\%$		DE2E3SA152MN2AT01F	7.0	4.0	5.0	0.6	12.7	N2	1500	
Е	2200	±20%		DE2E3SA222MN2AT01F	8.0	4.0	5.0	0.6	12.7	N2	1500	
Е	3300	±20%		DE2E3SA332MN2AT01F	9.0	4.0	5.0	0.6	12.7	N2	1000	
Е	4700	±20%		DE2E3SA472MN2AT01F	10.0	5.0	5.0	0.6	12.7	N2	1000	

·Vartical crimp taping type (Lead code:N*)



Note) The mark '*' of lead code differ from lead spacing(F), lead diameter(d) and pitch of component(P). Please see the following list or taping specification about details.

T.C. Cap. Cap. Customer Part Number Murata Part Number qty.											UIIIL .	111111
D T F d P Code Class Code Class Cl	TC	Сар.	o. Cap.	Customor Part Number	Murata Part Number		Dimer	nsion	(mm)	Lead	Pack
SL 15 ±10% DE21XSA150KN3AT02F 6.0 5.0 7.5 0.6 15.0 N3 1000 SL 22 ±10% DE21XSA220KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 SL 33 ±10% DE21XSA330KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 SL 47 ±10% DE21XSA470KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 SL 68 ±10% DE21XSA680KN3AT02F 8.0 4.0 7.5 0.6 15.0 N3 1000 B 100 ±10% DE2B3SA101KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 150 ±10% DE2B3SA221KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 470 ±10% DE2B3SA31KN3AT02F 6.0 4.0 7.5 0.6	1.0.	(pF)	tol.	Customer Fait Number	Wurata i art Number	D	Т	F	d	Р		(pcs)
SL 22 ± 10% DE21XSA220KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 SL 33 ± 10% DE21XSA330KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 SL 47 ± 10% DE21XSA4680KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 SL 68 ± 10% DE21XSA680KN3AT02F 8.0 4.0 7.5 0.6 15.0 N3 1000 B 100 ± 10% DE2B3SA101KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 150 ± 10% DE2B3SA151KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 330 ± 10% DE2B3SA331KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 470 ± 10% DE2B3SA681KN3AT02F 7.0 4.0 7.5 <t< td=""><td>SL</td><td>10</td><td>$\pm 10\%$</td><td></td><td>DE21XSA100KN3AT02F</td><td>7.0</td><td>4.0</td><td>7.5</td><td>0.6</td><td>15.0</td><td>N3</td><td>1000</td></t<>	SL	10	$\pm 10\%$		DE21XSA100KN3AT02F	7.0	4.0	7.5	0.6	15.0	N3	1000
SL 33 ±10% DE21XSA330KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 SL 47 ±10% DE21XSA470KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 SL 68 ±10% DE21XSA680KN3AT02F 8.0 4.0 7.5 0.6 15.0 N3 1000 B 100 ±10% DE2B3SA101KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 220 ±10% DE2B3SA151KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 330 ±10% DE2B3SA221KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 470 ±10% DE2B3SA331KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 680 ±10% DE2B3SA681KN3AT02F 7.0 4.0 7.5 0.6 <td>SL</td> <td>15</td> <td>$\pm10\%$</td> <td></td> <td>DE21XSA150KN3AT02F</td> <td>6.0</td> <td>5.0</td> <td>7.5</td> <td>0.6</td> <td>15.0</td> <td>N3</td> <td>1000</td>	SL	15	$\pm10\%$		DE21XSA150KN3AT02F	6.0	5.0	7.5	0.6	15.0	N3	1000
SL 47 ±10% DE21XSA470KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 SL 68 ±10% DE21XSA680KN3AT02F 8.0 4.0 7.5 0.6 15.0 N3 1000 B 100 ±10% DE2B3SA101KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 150 ±10% DE2B3SA151KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 330 ±10% DE2B3SA221KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 330 ±10% DE2B3SA331KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 470 ±10% DE2B3SA471KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 E 1000 ±20% DE2E3SA152MN3AT02F 7.0 4.0 7.5 0.6 <td>SL</td> <td>22</td> <td>±10%</td> <td></td> <td>DE21XSA220KN3AT02F</td> <td>6.0</td> <td>4.0</td> <td>7.5</td> <td>0.6</td> <td>15.0</td> <td>N3</td> <td>1000</td>	SL	22	±10%		DE21XSA220KN3AT02F	6.0	4.0	7.5	0.6	15.0	N3	1000
SL 68 ± 10% DE21XSA680KN3AT02F 8.0 4.0 7.5 0.6 15.0 N3 1000 B 100 ± 10% DE2B3SA101KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 150 ± 10% DE2B3SA151KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 220 ± 10% DE2B3SA221KN3AT02F 6.0 5.0 7.5 0.6 15.0 N3 1000 B 330 ± 10% DE2B3SA31KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 470 ± 10% DE2B3SA471KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 E 1000 ± 20% DE2B3SA681KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 E 1500 ± 20% DE2E3SA102MN3AT02F 7.0 4.0 7.5 <t< td=""><td>SL</td><td>33</td><td>±10%</td><td></td><td>DE21XSA330KN3AT02F</td><td>7.0</td><td>4.0</td><td>7.5</td><td>0.6</td><td>15.0</td><td>N3</td><td>1000</td></t<>	SL	33	±10%		DE21XSA330KN3AT02F	7.0	4.0	7.5	0.6	15.0	N3	1000
B 100 ±10% DE2B3SA101KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 150 ±10% DE2B3SA151KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 220 ±10% DE2B3SA221KN3AT02F 6.0 5.0 7.5 0.6 15.0 N3 1000 B 470 ±10% DE2B3SA471KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 B 680 ±10% DE2B3SA681KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 E 1000 ±20% DE2E3SA102MN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 E 2200 ±20% DE2E3SA152MN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 E 3300 ±20% DE2E3SA322MN3AT02F 8.0 4.0 7.5 0.6 15.0 N3 1000 E 4700 ±20% DE2E3SA472M	SL	47	±10%		DE21XSA470KN3AT02F	7.0	4.0	7.5	0.6	15.0	N3	1000
B 150 ±10% DE2B3SA151KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 220 ±10% DE2B3SA221KN3AT02F 6.0 5.0 7.5 0.6 15.0 N3 1000 B 330 ±10% DE2B3SA331KN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 B 470 ±10% DE2B3SA471KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 E 1000 ±20% DE2B3SA681KN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 E 1500 ±20% DE2E3SA102MN3AT02F 6.0 4.0 7.5 0.6 15.0 N3 1000 E 2200 ±20% DE2E3SA222MN3AT02F 7.0 4.0 7.5 0.6 15.0 N3 1000 E 4700 ±20% DE2E3SA332MN3AT02F 9.0 4.0 7.5 0.6 15.0 N3 1000 E 4700 ±20% DE2E3SA472	SL	68	±10%		DE21XSA680KN3AT02F	8.0	4.0	7.5	0.6	15.0	N3	1000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	В	100	±10%		DE2B3SA101KN3AT02F	6.0	4.0	7.5	0.6	15.0	N3	1000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	В	150	±10%		DE2B3SA151KN3AT02F	6.0	4.0	7.5	0.6	15.0	N3	1000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	В	220	±10%		DE2B3SA221KN3AT02F	6.0	5.0	7.5	0.6	15.0	N3	1000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	В	330	±10%		DE2B3SA331KN3AT02F	6.0	4.0	7.5	0.6	15.0	N3	1000
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	В	470	$\pm 10\%$		DE2B3SA471KN3AT02F	7.0	4.0	7.5	0.6	15.0	N3	1000
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	В	680	$\pm 10\%$		DE2B3SA681KN3AT02F	7.0	4.0	7.5	0.6	15.0	N3	1000
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Е	1000	$\pm 20\%$		DE2E3SA102MN3AT02F	6.0	4.0	7.5	0.6	15.0	N3	1000
E 3300 ±20% DE2E3SA332MN3AT02F 9.0 4.0 7.5 0.6 15.0 N3 1000 E 4700 ±20% DE2E3SA472MN3AT02F 10.0 5.0 7.5 0.6 15.0 N3 1000	Е	1500	$\pm 20\%$		DE2E3SA152MN3AT02F	7.0	4.0	7.5	0.6	15.0	N3	1000
E 4700 ±20% DE2E3SA472MN3AT02F 10.0 5.0 7.5 0.6 15.0 N3 1000	Е	2200	$\pm 20\%$		DE2E3SA222MN3AT02F	8.0	4.0	7.5	0.6	15.0	N3	1000
	Е	3300	±20%		DE2E3SA332MN3AT02F	9.0	4.0	7.5	0.6	15.0	N3	1000
E 10000 ±20% DE2E3SA103MN7AT02F 15.0 5.0 7.5 0.6 30.0 N7 400	Е	4700	±20%		DE2E3SA472MN3AT02F	10.0	5.0	7.5	0.6	15.0	N3	1000
	Е	10000	±20%		DE2E3SA103MN7AT02F	15.0	5.0	7.5	0.6	30.0	N7	400

5. Sr	ecification and test	methods		CICICIICE OII	,					
No.	Item			cification		Test method				
1	Appearance and dimensions			fect on appearan	ice	The capacitor should be inspected by naked eyes				
			form and dime		.,	for visible evidence of defect.				
2	Markina			Please refer to [Part number list]. To be easily legible.			Dimensions should be measured with slide calipers. The capacitor should be inspected by naked eyes.			
3	Marking Dielectric	Between lead	No failure.	egible.		The capacitor				
٦	strength	wires	No failule.			AC2000V(r.m.				
	onongar	Strongth			:T01F] or AC2					
						specification:T		/60Hz> is a	applied be	tween
						the lead wires				
		Body insulation	No failure.			First, the term connected tog		e capacito	r should b	е
		Insulation				Then, a metal		4	V	
						be closely wra			X.	
						the body of the			ial 🖺	— About
						to the distance		foil	- (2000)	3 to 4 mm
						about 3 to 4m from each terr		0 00		Metal balls
						Then, the cap		uld be inse		
						container filled				
						diameter. Finally, AC2600V (r.m.s.)<50/60Hz> is applied for 60 s between the capacitor lead wires				
								n the capa	citor lead	wires
4	Insulation Resistance (I.R.)		10000MΩ min			and metal ball The insulation		e should h	e measur	ed
"	insulation Resistance (I.R.)		10000IVISZ ITIIIT			with DC500±5				ou
						The voltage sh				tor
							stor of 1M	Ω.		
5	Capacitance		Within specifie	ed tolerance.	Ī	The capacitan				°C with
-	Discipation Factor	r (D E)	2 50/			1±0.1kHz and				
6	Dissipation Factor	ι (D.F.)	2.5% max.			The dissipatio at 20°C with 1) max
7	Temperature char	rootoriotio	Oh a 2 Oh			The capacitan			,	,
'	Temperature char	actensiic	Char. SL: +350 to -1000 pm/°C (Temp. range: +20 to +85°C)		0	each step spe			ould be III	aue ai
			Char. B: Wit			out otop opt				
			Char. E: Wit							
				: -25 to +85°C)						
								ı		1
				Step		1 2	3	4	5	
				Temp.(°C)	20)±2 -25±2	20±2	85±2	20±2	
8	Active flammabilit	ty	The cheese-c	loth should not be	e on	The capacitors	s should b	e individua	ally wrapp	ed in at
			fire.			least one but i				
						cheese-cloth.				
						discharges. The discharges sh				
						maintained for				,,,
						0.1	F L1	L2	R	
								T=	∏□-/	7
							C1† C:	²† c₃† c×	╪│ °° ╪	≠ ut
						—_ _{Tr} ∐s	12 Units L3	 <u> </u>		
1								=	4	
1									Osciloso	
1								3 : 0.033μF		/
						L1 to L4 : 1.5r R : 1009		: 3μF±5%		
								. 3μι⁻±3 ⁄₀ R : Rated v		ltage
1							acitor und		9 •0	9"
							e, Rated 1			
						Ut : Volta	age applie	a to Ct		
							no.1			
							Ux	_		
							5kV	4 ~		
								$1 \vee 1$		
									time	
*2 "C"	expresses nomina	ıl capacitance valu	e(pF)							

			Reference only	
No.	Item	l - "	Specification "	Test method
9	Robustness of terminations	Tensile Bending	Lead wire should not cut off. Capacitor should not be broken.	Fix the body of capacitor, apply a tensile weight gradually to each lead wire in the radial direction of capacitor up to 10N and keep it for 10±1 s. With the termination in its normal position, the
		Deliuing		capacitor is held by its body in such a manner that the axis of the termination is vertical; a mass applying a force of 5N is then suspended from the end of the termination. The body of the capacitor is then inclined, within a period of 2 to 3 s, through an angle of about 90° in the vertical plane and then returned to its initial position over the same period of time; this operation constitutes one bend.
				One bend immediately followed by a second bend in the opposite direction.
10	Vibration	Appearance	No marked defect.	The capacitor should be firmly soldered to the
	resistance	Capacitance	Within the specified tolerance.	supporting lead wire and vibration which is 10 to
		D.F.	2.5% max.	55Hz in the vibration frequency range,1.5mm in total amplitude, and about 1min in the rate of vibration change from 10Hz to 55Hz and back to 10Hz is applied for a total of 6 h; 2 h each in 3 mutually perpendicular directions.
11	Solderability of leads	S	Lead wire should be soldered with	The lead wire of a capacitor should be dipped into
			uniformly coated on the axial direction over 3/4 of the circumferential direction.	a ethanol solution of 25wt% rosin and then into molten solder for 2±0.5 s. In both cases the depth of dipping is up to about 1.5 to 2.0mm from the root of lead wires. Temp. of solder: 245±5°C Lead Free Solder (Sn-3Ag-0.5Cu)
12	Soldering effect	Appearance	No marked defect.	Solder temperature: 350±10°C or 260±5°C
	(Non-preheat)	Capacitance	Within ±10%	Immersion time : 3.5±0.5 s
		change I.R.	1000MΩ min.	(In case of 260±5°C: 10±1 s) The depth of immersion is up to about
		Dielectric strength	Per item 3	1.5 to 2.0mm from the root of lead wires.
				Pre-treatment: Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at *froom condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 1
13	Soldering effect	Appearance	No marked defect.	to 2 h at *1room condition. First the capacitor should be stored at 120+0/-5°C
13	(On-preheat)	Capacitance	Within ±10%	for 60+0/-5 s.
		change	- 1070	Then, as in figure, the lead wires should be
,		I.R.	1000MΩ min.	immersed solder of 260+0/-5°C up to 1.5 to 2.0mm from the root of terminal for 7.5+0/-1 s.
		Dielectric strength	Per item 3	Thermal Capacitor insulating 1.5
				Molten solder
				Pre-treatment: Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at *1room condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 1 to 2 h at *1room condition.
* ² "C"	expresses nominal o	apacitance valu	e(pF)	

	Item ame test assive flammabilit		Specification The capacitor flame discontinue as follows. Cycle Time 1 to 4 30 s max. 5 60 s max. The burning time should not be exceeded the time 30 s. The tissue paper should not ignite.	Test method The capacitor should be subjected to applied flame for 15 s. and then removed for 15 s until 5 cycle. Capacitor Capacitor Flame The capacitor under test should be held in the flame in the position which best promotes burning. Time of exposure to flame is for 30 s. Length of flame: 12±1mm Gas burner: Length 35mm min. Inside Dia. 0.5±0.1mm
		у	as follows. Cycle Time 1 to 4 30 s max. 5 60 s max. The burning time should not be exceeded the time 30 s. The tissue paper should not	flame for 15 s. and then removed for 15 s until 5 cycle. Capacitor Capacitor Flame The capacitor under test should be held in the flame in the position which best promotes burning. Time of exposure to flame is for 30 s. Length of flame: 12±1mm Gas burner: Length 35mm min. Inside Dia. 0.5±0.1mm
15 Pa	assive flammabilit	у	1 to 4 30 s max. 5 60 s max. The burning time should not be exceeded the time 30 s. The tissue paper should not	The capacitor under test should be held in the flame in the position which best promotes burning. Time of exposure to flame is for 30 s. Length of flame: 12±1mm Gas burner: Length 35mm min. Inside Dia. 0.5±0.1mm
15 Pa	assive flammabilit	у	5 60 s max. The burning time should not be exceeded the time 30 s. The tissue paper should not	The capacitor under test should be held in the flame in the position which best promotes burning. Time of exposure to flame is for 30 s. Length of flame: 12±1mm Gas burner: Length 35mm min. Inside Dia. 0.5±0.1mm
15 Pa	assive flammabilit	у	The burning time should not be exceeded the time 30 s. The tissue paper should not	The capacitor under test should be held in the flame in the position which best promotes burning. Time of exposure to flame is for 30 s. Length of flame: 12±1mm Gas burner: Length 35mm min. Inside Dia. 0.5±0.1mm
15 Pa	assive flammabilit	у	exceeded the time 30 s. The tissue paper should not	The capacitor under test should be held in the flame in the position which best promotes burning. Time of exposure to flame is for 30 s. Length of flame: 12±1mm Gas burner: Length 35mm min. Inside Dia. 0.5±0.1mm
15 Pa	assive flammabilit	у	exceeded the time 30 s. The tissue paper should not	The capacitor under test should be held in the flame in the position which best promotes burning. Time of exposure to flame is for 30 s. Length of flame: 12±1mm Gas burner: Length 35mm min. Inside Dia. 0.5±0.1mm
15 Pa	assive flammabilit	У	exceeded the time 30 s. The tissue paper should not	in the position which best promotes burning. Time of exposure to flame is for 30 s. Length of flame: 12±1mm Gas burner: Length 35mm min. Inside Dia. 0.5±0.1mm
			exceeded the time 30 s. The tissue paper should not	Time of exposure to flame is for 30 s. Length of flame : 12±1mm Gas burner : Length 35mm min. Inside Dia. 0.5±0.1mm
			ignite.	Gas burner : Length 35mm min. Inside Dia. 0.5±0.1mm
				Gas burner : Length 35mm min. Inside Dia. 0.5±0.1mm
				O 12 1 P. 0 O 2 2 2 2 2
				Outside Dia. 0.9mm max. Gas : Butane gas Purity 95% min.
				Capacitor
				About 8mm / / About 8mm
				Gas burner → Flame 200±5mm
				45° 255555
				— ✓ ← Tissue
				\
				About 10mm thick board
	umidity	Appearance	No marked defect.	Set the capacitor for 500±12 h at 40±2°C in 90 to
	Inder steady state)	Capacitance change	Char. SL: Within ±5% Char. B: Within ±10%	95% relative humidity.
`	sidio	Change	Char. E: Within ±15%	Pre-treatment: Capacitor should be stored at
		D.F.	Char. SL : 2.5% max.	125±2°C for 1 h, and apply the
			Char. B, E: 5.0% max.	AC2000V(r.m.s.) 60s then placed
		I.R.	3000MΩ min.	at *1room condition for 24±2 h
		Dielectric	Per item 3	before initial measurements. (Do not apply to Char. SL)
		strength		Post-treatment :Capacitor should be stored for 1
				to 2 h at *1 room condition.
17 H	umidity loading	Appearance	No marked defect.	Apply AC300V(r.m.s.) for 500±12 h at 40±2°C in
		Capacitance change	Char. SL: Within ±5%	90 to 95% relative humidity.
		Change	Char. B: Within ±10% Char. E: Within ±15%	Pre-treatment: Capacitor should be stored at
		D.F.	Char. SL : 2.5% max.	125±2°C for 1 h, and apply the
			Char. B, E: 5.0% max.	AC2000V(r.m.s.) 60s then placed
		I.R.	3000M $Ω$ min.	at *1room condition for 24±2 h
		Dielectric	Per item 3	before initial measurements. (Do not apply to Char. SL)
		strength		Post-treatment :Capacitor should be stored for 1
				to 2 h at *1room condition.
1 "room	condition" Tempe	rature: 15 to 35°	C, Relative humidity: 45 to 75%, Atm	ospheric pressure: 86 to 106kPa

Appearance No marked defect. Impulse voltage Each individual capacitor should be subjected to a 5kV impulses for three times. Then the capacitors are applied to life test.	Temperature and immersion cycle Appearance Change D.F. Char. St. : Within ±20% Char. B. : Within ±20% Char. B. E. : Show max. I.R. O.F. Char. St. : Show max. Char. B. E. : 5.0% max. Char. B. E.		Itam	On a sittle - 1'	Table and the self
Capacitance change I.R. 3000M\(Q\) min. Dielectric strength Per item 3 Time to hill-hole (T2) = 50 ys are applied to life test.	Capacitance change I.R. 3000MΩ min.	_	Item Annearance	Specification No marked defect	Test method
thange I.R. 3000M\(\Omega) min. Dielectric strength Per item 3 Per item 3 Per item 3 The capacitors are placed in a circulating air oven for a period of 1000 h. The air in the oven is maintained at a temperature of 125±2/-0 °C, and relative humidity of 50% max. Throughout the test, the capacitors are subjected to a AC425V(r.m.s.)-50/60Hz-3 allemating voltage of mains frequency, except that once each hour the voltage is increased to AC1000V(r.m.s.) 608 then placed at "noom condition for 24±2 h before initial assessments. (Do not apply to Char. St.) Post-treatment: Capacitors should be subjected to 10.2 h at "noom condition for 24±2 h before initial assessments. (Do not apply to Char. St.) Post-treatment: Capacitors should be subject to 5 femperature cycles, then consecutively to 2 immersion cycles. Appearance Char. B. : Within ±5% change Char. B. : Within ±5% change Char. B. : Within ±10% char. B. : 5.0% max. I.R. 3000M\(\Omega) min. Dielectric strength Per item 3 Appearance charge Char. B. : 5.0% max. I.R. 3000M\(\Omega) min. Dielectric strength Per item 3 The capacitor should be subject to 5 femperature cycles, then consecutively to 2 immersion cycles. **Temperature cycles** **Step Temperature** Temperature** Step Temperature** Cycle time: 2 cycles **Step Temperature** Cycle time: 5 cycles **Immersion cycles** **Immersion cycles** **Step Temperature** Cycle time: 5 cycle time: 5 cycle time: 5 cycles **Immersion cycles** **Immersion cycles** **Temperature** The capacitor should be subjected to 1 to 2 h at "room condition. Time those cycles at "room condition to 24±2 h before initial measurements. (Do not apply to Char. St.) Post-treatment: Capacitor should be stored of 24±2 h at "room condition. Time capacitor should be stored of 24±2 h at "room condition. Time capacitor should be stored of 24±2 h at "room condition. Time capacitor should be stored of 24±2 h at "room condition. Time capacitor should be stored of 24±2 h at "room condition.	Change LiR. 3000M\(Q) min. The capacitors are placed in a circulating for a period of 1000 h. The air in the oven is maintained at a term of 125±2°C for 1 h, and applied to life test. The capacitors are placed in a circulating for a period of 1000 h. The air in the oven is maintained at a term of 125±2°C for 1 h, and applied to life test. The capacitors are placed in a circulating for a period of 1000 h. The air in the oven is maintained at a term of 125±2°C for 1 h, and applied holder to AC 1000V(r.m.s.) 60s the at "norm condition for 2 before initial measurem (Do not apply to Char. S. Post-treatment. Capacitor should be store to 2 h at "norm condition for 2 before initial measurem (Do not apply to Char. S. Post-treatment. Capacitor should be store to 2 h at "norm condition for 2 before initial measurem (Do not apply to Char. S. Post-treatment. Capacitor should be subjected to 5 term of 2 h at "norm condition for 2 before initial measurem (Do not apply to Char. S. Post-treatment. Capacitor should be subjected to 5 term of 2 h at "norm condition for 2 before initial measurem (Do not apply to Char. S. Post-treatment. Capacitor should be subjected to 5 term of 2 h at "norm condition for 2 before initial measurem (Do not apply to Char. S. Post-treatment. Capacitor should be subjected to 5 term of 2 h and apply to Char. S. Post-treatment. Capacitor should be subjected to 5 term of 2 h and apply to Char. S. Post-treatment. Capacitor should be subjected to 5 term of 2 h and apply to Char. S. Post-treatment. Capacitor should be store 125:2°C for 1 h, and apply to Char. S. Post-treatment. Capacitor should be store 125:2°C for 1 h, and apply to Char. S. Post-treatment. Capacitor should be store 125:2°C for 1 h, and apply to Char. S. Post-treatment. Capacitor should be store 125:2°C for 1 h, and apply to Char. S. Post-treatment. Capacitor should be store 125:2°C for 1 h, and apply to Char. S. Post-treatment. Capacitor should be store 125:2°C for 1 h, and apply to Char. S. Post-treatment. Capacitor shoul	Lile			
I.R. 3000M\(Q\) min. Dielectric strength Per item 3 The capacitors are placed in a circulating air oven for a period of 1000 h. The air in the oven is maintained at a temperature of 125-62-70 °C, and relative humidity of 50% max. Throughout the test, the capacitors are subjected to a AC425/(m.m.s.) 600-60Hz alternating voltage of mains frequency, except that once each hour the voltage is increased to AC1000V(r.m.s.) for 0.1 s. Pre-treatment: capacitor should be stored at 155-22°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at "room condition." Appearance No marked defect. The capacitor should be stored of 125-62 (max.) Char. St. 12.58 max. Char. St.	I.R. 3000M2 min. Dielectric strength Per item 3 Per item 3 The capacitors are placed in a circulating for a period of 1000 h. The air in the over is maintained at a term of 125±2°,0°C, and relative humidity of 50 Throughout the test, the capacitors are su to a AC425V(r.m.s.) +50/60/Hz. alternating of mains frequency, except that once each voltage is increased to AC1000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) for Pre-			VVIIIII ±2070	
Delectric strength Per item 3 Delectric strength Delectric strength Delectric strength Per item 3 Delectric strength Delectric strength Delectric strength Per item 3 Delectric strength Dielectric strength Per item 3 Dielectric strength Per item 3 The capacitors are placed in a circulating for a period of 1000 h. The air in the oven is maintained at a tem of 125±2/0 °C, and relative humidity of 5t Throughout the test, the capacitors are su to a Ac425V(r.m.s.) ±50/60Hz-s alternating of mains frequency, except that once each voltage is increased to AC1000V(r.m.s.) for Pre-treatment: Capacitor should be store 125±2/2 °C for 1 h, and app AC2000V(r.m.s.) 60s the at "froom condition for 2 before initial measurem (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at "froom condition for 2 before initial measurem (Do not apply to Char. S. E. Within ±10% Char. B. E. So. W max. Char. B. E. Within ±20% D.F. Char. S. E. 2.5% max. Char. B. E. So. W max. I.R. 3000MΩ min. Dielectric strength Per item 3 The capacitors should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles the cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles the cycles, then consecutive		I.R.	3000MΩ min.	are applied to life test.	
The capacitors are placed in a circulating air oven for a period of 1000 h. The air in the oven is maintained at a temperature of 125+22-0°C, and relative humidity of 50% max. Throughout the test, the capacitors are subjected to a AC428V(r.m. s.) 600 for the capacitors are subjected to a AC428V(r.m. s.) 600 for the consecutive humidity of 100 for maintained at a temperature of 125+22-0°C, and relative humidity of 50% max. Throughout the test, the capacitors are subjected to a AC428V(r.m. s.) 600 for subjected to a AC4280V(r.m. s.) 600 for subjected to a AC4280V(r.m. s.) 600 for subjected to 5 temperature and immersion cycle The capacitor should be stored for to 2 h at "room condition to 2 h at "room condition" temperature cycles. The capacitor should be stored for to 2 h at "room condition" temperature cycles. The capacitor should be stored for to 2 h at "room condition" temperature cycles. The capacitor should be stored at 125+27-0°C in 1 h, and apply the AC2000V(r.m. s.) 60 for subjected to 5 temperature cycles. The capacitor should be subjected to 5 temperature cycles. The capacitor should be stored at 125+27-0°C in 1 h, and apply the AC2000V(r.m. s.) 60 for subjected to 5 temperature cycles. The capacitor should be stored at 125+37-0°C in 1 h, and apply the AC2000V(r.m. s.) 60 for subjected to 5 temperature. Cycle time: 5 cycles The capacitor should be stored at 125+27-0°C in 1 h, and apply the AC2000V(r.m. s.) 60 for subjected to 5 temperature. Cycle time: 5 cycles The capacitor should be stored for 1 the subject in this subject. Capacitor should be stored for 1 the subject in this subject. Capacitor should be stored for 1 the subject in this subject. Capacitor should be stored for 1 the subject in this subject. The capacitor should be stored for 24+2 h at "room condition the subject in this subject.	The capacitors are placed in a circulating for a period of 1000 h. The air in the oven is maintained at a tem of 125±2/° °C, and relative humidity of 5t Throughout the test, the capacitors are su to a AC425V(r.m.s.), 550/60Hz-s alternating of mains frequency, except that once each voltage is increased to AC1000V(r.m.s.) for Pre-treatment: Capacitor should be store at "froom condition for 2 before initial measurem (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at "froom condition for 2 before initial measurem (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at "froom condition for 2 before initial measurem (Do not apply to Char. S. E. Within ±20% D.F. Char. S. E. : 2.5% max. Char. B. E. : 5.0% max. I.R. 3000MΩ min. Dielectric Strength Cycle time: 5.		Per item 3	100 (%)	
The capacitors are placed in a circulating air oven for a period of 1000 h. The air in the oven is maintained at a temperature of 125+2/-0 °C, and relative humidity of 50% max. Throughout the test, the capacitors are subjected to a AC425V(r.m.s).50/60Hz- alternating voltage of mains frequency. Verification for 24±2 h defore initial measurements. (Do not apply to Char. St.) Post-treatment: Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s) for 1 s. Verification for 24±2 h defore initial measurements. (Do not apply to Char. St.) Post-treatment: Capacitor should be stored for 1 to 2 h at "froom condition. The capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s) for 1 s. Verification for 24±2 h defore initial measurements. (Do not apply to Char. St.) Post-treatment: Capacitor should be stored at 1 40+00/-3 30 min 2 Room temp. 3 min 3 40+00/-3 30 min 4 Room temp. 3 min 3 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 4 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 5 alt with 1 40+00/-3 30 min 6 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 6 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 6 Room temp. 3 min 5 alt with 1 40+00/-3 30 min 7 alt with 1 40+00/-3 30 min 8 alt with 1 40+00/-3 30 min 8 alt with 1 40+00/-3 30 min 8 alt with 1 40+00/-3 30 min 9 alt with 1 40+00/-3	The capacitors are placed in a circulating for a period of 1000 h. The air in the oven is maintained at a tem of 125+2/0 °C, and relative humidity of 5 Throughout the text ecapacitors are su to a AC425V(r.m.s.)-c50/60/Hz-altermating of mains frequency, except that once each voltage is increased to AC1000V(r.m.s.) for the at "1000 condition for 2 before initial measurem (Do that poly to Char. S.) can be at "1000 condition for 2 before initial measurem (Do the store at "1000 condition for 2 before initial measurem (Do that poly to Char. S.) can be at "1000 condition for 2 before initial measurem (Do that poly to Char. S.) can be at "1000 condition for 2 before initial measurem (Do that poly to Char. S.) can be at "1000 condition for 2 before initial measurem (Do that poly to Char. S.) can be at the at "1000 condition for 2 before initial measurem (Do that poly to Char. S.) can be at the capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitors are placed in a circulating for a period of 1000 h. The air in the oven condition for 2 before initial measurem (Do not apply to Char. S.) can be at the capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitors and the capacitor should be store at "125±2°C for 1 h, and apply condition for 2 before initial measurem (Do not apply to Char. S.)		strength		Time to half-value (T2) = 50 // s
The capacitors are placed in a circulating air oven for a period of 1000 h. The air in the oven is maintained at a temperature of 125+2/-0 °C, and relative humidity of 50% max. Throughout the test, the capacitors are subjected to a AC425V(r.m.s.)-60060Hz> alternating voltage of mains frequency, except that once each hort working is increased to AC1000V(r.m.s.) for 0.1 s. Pre-treatment: Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at 1°con condition for 24±2 h before initial measurements. (Do not apply to Char. S.L.) Post-treatment: Capacitor should be stored for 1 to 2.h at 1°con condition. 19 Temperature and immersion cycle D.F. Char. S.L. : Within ±5% Char. B. : Within ±5% Char. B. : Within ±20% Char. E. : Within ±20% Char. S.L. : S.2% max. Char. B. E. 5.0% max. L.R. 3000MMz min. Dielectric strength D.F. Char. S.L. : S.2% max. Char. B. E. 5.0% max. L.R. 3000MMz min. Dielectric strength Per item 3 Dielectric strength D.F. Char. S.L. : Deach ch	The capacitors are placed in a circulating for a period of 1000 h. The air in the oven is maintained at a term of 125-t2-0°C for 1 h, and apply to Char. S. to the at "froom condition for 2 to 2 h at 3 h at 2 h at 2 h at 3 h at 3 h at 2 h at 3				30
The capacitors are placed in a circulating air oven for a period of 1000 h. The air in the oven is maintained at a temperature of 1254-20 °°C, and relative humidity of 50% max. Throughout the test, the capacitors are subjected to a Λα-Δα-ΣV(r.m.s.)-50606Hz» alternating voltage of mains frequency, except that once each hour the voltage is increased to A C1000V(r.m.s.) 60s then placed at "150z C for 1 h, and apply the Λα-2000V(r.m.s.) 60s then placed at "150z mor condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored of 1 to 2 h at "1 room condition." The capacitor should be stored at 152z C for 1 h, and apply the Λα-2000V(r.m.s.) 60s then placed at "150z h at "1 room condition." The capacitor should be stored for 1 to 2 h at "1 room condition. The capacitor should be stored for 1 to 2 h at "1 room condition. The capacitor should be stored for 1 to 2 h at "1 room condition. The capacitor should be stored for 1 to 2 h at "1 room condition. The capacitor should be stored for 1 to 2 h at "1 room condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 1 to 2 h at 1 room condition. Troom condition Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmospheric pressure: 86 to 100kRap.	The capacitors are placed in a circulating for a period of 1000 h. The air in the oven is maintained at a term of 125±2°C is and relative humidity of 5t Throughout the test, the capacitors are su to a AC425V(rm.s.)-550/60H2-2 alternating of mains frequency, except that once each voltage is increased to AC1000V(r.m.s.) is Pre-treatment: Capacitor should be store 125±2°C for 1 h, and apply to Char. S. Post-treatment: Capacitor should be store in the measurem (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at "froom conditior for 2 before initial measurem (Do not apply to Char. S. Post-treatment: Capacitor should be store change. Appearance Char. St. : Within ±5% Char. B. : Within ±5% Char. B. : Within ±20% Char. B. : S.0% max. I.R. 3000M2 min. Dielectric strength Per item 3 The capacitor should be store cycles, then consecutively to 2 immersion cycles. The capacitor should be store cycles, then consecutively to 2 immersion cycles. The capacitor should be store cycles, then consecutively to 2 immersion cycles. The capacitor should be store cycles, then consecutively to 2 immersion cycles. The capacitor should be store cycles, then consecutively to 2 immersion cycles. The capacitor should be store cycles, then consecutively to 2 immersion cycles. The capacitor should be store cycles, then consecutively to 2 immersion cycles. The capacitor should be store cycles, then consecutively to 2 immersion cycles. The capacitor should be store cycles, then consecutively to 2 immersion cycles. The capacitor should be store cycles, then consecutively to 2 immersion cycles. The capacitor should be store cycles, the capacitor should be store cycles. The capacitor should be store cycles. The capacitor should be store cycles, the capacitor cycle				0 1 t
The capacitors are placed in a circulating air oven for a period of 1000 h. The air in the oven is maintained at a temperature of 125+2/-0° C, and relative humidity of 50% max. Throughout the test the capacitors are subjected to a AC425V(r.m.s.)-650/60/t2- alternating voltage of mains frequency, except that once each hour the voltage is increased to AC1000V(r.m.s.) for 0.1 s. Pre-treatment: Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s.) for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 1 to 2 h at "room condition for 24±2 h before initial measurements. (Char. B. : Within ±5% Char.	The capacitors are placed in a circulating for a period of 1000 h. The air in the oven is maintained at a tem of 12542/-0 °C, and relative humidity of 50 Throughout the test, the capacitors are su to a AC425V(r.m.s.)<0600Hz-3 alternating of mains frequency, except that once activated voltage is increased to AC1000V(r.m.s.) foos the at "froom condition for 2 before initial measurems (Do not apply to Char. S. Post-treatment: Capacitor should be store 12542°C for 1 h, and apply a companies of the capacitor should be store 12542°C for 1 h, and apply to Char. S. Post-treatment: Capacitor should be store 12 h at "froom condition for 22 before initial measurems (Do not neptly to Char. S. Post-treatment: Capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. In a 30000M2 min. Dielectric strength The capacitors are placed in a circulating for a period of 1000 h. The air in the oven is maintained at a tem of 12542°C for 1 h, and apply to Char. S. Post-treatment: Capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles, then consec				
for a period of 1000 h. The air in the oven is maintained at a temperature of 125+2/-0 °C, and relative humidity of 50% max. Throughout the test, the capacitors are subjected to a AC425V(r.m.s.)-50%0Hz-a laternating voltage of mains frequency, except that once each hour the voltage is increased to AC1000V(r.m.s.) for 0.1 s. Pre-treatment : Capacitor should be stored at 1°100 monodition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment : Capacitor should be stored for 1 to 2 h at 1°100 m condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment : Capacitor should be stored for 1 to 2 h at 1°100 m condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment : Capacitor should be stored for 1 to 2 h at 1°100 m condition for 24±2 h before initial measurements. (Do not apply to Char. SL) The capacitor should be stored for 1 to 2 h at 1°100 m condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Step Temperature(°C) Time Immersion water 1 +65+5/-0 15 min Salt water 2 h before initial measurements. (Cycle time:5 cycles Pre-treatment : Capacitor should be stored at 1°100 m condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment : Capacitor should be stored for 1 to 2 h at 1°100 m condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment : Capacitor should be stored for 1 to 2 h at 1°100 m condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment : Capacitor should be stored for 24±2 h at 1°100 m condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment : Capacitor should be stored for 24±2 h at 1°100 m condition for 24±2 h	Temperature and immersion cycle Pre-treatment Pre-treat				The capacitors are placed in a circulating air oven
of 125±2/-0 °C, and relative humidity of 50% max. Throughout the st, the capacitors are subjected to a AC425V(r.m.s.) rollage is increased to AC1000V(r.m.s.) for 0.1 s. Pre-treatment : Capacitor should be stored at 100 mmersion cycle at 100 mmersion cycle. Appearance Capacitance change Char. St. : Within ±5% Char. E: Within ±20% Char. E: Within ±20% Char. E: Within ±20% Char. B. : S. 50% max. I.R. 3000MΩ min. Dielectric strength Per item 3	of 125+2/-0 °C, and relative humidity of 50 Throughout the test, the capacitors are su to a AC425V(r.m.s.)-c50/60Hz> alternating of mains frequency, except that once each voltage is increased to AC1000V(r.m.s.) for the at "froom condition for 22-before initial measurem (Do not apply to Char. S. Post-treatment : Capacitor should be store to 2 h at "froom condition for 22-before initial measurem (Do not apply to Char. S. Post-treatment : Capacitor should be store to 2 h at "froom condition for 22-before initial measurem (Do not apply to Char. S. Post-treatment : Capacitor should be store to 2 h at "froom condition for 22-before initial measurem (Do not apply to Char. S. Post-treatment : Capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles				
Throughout the test, the capacitors are subjected to a AC425V(r.m.s.)<0/80H2s alternating voltage of mains frequency, except that once each hour the voltage is increased to AC100V(r.m.s.) for 0.1 s. Pre-treatment: Capacitor should be stored at 125:2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at "100m condition for 24±2 h before initial measurements. (Do not apply to Char. St.) Post-treatment: Capacitor should be stored for 1 to 2 h at "100m condition. Post-treatment: Capacitor should be stored for 1 to 2 h at "100m condition. Post-treatment: Capacitor should be subjected to 5 temperature cycles. Char. B. E: Within ±5% change Char. B. Within ±50% Char. E: Within ±20% D.F. Char. St. E: Within ±20% D.F. Char. St. E: 5.0% max. Char. B, E: 5.0% max. L.R. 3000MΩ min. Per item 3 Per item 3 Per item 3 Pre-treatment: Capacitor should be stored to 1 to 2 h at "100m condition. Cycle time: 5 cycles limits of 2 h at 1 to 3 to 3 to 3 min 2 to 3 to 3 min 3 to 3 min 3 to 3 min 4 to 40+0/-3 to 3 0 min 4 to 40+0/-3 to 3 0 min 5 to 4 to 40+0/-3 to 3 to 3 to 40+0/-3	Throughout the test, the capacitors are su to a AC425V(r.m.s.)-50/60Hz> alternating of mains frequency, except that once each voltage is increased to AC1000V(r.m.s.) for the at "froom condition for 2-before initial measurems (Do not apply to Char. S. Post-treatment: Capacitor should be store (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at "froom condition for 2-before initial measurems (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at "froom condition for 2-before initial measurems (Do not apply to Char. S. Char. S. Within ±5% Char. B. Within ±20% Char. B. Within ±20% Char. B. Within ±20% Char. B. Within ±20% Char. B. E. S.0% max. Char. B				·
to a AC425V(rm.s.)-\$50/60Ptz> alternating voltage of mains frequency, except that none each hour the voltage is increased to AC1000V(r.m.s.) for 0.1 s. Pre-treatment: Capacitor should be stored at 125:±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at "from condition for 24±2 h before initial measurements. ((Do not apply to Char. St.) Post-treatment: Capacitor should be stored for 1 to 2 h at "froom condition." Appearance No marked defect. Capacitor should be stored for 1 to 2 h at "froom condition." Post-treatment: Capacitor should be stored for 1 to 2 h at "froom condition." The capacitor should be stored for 1 to 2 h at "froom condition." The capacitor should be stored to 5 temperature cycles, then consecutively to 2 immersion cycles. Char. B. Within ±5% Char. B. E. 5.0% max. Char. B. E. 5.0% max. Char. B. E. 5.0% max. I.R. 3000MQ min. Dielectric strength Per item 3	to a AČ425V(r.m.s.)-450/60Hz> alternating of mains frequency, except that once each voltage is increased to AC1000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) 60s the at "room condition for 22 before initial measureme (Do not apply to Char. S Post-treatment: Capacitor should be store to 2 h at "room condition for 22 before initial measureme (Do not apply to Char. S Post-treatment: Capacitor should be store to 2 h at "room condition for 22 before initial measureme (Do not apply to Char. S Post-treatment: Capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be store at 1 tero cycles. The capacitor should be store 1 tero cycles. The capacitor should be store 1 tero cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 tero cycles, then consecutively to 2 immersion				
Temperature and immersion cycle Appearance Char. St. : Within ±10% Char. B. : Within ±10% Char. B. : Stop Temperature cycles	of mains frequency, except that once each voltage is increased to AC1000V(r.m.s.) for Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) 60s the at *1room condition for 2s before initial measureme (Do not apply to Char. S Post-treatment : Capacitor should be store to 2 h at *1room condition for 2s before initial measureme (Do not apply to Char. S Post-treatment : Capacitor should be store to 2 h at *1room condition for 2s before initial measureme (Do not apply to Char. S Post-treatment : Capacitor should be subjected to 5 ter cycles, then consecutively to 2 immersion cycles, then				
voltage is increased to AC1000V(r.m.s.) for 0.1 s. Pre-treatment : Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at "170 more condition for 24±2 h before initial measurements. (Do not apply to Char. SL.) Post-treatment : Capacitor should be stored for 1 to 2 h at "froom condition. The capacitor should be stored for 1 to 2 h at "froom condition. The capacitor should be subjected to 5 temperature cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 temperature cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 temperature cycles, then consecutively to 2 immersion cycles. The capacitor should be subjected to 5 temperature cycles, then consecutively to 2 immersion cycles. Temperature cycles Time The capacitor should be subjected to 5 temperature cycles, then consecutively to 2 immersion cycles. Temperature cycles Temperature cycles Temperature cycles Temperature cycles Time	Voltage is increased to AC1000V(r.m.s.) for the pre-treatment: Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) 60s the at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room condition for 2 before initial measureme (Do not apply to Char. S. Post-treatment: Capacitor should be store to 2 h at *¹room cond				
19 Temperature and immersion cycle Capacitance Char. St. : Within ±5% Char. B. : Within ±10% Char. B. : Within ±10% Char. B. : Sym. max. L.R. 3000MΩ min. Dielectric strength Per item 3 125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at *iroom condition for 24±2 h a before initial measurements. (Do not apply to Char. St.) Post-treatment : Capacitor should be stored for 1 to 2 h at *iroom condition. The capacitor should be subjected to 5 temperature cycles, then consecutively to 2 immersion cycles. **Temperature cycles** The capacitor should be subjected to 5 temperature cycles, then consecutively to 2 immersion cycles. **Temperature cycles** The capacitor should be subjected to 5 temperature cycles, then consecutively to 2 immersion cycles. **Temperature cycles** Temperature cycles** **Temperature cycles** Step Temperature(*C) Time Immersion water 1 +65+5/-0 15 min Clean water 2 0±3 15 min Salit water 2 0	125±2°C for 1 h, and app AC2000V(r.m.s.) 60s the at **I*om condition for 2* before initial measurem (Do not apply to Char. S Post-treatment : Capacitor should be store to 2 h at *Iroom condition for 2* before initial measurem (Do not apply to Char. S Post-treatment : Capacitor should be store to 2 h at *Iroom condition to 2* before initial measurem (Do not apply to Char. S Description (Do not apply to Char. S Des				voltage is increased to AC1000V(r.m.s.) for 0.1 s.
AC2000V(r.m.s.) 60s then placed at *Troom condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 1 to 2 h at *Troom condition. The capacitor should be subjected to 5 temperature cycles, then consecutively to 2 immersion cycles. Appearance	AC2000V(r.m.s.) 60s the at *'room condition for 2's before initial measurem (Do not apply to Char. S) Post-treatment : Capacitor should be store to 2 h at *'room condition for 2's before initial measurem (Do not apply to Char. S) Post-treatment : Capacitor should be store to 2 h at *'room condition for 2's before initial measureme (Do not apply to Char. S) Post-treatment : Capacitor should be store to 2 h at *'room condition for 2's before initial measureme (Do not apply to Char. S) Post-treatment : Capacitor should be store to 2 h at *'room condition for 2's before initial measureme (Do not apply to Char. S) Appearance				
Temperature and immersion cycle Appearance No marked defect. Capacitance change Char. St. Within ±5% Char. E : Within ±20% Char. B. : S. % max. Char. B. E : 5.0% max.	Temperature and immersion cycle Appearance Appearance Capacitance change Char. St. : Within ±5% Char. B. : Within ±10% Char. B. : St. : Within ±20%				
Defore initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 1 to 2 h at *1 room condition.	Defore initial measurement (Do not apply to Char. S Post-treatment : Capacitor should be store to 2 h at *¹room condition store to 2 h at *¹room condition store to 2 h at *¹room condition to 2 h at *¹room condition for 2 h at *¹room condition to 2 h at *¹room condition for 2 h at *¹room condition to 2 h at *¹room				
Temperature and immersion cycle Appearance No marked defect. Capacitance change Char. SL : Within ±5% change Char. B. : Within ±20% Char. B. : Within ±20% Char. B. E : 5.0% max. Cycle time: 5 cycles	Temperature and immersion cycle Post-treatment : Capacitor should be store to 2 h at **room condition to 3 h at **room condition to 4 h at **room condition to 4 h at **room condition to 4 h at **room condition to 5 her ondition to 2 h at **room condition to 2 h at **room condition to 4 h at **room condition to 5 her ondition to 2 h at **room condition for 2 h at **room condition				
Temperature and immersion cycle Appearance Char. SL : Within ±5% Char. B : Within ±20% Char. B : 2.5% max. Char. B, E : 5.0% max. Char. B, E : 6.0% max. C	Temperature and immersion cycle Appearance Capacitance change Char. SL : Within ±5% Char. E : Within ±10% Char. B, E : 5.0% max. Char. B = Temperature (°C) Temperature				(Do not apply to Char. SL)
Temperature and immersion cycle Appearance Char. SL: Within ±5% change Char. B: Within ±10% Char. E: Within ±10% Char. E: Within ±10% Char. E: Within ±20% D.F. Char. SL: 2.5% max. Char. B: 5.0% max. Cycle time:5 cycles Cycle time:2 cycles	Temperature and immersion cycle Appearance Char. SL : Within ±5% Char. B : Within ±5% Char. B : Within ±20%				
immersion cycle Capacitance change Char. SL : Within ±5% Char. B : Within ±10% Char. E : Within ±20% D.F. Char. SL : 2.5% max. Char. B, E : 5.0% max. I.R. 3000MΩ min. Per item 3 Cycle time: 5 cycles Step Temperature (°C) Time 1 -40+0/-3 30 min 2 Room temp. 3 min 3 +125+3/-0 30 min 4 Room temp. 3 min Cycle time: 5 cycles Cycle time: 5 cycles Step Temperature (°C) Time Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Step Temperature (°C) Time Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Step Temperature (°C) Time Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Cycle time: 5 cycles Cycle time:	Capacitance change	Temporatura	and Appearance	No marked defect	
Change	Char. B : Within ±10% Char. E : Within ±20% D.F.				
D.F. Char. SL : 2.5% max.	D.F. Char. St. : 2.5% max. Step Temperature(°C) 1				
Char. B, E : 5.0% max. 1	Char. B, E : 5.0% max. 1				<temperature cycle=""></temperature>
I.R. 3000MΩ min. 2 Room temp. 3 min 3 +125+3/-0 30 min 4 Room temp. 3 min Cycle time:5 cycles	I.R. 3000MΩ min. Dielectric strength Per item 3 1		D.F.		
Dielectric strength Per item 3 Dielectric strength Per item 3 Per item 4 Per item 3 Per item 4 Per item 3 Per item 4 Per item 3 Per item 4 Per item 4 Per item 5	Dielectric strength Per item 3 A Room temp. Cycle time:5 of the composition of 24 of the composition of 25 of the compos		I D		
strength 4 Room temp. 3 min Cycle time:5 cycles Step Temperature(°C) Time Immersion water 1	strength A Room temp. Cycle time:5 of color				
Cycle time:5 cycles Step Temperature(°C) Time Immersion water	Cycle time:5 c Step Temperature(°C) Time Imm Temperature(°C) Time Temperature(°C) Time Temperature(°C) Temp			The state of the s	
Step Temperature(°C) Time Immersion water 1	Step Temperature(°C) Time Imm 1 +65+5/-0 15 min C 2 0±3 15 min C Cycle time:2 o Pre-treatment : Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) 60s the at *¹room condition for 2° before initial measureme (Do not apply to Char. S				
Step Temperature(°C) Time water	Pre-treatment: Capacitor should be store 1				
Pre-treatment: Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at *¹room condition for 24±2 h before initial measurements. (Do not apply to Char. SL.) Post-treatment: Capacitor should be stored for 24±2 h at *¹room condition. 1 "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmospheric pressure: 86 to 106kPa	1 +65+5/-0 15 min C 2 0±3 15 min C Cycle time: 2 of the control				Step Temperature(°C) Time Immersion
Pre-treatment: Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at *¹room condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 24±2 h at *¹room condition. 1 "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmospheric pressure: 86 to 106kPa	Pre-treatment: Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) 60s the at *¹room condition for 24 before initial measureme (Do not apply to Char. S				Water
2 0±3 15 min Salt water Cycle time:2 cycles Pre-treatment: Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at *1room condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 24±2 h at *1room condition. 1 "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmospheric pressure: 86 to 106kPa	2 0±3 15 min Cycle time:2 of C				1
Cycle time:2 cycles Pre-treatment: Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at *1room condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 24±2 h at *1room condition. 1 "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmospheric pressure: 86 to 106kPa	Cycle time:2 of Pre-treatment: Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) 60s the at *1room condition for 2of before initial measurement (Do not apply to Char. S				Salt
Pre-treatment: Capacitor should be stored at 125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at *1room condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 24±2 h at *1room condition. 1 "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmospheric pressure: 86 to 106kPa	Pre-treatment: Capacitor should be store 125±2°C for 1 h, and app AC2000V(r.m.s.) 60s the at *¹room condition for 2⁴ before initial measureme (Do not apply to Char. S				2 0±3 15 min water
125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at *1room condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for 24±2 h at *1room condition. 1 "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmospheric pressure: 86 to 106kPa	125±2°C for 1 h, and app AC2000V(r.m.s.) 60s the at *¹room condition for 2⁴ before initial measureme (Do not apply to Char. S				Cycle time:2 cycles
"room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmospheric pressure: 86 to 106kPa					125±2°C for 1 h, and apply the AC2000V(r.m.s.) 60s then placed at *1room condition for 24±2 h before initial measurements. (Do not apply to Char. SL) Post-treatment: Capacitor should be stored for
¹ "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmospheric pressure: 86 to 106kPa					
	¹ "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmospheric pressure: 86 to 106kPa ² "C" expresses nominal capacitance value(pF)	room condition" 7	emperature: 15 to 35	°C, Relative humidity: 45 to 75%, A	Atmospheric pressure: 86 to 106kPa

6.Packing specification

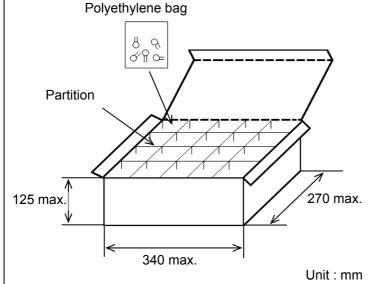
•Bulk type (Packing style code : B)

 $\begin{array}{c} *1 \\ \text{The number of packing = Packing quantity} *2 \\ * \end{array}$

The size of packing case and packing way

*1 : Please refer to [Part number list].

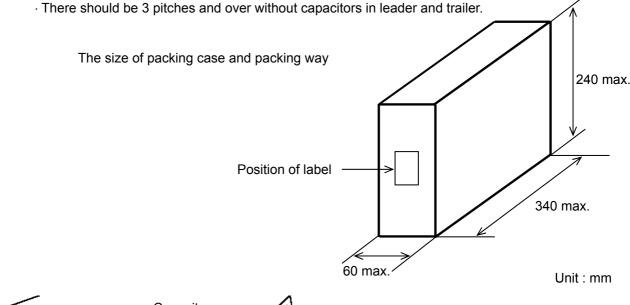
*2 : Standard n = 20 (bag)

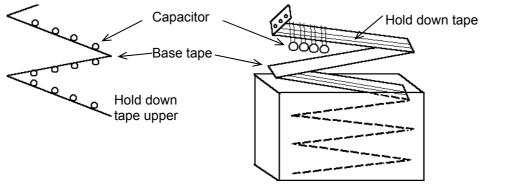


Note)

The outer package and the number of outer packing be changed by the order getting amount.

- •Ammo pack taping type (Packing style code : A)
 - · The tape with capacitors is packed zigzag into a case.
 - \cdot When body of the capacitor is piled on other body under it.



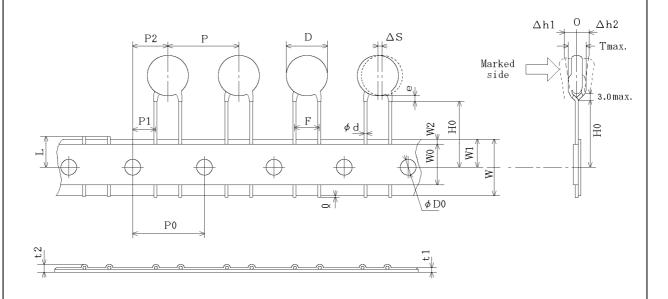


EKBCDE01

7. Taping specification

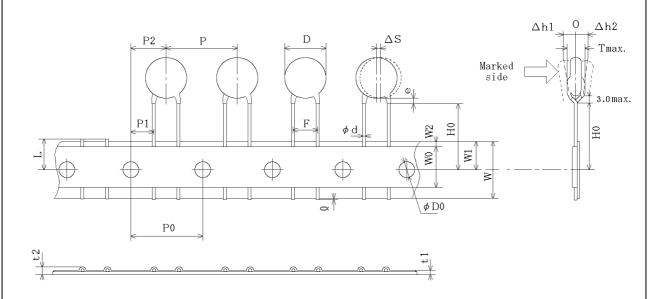
7-1. Dimension of capacitors on tape

Vertical crimp taping type < Lead code : N2 > Pitch of component 12.7mm / Lead spacing 5.0mm



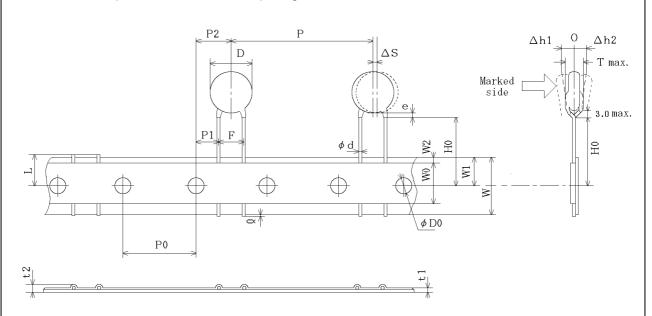
Item	Code	Dimensions	Remarks
Pitch of component	Р	12.7±1.0	
Pitch of sprocket hole	P0	12.7±0.3	
Lead spacing	F	$5.0^{+0.8}_{-0.2}$	
Length from hole center to component center	P2	6.35±1.3	Deviation of managed diseasting
Length from hole center to lead	P1	3.85±0.7	Deviation of progress direction
Body diameter	D	Please refer to [Page 12]	art number list].
Deviation along tape, left or right	ΔS	0±1.0	They include deviation by lead bend .
Carrier tape width	W	18.0±0.5	
Position of sprocket hole	W1	9.0±0.5	Deviation of tape width direction
Lead distance between reference and bottom planes	Н0	18.0± ^{2.0}	
Protrusion length	Q	+0.5~-1.0	
Diameter of sprocket hole	φ D 0	4.0±0.1	
Lead diameter	φd	0.60±0.05	
Total tape thickness	t1	0.6±0.3	-
Total thickness, tape and lead wire	t2	1.5 max.	They include hold down tape thickness.
Deviation across tape, front	∆h1	1.0 may	
Deviation across tape, rear	∆h2	1.0 max.	
Portion to cut in case of defect	L	11.0± _{1.0}	
Hold down tape width	W0	11.5 min.	
Hold down tape position	W2	1.5±1.5	
Coating extension on lead	е	Up to the end of c	rimp
Body thickness	Т	Please refer to [Page 12]	art number list].

Vertical crimp taping type < Lead code : N3 > Pitch of component 15.0mm / Lead spacing 7.5mm



Item	Code	Dimensions	Remarks
Pitch of component	Р	15.0±2.0	
Pitch of sprocket hole	P0	15.0±0.3	
Lead spacing	F	7.5±1.0	
Length from hole center to component center	P2	7.5±1.5	B. Miller of A.
Length from hole center to lead	P1	3.75±1.0	Deviation of progress direction
Body diameter	D	Please refer to [Part number list].
Deviation along tape, left or right	ΔS	0±2.0	They include deviation by lead bend .
Carrier tape width	W	18.0±0.5	
Position of sprocket hole	W1	9.0±0.5	Deviation of tape width direction
Lead distance between reference and bottom planes	H0	18.0± ^{2.0}	
Protrusion length	Q	+0.5~-1.0	
Diameter of sprocket hole	φ D 0	4.0±0.1	
Lead diameter	φd	0.60±0.05	
Total tape thickness	t1	0.6±0.3	-
Total thickness, tape and lead wire	t2	1.5 max.	They include hold down tape thickness.
Deviation across tape, front	∆h1	2.0	
Deviation across tape, rear	∆h2	2.0 max.	
Portion to cut in case of defect	L	11.0± _{1.0}	
Hold down tape width	W0	11.5 min.	
Hold down tape position	W2	1.5±1.5	
Coating extension on lead	е	Up to the end of	crimp
Body thickness	Т	Please refer to [Part number list].

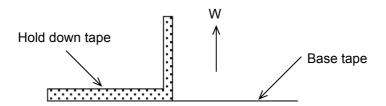
Vertical crimp taping type < Lead code : N7 > Pitch of component 30.0mm / Lead spacing 7.5mm



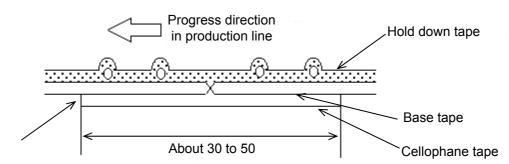
	1	T	Offic . Hilli
Item	Code	Dimensions	Remarks
Pitch of component	Р	30.0±2.0	
Pitch of sprocket hole	P0	15.0±0.3	
Lead spacing	F	7.5±1.0	
Length from hole center to component center	P2	7.5±1.5	B. isfan fan strain
Length from hole center to lead	P1	3.75±1.0	Deviation of progress direction
Body diameter	D	Please refer to [Part number list].
Deviation along tape, left or right	ΔS	0±2.0	They include deviation by lead bend.
Carrier tape width	W	18.0±0.5	
Position of sprocket hole	W1	9.0±0.5	Deviation of tape width direction
Lead distance between reference and bottom	110	40.0 + 2.0	
planes	H0	$18.0\pm_0^{2.0}$	
Protrusion length	Q	+0.5~-1.0	
Diameter of sprocket hole	φD0	4.0±0.1	
Lead diameter	φd	0.60±0.05	
Total tape thickness	t1	0.6±0.3	
Total thickness, tape and lead wire	t2	1.5 max.	They include hold down tape thickness.
Deviation across tape, front	∆h1	0.0	
Deviation across tape, rear	∆h2	2.0 max.	
Portion to cut in case of defect	L	11.0± _{1.0}	
Hold down tape width	W0	11.5 min.	
Hold down tape position	W2	1.5±1.5	
Coating extension on lead	е	Up to the end of	crimp
Body thickness	Т	Please refer to [Part number list].

7-2. Splicing way of tape

1) Adhesive force of tape is over 3N at test condition as below.



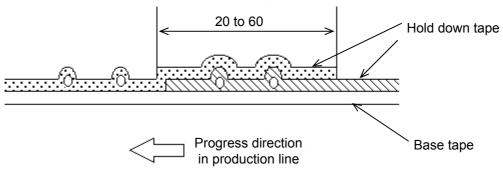
- 2) Splicing of tape
 - a) When base tape is spliced
 - •Base tape should be spliced by cellophane tape. (Total tape thickness should be less than 1.05mm.)



No lifting for the direction of progressing

Unit: mm

- b) When hold down tape is spliced
 - •Hold down tape should be spliced with overlapping. (Total tape thickness should be less than 1.05mm.)



- c) When both tape are spliced
 - •Base tape and hold down tape should be spliced with splicing tape.
- 3) Missing components
 - •There should be no consecutive missing of more than three components.
 - •The number of missing components should be not more than 0.5% of total components that should be present in a Ammo pack.

EU RoHS and Halogen Free

This products of the following crresponds to EU RoHS and Halogen Free

(1) RoHS

EU RoHs 2011/65/EC compliance

maximum concentration values tolerated by weight in homogeneous materials

- •1000 ppm maximum Lead
- •1000 ppm maximum Mercury
- •100 ppm maximum Cadmium
- •1000 ppm maximum Hexavalent chromium
- •1000 ppm maximum Polybrominated biphenyls (PBB)
- •1000 ppm maximum Polybrominated diphenyl ethers (PBDE)

(2) Halogen-Free

The International Electrochemical Commission's (IEC) Definition of Halogen-Free (IEC 61249-2-21) compliance

- •900 ppm maximum chlorine
- •900 ppm maximum bromine
- •1500 ppm maximum total chlorine and bromine

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 CCK-2N2
 CCK-47N
 CCK-47P

 47P
 CCK-4P7
 CK45-B3FD681KYNNA
 CCK-4P7
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