HITANO
ENTERPRISE CORP. ®

Data Sheet

Customer:

Product: Conductive Polymer Aluminum Electrolytic Capacitor
Radial – AERT Series
AEC-Q200 version available

Size : 5x6mm ~ 13x20mm

Issued Date: 16-Oct-2023

Edition: Ver. 1

Record of change

Date	Ver.	Description	Page
16-Oct-2023	1	Add.	

HITANO ENTERPRISE CORP.

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Prepared by	Checked by	Approved by	Accepted by (customer)
16-Oct-2023	16-Oct-2023	16-Oct-2023	
Hwa Wu	***Andy Hsu***	***Arthur Su***	

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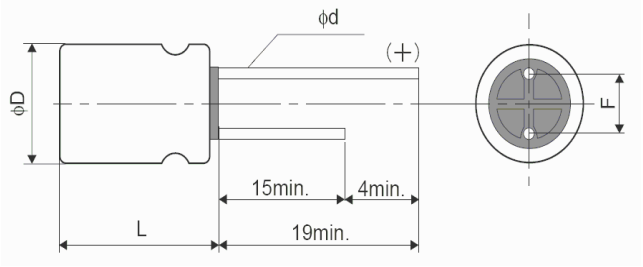
Features

- Ultra low ESR level and excellent performance at high frequency through low profile.
- Ideal capacitor for digital and high frequency devices.
- High heat resistance and high reliability.
- Load life 125℃ **2,000** hours assured.
- AEC-Q200 version available

Characteristics

Voltage Range	2.5 ~100VDC	
Capacitance Range	10uF ~ 4700uF	
Temperature Range	-55 ~ +125℃	
Capacitance Tolerance	M:±20% , (at 20℃ , 120Hz)	
Leakage Current	Capacitance(μF) x Rated Voltage(Vdc) After 2minutes, see standard rating	
Dissipation Factor (tanδ) 20℃ 120Hz	See standard rating	
ESR (at 100K~300K Hz, 20℃)	See standard rating	
Endurance (Rated Voltage at 125℃ 2000 h, restored to 20℃)	Appearance	≦No significant damage
	Capacitance Change (μF)	Within ±20% of initial measured value
	Dissipation Factor (tanδ)	≦150% of an initial specified value
	ESR (mΩ)	≦150% of an initial specified value
	Leakage Current (μA)	≦Initial specified value
Moisture Resistance (Test at 60℃, 90~95RH for 1000hrs, L.C. should be tested after voltage treatment)	Capacitance Change (μF)	Within ±20% of initial measured value
	Dissipation Factor (tanδ)	≦150% of an initial specified value
	ESR (mΩ)	≦150% of an initial specified value
	Leakage Current (μA)	≦Initial specified value
Resistance to Soldering Heat	Capacitance Change (μF)	Within ±10% of initial measured value
	Dissipation Factor (tanδ)	≦130% of an initial specified value
	ESR (mΩ)	≦130% of an initial specified value
	Leakage Current (μA)	≦Initial specified value
Low Temperature Characteristics	Impedance Ratio (at 100kHz): Z_{-25}/Z_{+20} : 1.15 , Z_{-55}/Z_{+20} : 1.25	
Surge Voltage (V)	Rated Voltage x 1.15 (at 105℃)	



Lead Spacing, diameter and size code

Case Size	A6	A8	A10	A14	B8	B10	B14	B18	C6	C8	C10	C14	C18	D8	D11	D14	D19	F10	F12	F15	F20	G20
ϕD	5	5	5	5	5.5	5.5	5.5	5.5	6.3	6.3	6.3	6.3	6.3	8	8	8	8	10	10	10	10	13
L	6	8	10	14	8	10	14	18	6	8	10	14	18	8	11	14	19	10	12	15	20	20
F	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0
ϕd	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

Frequency coefficient for ripple current

Frequency	120Hz≦f<1KHz	1KHz≦f<10KHz	10KHz≦f<100KHz	100KHz≦f<500KHz
Coefficient	0.05	0.3	0.7	1.0

Dimensions, Maximum Ripple Current & Impedance

W.V.(V)	Capacitance (μF)	Case Size	Size φDxL(mm)	Tanδ (120Hz,20℃)	L.C. (μA)	E.S.R. (100k-300kHz, mΩ,20℃ max)	Rated R.C 105℃ (mArms at 100kHz,)
2.5V (0E)	560	A8	5x8	0. 1	300	7	4200
	560	C8	6. 3x8	0. 1	300	7	5600
	560	D8	8x8	0. 1	300	6	6100
	680	D11	8x11	0. 1	340	7	5600
	820	C8	6. 3x8	0. 1	410	7	5600
	820	D8	8x8	0. 1	410	6	6100
	1000	D8	8x8	0. 1	500	6	6100
	1200	C8	6. 3x8	0. 1	600	7	5600
	1200	D8	8x8	0. 1	600	7	6100
	1500	D8	8x8	0. 1	750	7	6100
	1500	D11	8x11	0. 1	750	7	5600
	2700	F12	10x12	0. 1	1350	7	6100
4V (0G)	560	C8	6. 3x8	0. 1	448	7	5000
	560	D8	8x8	0. 1	448	7	6100
	820	D8	8x8	0. 1	656	7	6100
	820	D11	8x11	0. 1	656	7	6100
	1000	D11	8x11	0. 1	800	7	6100
	1200	D11	8x11	0. 1	960	7	6100
	1200	F12	10x12	0. 1	960	7	6100
	1800	F12	10x12	0. 1	1440	7	6100
	2200	F12	10x12	0. 1	1760	7	6100
6.3V (0J)	100	A8	5x8	0. 1	300	16	2200
	220	A8	5x8	0. 1	300	14	2500
	220	B8	5. 5x8	0. 1	300	14	2500
	220	C6	6. 3x6	0. 1	300	16	2200
	220	C8	6. 3x8	0. 1	300	14	2500
	220	C10	6. 3x10	0. 1	300	14	3500
	270	A6	5x6	0. 1	340	14	3400
	270	A8	5x8	0. 1	340	12	3600
	330	A8	5x8	0. 1	415	12	3600
	330	C6	6. 3x6	0. 1	415	12	3600
	330	C8	6. 3x8	0. 1	415	8	5000
	390	A8	5x8	0. 1	491	10	3500
	390	C8	6. 3x8	0. 1	491	8	4000
	470	A8	5x8	0. 1	592	10	3900
	470	B8	5. 5x8	0. 1	592	10	4700
	470	C8	6. 3x8	0. 1	592	8	5000
	470	D8	8x8	0. 1	592	7	5700
	560	C8	6. 3x8	0. 1	706	8	5000
	560	D8	8x8	0. 1	706	7	5700
	680	B10	5. 5x10	0. 1	857	10	4000
	680	C8	6. 3x8	0. 1	857	8	5000
	680	C10	6. 3x10	0. 1	857	8	5000

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W.V.(V)	Capacitance (μF)	Case Size	Size φDxL(mm)	Tanδ (120Hz,20℃)	L.C. (μA)	E.S.R. (100k-300kHz, mΩ,20℃ max)	Rated R.C 105℃ (mArms at 100kHz,)
6.3V (0J)	680	D8	8x8	0.1	857	7	5700
	820	C8	6.3x8	0.1	1033	8	5000
	820	C10	6.3x10	0.1	1033	8	5200
	820	D8	8x8	0.1	1033	7	5700
	820	D11	8x11	0.1	1033	7	5700
6.3V (0J)	1000	C10	6.3x10	0.1	1260	8	5200
	1000	D8	8x8	0.1	1260	7	5700
	1000	D11	8x11	0.1	1260	7	5700
	1000	F12	10x12	0.1	1260	7	6100
	1200	D8	8x8	0.1	1512	7	5700
	1200	D11	8x11	0.1	1512	7	5700
	1200	F12	10x12	0.1	1512	7	6100
	1500	D11	8x11	0.1	1890	7	5700
	1500	F12	10x12	0.1	1890	7	6100
	1800	F12	10x12	0.1	2268	7	6100
	2200	D14	8x14	0.1	2772	7	5500
	2200	F12	10x12	0.1	2772	7	6100
	3300	F12	10x12	0.1	4158	7	6500
7.5V (0L)	390	A8	5x8	0.1	585	12	3900
	500	A10	5x10	0.1	750	12	4100
	560	A10	5x10	0.1	840	12	4200
10	220	C6	6.3x6	0.1	440	14	3500
	220	C10	6.3x10	0.1	440	8	4500
	470	C8	6.3x8	0.1	940	10	4200
	470	F12	10x12	0.1	940	7	6100
	560	F12	10x12	0.1	1120	10	6100
	680	C10	6.3x10	0.1	1360	8	4500
	680	F12	10x12	0.1	1360	7	6100
	820	C14	6.3x14	0.1	1640	10	5000
	820	D11	8x11	0.1	1640	7	5600
	1000	D11	8x11	0.1	2000	7	5600
	1200	F12	10x12	0.1	2400	7	6100
	2200	F12	10x12	0.1	4400	7	6100
12V	820	B14	5.5x14	0.1	1968	14	4800
16V	100	A6	5x6	0.1	320	18	2300
	100	A8	5x8	0.1	320	16	2300
	100	C6	6.3x6	0.1	320	20	3200
	100	C8	6.3x8	0.1	320	14	3800
	150	A8	5x8	0.1	480	16	3500
	150	C8	6.3x8	0.1	480	14	3800
	180	C6	6.3x6	0.1	576	18	3200
	180	D8	8x8	0.1	576	12	5000
	180	D11	8x11	0.1	576	12	5000
	220	A8	5x8	0.1	704	16	2800

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W.V.(V)	Capacitance (μF)	Case Size	Size φDxL(mm)	Tanδ (120Hz,20℃)	L.C. (μA)	E.S.R. (100k-300kHz, mΩ,20℃ max)	Rated R.C 105℃ (mArms at 100kHz,)
16V	220	A10	5x10	0. 1	704	16	2800
	220	C6	6. 3x6	0. 1	704	16	2800
	220	C8	6. 3x8	0. 1	704	14	3800
	220	D8	8x8	0. 1	704	12	5000
	270	B8	5. 5x8	0. 1	864	16	3500
	270	C6	6. 3x6	0. 1	864	18	3500
	270	C8	6. 3x8	0. 1	864	14	3800
	270	D8	8x8	0. 1	864	12	5000
	270	D11	8x11	0. 1	864	12	5000
	330	B10	5. 5x10	0. 1	1056	18	3800
16V	330	C6	6. 3x6	0. 1	1056	18	3800
	330	C8	6. 3x8	0. 1	1056	12	4500
	330	C10	6. 3x10	0. 1	1056	12	4500
	330	D8	8x8	0. 1	1056	12	5000
	330	D11	8x11	0. 1	1056	12	5000
	470	B10	5. 5x10	0. 1	1504	14	4000
	470	C8	6. 3x8	0. 1	1504	14	4300
	470	C10	6. 3x10	0. 1	1504	14	4500
	470	D8	8x8	0. 1	1504	12	5000
	470	D11	8x11	0. 1	1504	12	5000
	560	B14	5. 5x14	0.1	1792	14	4300
	560	C10	6. 3x10	0. 1	1792	12	4500
	560	D11	8x11	0. 1	1792	12	5000
	680	B14	5. 5x14	0. 1	2176	14	4500
	680	C10	6. 3x10	0. 1	2176	12	5000
	680	C14	6. 3x14	0. 1	2176	12	5000
	680	D11	8x11	0. 1	2176	12	5000
	820	C14	6. 3x14	0. 1	2624	12	4200
	820	D11	8x11	0. 1	2624	12	5000
	820	D14	8x14	0. 1	2624	12	5500
	820	F12	10x12	0. 1	2624	12	5500
	1000	C14	6. 3x14	0. 1	3200	12	4800
	1000	D11	8x11	0. 1	3200	12	5000
	1000	D14	8x14	0. 1	3200	12	5500
	1000	F12	10x12	0. 1	3200	12	5500
	1200	F12	10x12	0. 1	3840	12	5500
	2200	D19	8x19	0. 1	7040	10	6000
	2200	F15	10x15	0. 1	7040	10	6000
	3300	F20	10x20	0. 1	10560	10	6500
20V	390	D11	8x11	0. 1	200	14	5000
	680	F12	10x12	0. 1	272	12	5400
25V	33	A8	5x8	0. 1	200	18	2000
	47	A8	5x8	0. 1	200	18	2200
	47	A8	8x8	0. 1	200	14	3400

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W.V.(V)	Capacitance (μF)	Case Size	Size φDxL(mm)	Tanδ (120Hz,20℃)	L.C. (μA)	E.S.R. (100k-300kHz, mΩ,20℃ max)	Rated R.C 105℃ (mArms at 100kHz,)
25V	100	A6	5x6	0. 1	200	26	2600
	100	A8	5x8	0. 1	200	25	3000
	100	A10	5x10	0. 1	200	25	3000
	100	C6	6. 3x6	0. 1	200	20	3000
	150	B10	5. 5x10	0. 1	200	24	3200
	150	C8	6. 3x8	0. 1	200	25	3600
	150	C14	6. 3x14	0. 1	200	16	4600
	180	D11	8x11	0. 1	200	16	4600
	220	B8	5. 5x8	0. 1	200	25	2200
	220	B10	5. 5x10	0. 1	200	25	3600
	220	C8	6. 3x8	0. 1	200	25	3600
	220	C10	6. 3x10	0. 1	200	25	3600
	220	D8	8x8	0. 1	200	20	4200
	220	D11	8x11	0. 1	200	16	4600
	270	C8	6. 3x8	0. 1	200	20	3800
25V	330	B10	5. 5x10	0.1	200	25	3500
	330	C10	6. 3x10	0. 1	200	18	4000
	330	D11	8x11	0. 1	200	16	4800
	330	F12	10x12	0. 1	200	14	5000
	390	C14	6. 3x14	0. 1	200	16	4600
	390	F12	10x12	0. 1	200	14	5000
	470	C14	6. 3x14	0. 1	235	14	4600
	470	D11	8x11	0. 1	235	16	4600
	470	D14	8x14	0.1	235	16	5000
	560	C14	6. 3x14	0. 1	280	14	4800
	560	D11	8x11	0. 1	280	14	5000
	560	F12	10x12	0. 1	280	14	5200
	680	C14	6. 3x14	0. 1	340	18	3500
	680	D11	8x11	0. 1	340	16	4600
	680	D14	8x14	0. 1	340	16	5200
	680	F10	10x10	0. 1	340	18	4500
	680	F12	10x12	0. 1	340	14	5000
	820	C18	6. 3x18	0. 1	410	18	4100
	820	D14	8x14	0. 1	410	14	5200
	820	F12	10x12	0. 1	410	14	5000
	1000	D14	8x14	0. 1	500	14	4500
	1000	F12	10x12	0. 1	500	14	5000
	1000	F15	10x15	0. 1	500	14	5000
	1500	F15	10x15	0. 1	750	14	5000
	2200	F20	10x20	0. 1	1100	10	6500
30V	1000	D19	8x19	0. 1	600	16	6000
	1000	F15	10x15	0. 1	600	16	6000
	1500	F20	10x20	0. 1	900	16	7000
35V	33	A8	5x8	0. 1	200	20	1700

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W.V.(V)	Capacitance (μF)	Case Size	Size φDxL(mm)	Tanδ (120Hz,20℃)	L.C. (μA)	E.S.R. (100k-300kHz, mΩ,20℃ max)	Rated R.C 105℃ (mArms at 100kHz,)
35V	47	A6	5x6	0.1	200	24	2000
	47	A8	5x8	0.1	200	24	2000
	47	C8	6.3x8	0.1	200	20	2500
	47	D11	8x11	0.1	200	24	4000
	68	A8	5x8	0.1	200	35	1700
	82	D11	8x11	0.1	200	24	4000
	100	B10	5.5x10	0.1	200	24	2400
	100	C6	6.3x6	0.1	200	24	1800
	100	C8	6.3x8	0.1	200	25	2000
	100	D8	8x8	0.1	200	24	3000
	150	D8	8x8	0.1	200	20	3500
	150	F12	10x12	0.1	200	20	3800
	220	C10	6.3x10	0.1	200	24	2600
	220	D8	8x8	0.1	200	20	2800
	220	D11	8x11	0.1	200	18	3200
	220	F12	10x12	0.1	200	16	3400
	330	C14	6.3x14	0.1	231	20	3500
	330	D11	8x11	0.1	231	18	3600
	330	F12	10x12	0.1	231	16	3800
	470	D14	8x14	0.1	329	18	4200
	470	F12	10x12	0.1	329	18	4100
	560	F12	10x12	0.1	392	18	4400
	680	D14	8x14	0.1	476	18	4200
	680	D19	8x19	0.1	476	16	4500
	680	F15	10x15	0.1	476	18	4500
	820	F15	10x15	0.1	574	16	4800
	1000	F20	10x20	0.1	700	14	6000
50V	39	D11	8x11	0.1	200	24	4000
	47	C8	6.3x8	0.1	200	26	2500
	47	F12	10x12	0.1	200	24	2700
	56	C10	6.3x10	0.1	200	24	3200
	68	F12	10x12	0.1	200	24	2500
	82	C10	6.3x10	0.1	200	26	2200
	100	F10	10x10	0.1	200	18	3200
	220	F12	10x12	0.1	220	18	3800
	330	F15	10x15	0.1	330	16	5100
63V	33	D11	8x11	0.1	200	24	4000
	39	F12	10x12	0.1	200	25	2600
	47	F12	10x12	0.1	200	25	2600
	56	F12	10x12	0.1	200	25	2600
	100	F12	10x12	0.1	200	22	3200
	150	F12	10x12	0.1	200	20	4100
	220	F15	10x15	0.1	277	18	4200
80V	22	D11	8x11	0.1	200	16	2800

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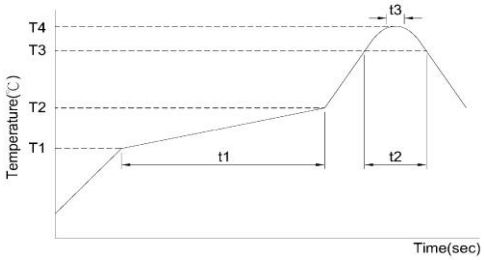
W.V.(V)	Capacitance (μF)	Case Size	Size φDxL(mm)	Tanδ (120Hz,20℃)	L.C. (μA)	E.S.R. (100k-300kHz, mΩ,20℃ max)	Rated R.C 105℃ (mArms at 100kHz,)
80V	47	F12	10x12	0. 1	200	14	3500
	100	F20	10x20	0. 1	200	12	4100
100V (2A)	10	D8	8x8	0. 1	200	22	2000
	22	F12	10x12	0. 1	200	20	2500

Reliability for Car- Tronics AEC Q-200_REV D

Endurance Characteristic:

<table>
<tr><th>No.</th><th>Item</th><th>Conditions</th><th colspan="2">Specification</th><th>Reference</th></tr>
<tr><td rowspan="4">1</td><td rowspan="4">High Temperature Load Life Test</td><td rowspan="4">Capacitor is placed in the highest temperature with rated voltage for 5000+72/-0Hrs.</td><td>Capacitance change</td><td>Within ±30% of initial value</td><td rowspan="4">MIL-STD-202 Method 108</td></tr>
<tr><td>Tanδ</td><td>Less than 300% of specified value</td></tr>
<tr><td>Leakage Current</td><td>Within specified value</td></tr>
<tr><td>Appearance</td><td>No abnormality</td></tr>
<tr><td rowspan="4">2</td><td rowspan="4">High Temperature Exposure (Storage)</td><td rowspan="4">Capacitor is placed in the highest temperature for 1000+48/-0Hrs.</td><td>Capacitance change</td><td>Within ±30% of initial value</td><td rowspan="4">MIL-STD-202 Method108</td></tr>
<tr><td>Tanδ</td><td>Less than 300% of specified value</td></tr>
<tr><td>Leakage Current</td><td>Within specified value</td></tr>
<tr><td>Appearance</td><td>No abnormality</td></tr>
<tr><td rowspan="4">3</td><td rowspan="4">Temperature Cycling</td><td rowspan="4">Step1: Max. rated temperature±3/-3℃(30±3mins)
Step2: Min. rated temperature±3/-3℃(30±3mins)
Max.transfer time: 1min
According to the step1 to step2, and do 1000cycles</td><td>Capacitance change</td><td>Within ±10% of initial value</td><td rowspan="4">JESD22 Method JA-104</td></tr>
<tr><td>Tan δ</td><td>Within specified value</td></tr>
<tr><td>Leakage Current</td><td>Within specified value</td></tr>
<tr><td>Appearance</td><td>No abnormality</td></tr>
<tr><td rowspan="4">4</td><td rowspan="4">Biased Humidity</td><td rowspan="4">Capacitor is placed at the temperature of 85±3℃, and humidity of 85% with rated voltage for 1000Hrs</td><td>Capacitance change</td><td>Within ±20% of initial value</td><td rowspan="4">MIL-STD-202 Method 103</td></tr>
<tr><td>Tanδ</td><td>Less than 150% of specified value</td></tr>
<tr><td>Leakage Current</td><td>Within specified value</td></tr>
<tr><td>Appearance</td><td>No abnormality</td></tr>
<tr><td>5</td><td>Physical Dimension</td><td></td><td>Appearance</td><td>No abnormality</td><td>JESD22 Method JB-100</td></tr>
<tr><td>6</td><td>Resistance To Solvent</td><td>1.The capacitor shall be immersed into the isopropyl.
2.Immersion time: 3 +0.5/-0 minutes at 25±5℃.
3.Use wool brush to brush capacitor for 10 times.
Conduct the steps 1~3 for 3 cycles.</td><td colspan="2">Print cannot fall off or ambiguous</td><td>MIL-STD-202 Method 215</td></tr>
<tr><td rowspan="5">7</td><td rowspan="5">Mechanical Shock</td><td rowspan="5">Capacitor is placed on the PCB and fixed.Conditions as below:
<table><tr><td>Test items</td><td>For automobile</td></tr><tr><td>Acceleration speed</td><td>100g(1000 m/s²)</td></tr><tr><td>Shocking direction</td><td>X-Y-Z three axles (6 planes)</td></tr><tr><td>Duration(D)(ms)</td><td>6</td></tr><tr><td>Velocity(m/s)</td><td>3.75</td></tr><tr><td>Wave</td><td>Half sine</td></tr><tr><td>Test times</td><td>18times (3*6=18)</td></tr></table></td><td>Capacitance change</td><td>Within ±10% of initial value</td><td rowspan="5">MIL-STD-202 Method 213</td></tr>
<tr><td>Tanδ</td><td>Within specified value</td></tr>
<tr><td>Leakage Current</td><td>Within specified value</td></tr>
<tr><td rowspan="2">Appearance</td><td rowspan="2">No abnormality</td></tr>
<tr></tr>
</table>

<table>
<tr><th>No.</th><th>Item</th><th>Conditions</th><th colspan="3">Specification</th><th>Reference</th></tr>
<tr><td>8</td><td>Vibration</td><td>Capacitor is placed in the PCB and fixed. Setting the acceleration (5g)and frequency (10-2000Hz) according to the test condition ,vibration 4Hrs from three directions (X-Y-Z).</td><td colspan="3">Capacitance change: Within ±10% of initial value
Tan δ: Within specified value
Leakage Current: Within specified value
Appearance: No abnormality</td><td>MIL-STD- 202 Method 204</td></tr>
<tr><td>9</td><td>Resistance to Soldering Heat</td><td>According to the Control standard operating of Jarson, test twice.
 

<table>
<tr><td colspan="2">Rated voltage (V)</td><td colspan="2">4~50</td><td>63 up</td><td colspan="2">4~100</td></tr>
<tr><td colspan="2">Case size (φ)</td><td colspan="2">4~6.3</td><td>4~6.3</td><td colspan="2">8~12.5</td></tr>
<tr><td rowspan="2">Preheat</td><td>Temp.(T1~T2,℃)</td><td colspan="5">150-180</td></tr>
<tr><td>Time (t1)(Max,secs)</td><td colspan="5">100</td></tr>
<tr><td rowspan="2">Duration</td><td>Temp.(T3,℃)</td><td>217</td><td>230</td><td>217</td><td>217</td><td>230</td></tr>
<tr><td>Time (t2)(Max,secs)</td><td>90</td><td>60</td><td>60</td><td>60</td><td>40</td></tr>
<tr><td rowspan="2">Peak</td><td>Temp.(T4,℃)</td><td colspan="2">260</td><td>250</td><td colspan="2">250</td></tr>
<tr><td>Time (t3,secs)</td><td colspan="5">5</td></tr>
<tr><td colspan="2">Reflow cycles</td><td colspan="5">2 or less</td></tr>
</table></td><td colspan="3">Capacitance change: Within ±10% of initial value
Tanδ: Within specified value
Leakage Current: Within specified value
Appearance: No abnormality</td><td>MIL-STD- 202 Method 210</td></tr>
<tr><td>10</td><td>Solderability test (SMD)</td><td>Solderability test 1: Solder bath temperature: 235±5℃ Duration:5±0/-0.5s
Solderability test 2:Solder bath temperature:260±5℃ Duration:7±0.5s</td><td colspan="3">Sn is more than 95% in the surface of terminal</td><td>J-STD-002B</td></tr>
<tr><td>11</td><td>Electrical Characterization</td><td>Whether there is abnormality about electrical characterization in the test that under the ensurance temperature(the lowest ,the highest, atmospheric temperature).</td><td colspan="3">Appearance: No abnormality</td><td>User Spec.</td></tr>
<tr><td>12</td><td>Board Flex</td><td>Capacitor is placed in the PCB and pressed to deviate from Original fulcrum more than 2mm for 60（+5）s.</td><td colspan="3">Capacitance change: Within ±10% of initial value
Tanδ: Within specified value
Leakage Current: Within specified value
Appearance: No abnormality</td><td>AEC-Q200-005</td></tr>
</table>

<table>
<tr><th>No</th><th>Item</th><th>Conditions</th><th colspan="2">Specification</th><th>Reference</th></tr>
<tr><td rowspan="4">13</td><td rowspan="4">Terminal Strength (SMD)</td><td rowspan="4">Test condition: Capacitor is placed in the PCB by solder paste and do high temperature test (Reflow) to endurance the power of 1.8kg for 60S,no dropping condition.</td><td>Capacitance change</td><td>Within ±10% of initial value</td><td rowspan="4">AEC-Q 200-006</td></tr>
<tr><td>Tanδ</td><td>Within specified value</td></tr>
<tr><td>Leakage Current</td><td>Within specified value</td></tr>
<tr><td>Appearance</td><td>No abnormality</td></tr>
<tr><td rowspan="4">14</td><td rowspan="4">Surge Voltage</td><td rowspan="4">Capacitor is placed at 15℃~35℃ with surge voltage for 30±5(charging) and 330s(discharging),do surge voltage test continuity for 1000 times.
Applying voltage:
<table>
<tr><td>W.V.</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td></tr>
<tr><td>S. V.</td><td>7.3</td><td>11.5</td><td>18.4</td><td>28.8</td><td>40.3</td><td>57.5</td><td>72.5</td></tr>
<tr><td>W.V.</td><td>80</td><td>100</td><td>160</td><td>200</td><td>250</td><td>400</td><td>450</td></tr>
<tr><td>S. V.</td><td>92</td><td>115</td><td>184</td><td>230</td><td>288</td><td>440</td><td>495</td></tr>
</table></td><td>Capacitance change</td><td>Within ±20% of initial value</td><td rowspan="4">AEC-Q 200-007</td></tr>
<tr><td>Tanδ</td><td>Less than 175% of specified value</td></tr>
<tr><td>Leakage Current</td><td>Within specified value</td></tr>
<tr><td>Appearance</td><td>No abnormality</td></tr>
</table>