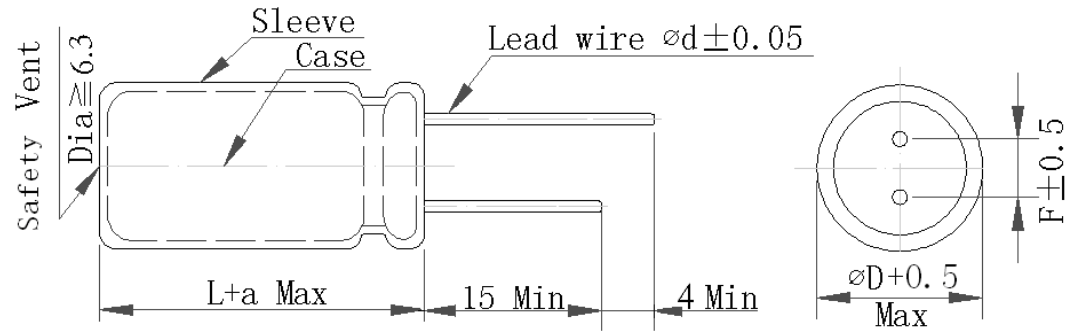




Aluminum Electrolytic Capacitor

Customer	SEMIC	SERIES	KJ	NO.:521-790377	PUBLISH DATE	2017-9-27
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No.	ELITE Part No.	Customer Part No.	Capacitance (uF)	Tolerance on rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp. Range (°C)	Tan δ @25°C (120 Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @105°C 120Hz	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
												ΦD	L	a	Φd	F	
1	KJ2G680MNN1625MR		68	± 20	400	450	-40 ~ +105	0.24	826	570	12000	16	25	1.5	0.8	7.5	---

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

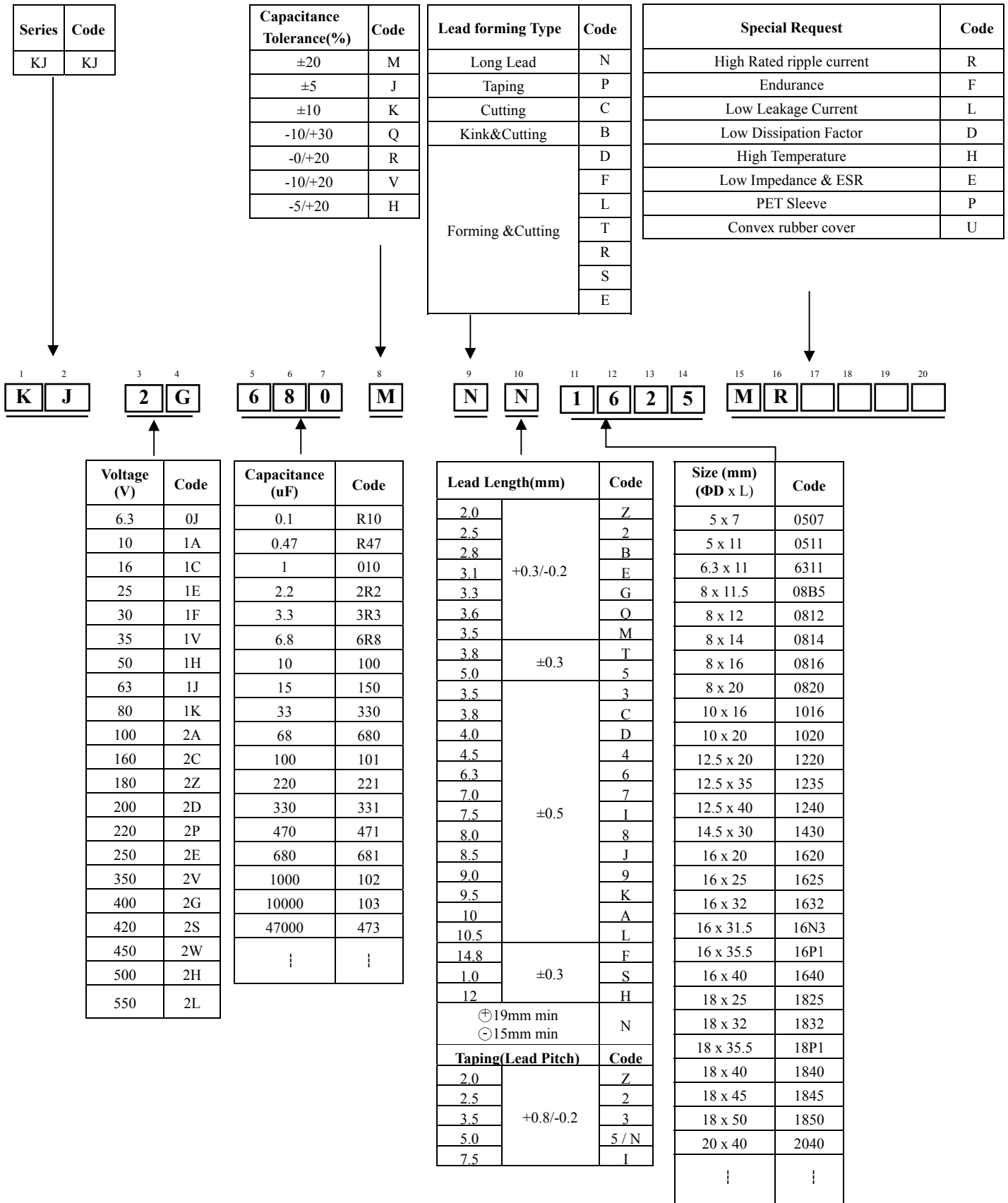
REMARKS:	APPROVED BY	CHECKED BY	PREPARED BY
	李文华	刘万锦	梁碧妍

Precautions in using Aluminum Electrolytic Capacitors

1. Standard DC electrolytic capacitors have polarity, which are indicated on the capacitors. They should not be used with polarity in reverse, if the polarity in circuit diagram is unknown, use non-polarised capacitors.
2. The capacitors should not be used at any temperature exceeding the range of the specified operating temperature.
3. If the capacitors are stored or left for a long time, aging should be conducted at the rated working voltage before application.
4. The capacitors are not suitable for circuits where sudden charge and discharge are frequently repeated.
5. Use the capacitors within the permissible ripple current range.
6. Do not impress voltage exceeding the capacitor's working voltage rating.
7. Be careful not to apply excessive force to the lead wires or terminals, which is subjected to the requirements of JIS-C-5101-4.
8. Soldering irons should be kept away from the sleeves of capacitors to avoid causing it to break.
9. Dip of flow soldering of the capacitors should be limited to 10 seconds at 260 degrees Celsius.
10. Take care when cleaning the circuit boards after soldering as some solvents that contain halogenated hydrocarbon solvents may have adverse effects on the capacitors.
11. When soldering lead wires or terminals of adjacent components, take care as if contacted, the capacitor sleeve may tear. Mount carefully so as not to bring adjacent components lead wires or terminals in contact with the sleeve, particularly when mounting on through-hole circuit boards.
12. The specification of products is followed by the characteristic (W) of JIS-C-5101-4. For methods of processing and testing, refer to JIS-C-5101-1.

PART NUMBER SYSTEM (RADIAL LEAD TYPE)

◆ Example: KJ Series 68uF 400V Φ16×25L

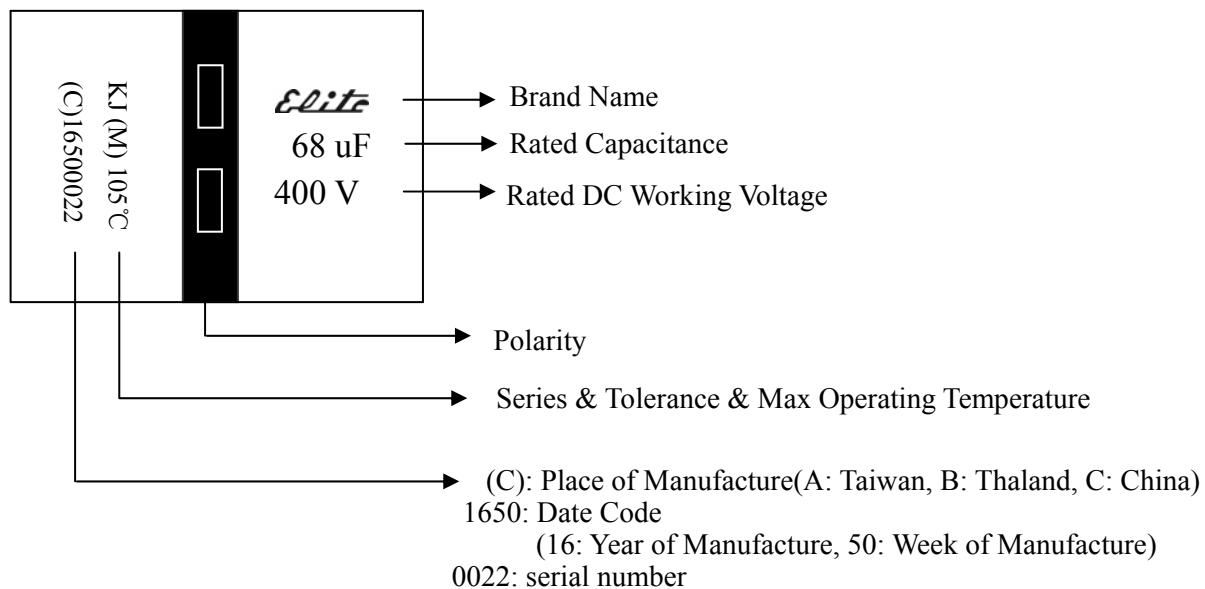


Marking

Each capacitor shall be marked with the following information.

(The Front)

(The Black)



KJ SERIES

Test Item	Test Condition		Acceptance Criteria					
Temperature Cycle	One Cycle	Temperature (°C)	Dwell Time (Minutes)	1. No appearance defect 2. Capacitance change within ± 5% 3. D.F. smaller than specification value 4. Leakage current smaller than specification value				
		Rated low category temperature±3	30±3					
		+25°C	3MAX					
		Rated high category temperature±2	30±3					
		+25°C	3MAX					
Total number of cycles: 5								
Resistance to Soldering Heat	Warm up time: 120 ±2 seconds to reach 120 ±2°C Solder bath temperature: 260±5 °C Solder bath composition: Sn - 96.5% Ag - 3.0% Cu - 0.5% Immersion depth : 1.5 to 2.0 mm Immersion duration : 10±1 seconds		1. No appearance defect 2. Capacitance change within ± 10% 3. D.F. smaller than specification value 4. Leakage current smaller than specification value					
Solder Ability	Solder bath temperature: 235±5°C Solder bath composition: Sn - 96.5% Ag - 3.0% Cu - 0.5% Immersion depth: 1.5 to 2.0 mm Immersion duration: 2±0.5 seconds		A minimum of 95% of the immersed surface is to be coated with the new solder					
High Humidity Storage	Temperature: 40 ± 2°C Relative humidity: 90 to 95% Duration: 240 ± 8 hours		1. No appearance defect 2. Capacitance change within ± 10% 3. D.F. change within 120% of the specified value 4. Leakage current smaller than specification value					
Surge	Temperature: 105°C Applied voltage: See specification “ON” position: 30 seconds “OFF” position: 5 minutes 30 seconds Duration: 1000 cycles		1. No electrical or mechanical damage 2. Capacitance change within ± 15% 3. D.F. smaller than specification value 4. Leakage current smaller than specification value					
Low Temperature Characteristics (Max.Impedance Ratio)								
	Working Voltage(V)	160~250	350	400	450			
Impedance Z-25°C /+20°C	4	4	4	6				

Test Item	Test Condition	Acceptance Criteria																			
Vent	Conduct under normal lighting conditions for lab work	There shall be no explosion, flash, flame, spark or fire from the capacitor during or after the test, nor shall there be expulsion of any metal from the casing.																			
	<table border="1"> <thead> <tr> <th>Capacitor diameter</th> <th>Applied Current(A)</th> <th>Minutes</th> </tr> </thead> <tbody> <tr> <td>Less than 22.4 mm</td> <td>1</td> <td rowspan="2">Within 30</td> </tr> <tr> <td>More than 22.5 mm</td> <td>10</td> </tr> </tbody> </table>		Capacitor diameter	Applied Current(A)	Minutes	Less than 22.4 mm	1	Within 30	More than 22.5 mm	10											
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Less than 22.4 mm	1	Within 30																			
More than 22.5 mm	10																				
Vibration	Frequency range: 10 Hz to 55 Hz Amplitude: 1.5 mm Cycle definition: 10 Hz to 55 Hz and back to 10 Hz Cycle duration: 1 minute Duration: 2 hours per direction (3 directions)	1. No electrical or mechanical damage 2. No appearance damage																			
Terminal Pull	<table border="1"> <thead> <tr> <th colspan="2">Terminal type & diameter (mm)</th> <th>Load (Kg)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Radial</td> <td>0.5</td> <td>0.5</td> </tr> <tr> <td>0.6 to 0.8</td> <td>1.0</td> </tr> <tr> <td>0.8</td> <td>1.5</td> </tr> </tbody> </table>	Terminal type & diameter (mm)		Load (Kg)	Radial	0.5	0.5	0.6 to 0.8	1.0	0.8	1.5	1. No electrical or mechanical damage 2. No appearance damage									
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Endurance	Capacitors are placed in an oven and applied and applied with rated voltage for 12,000 hours at 105°C. After being restored to 25°C, capacitors shall meet the specifications	1. Capacitance change within $\pm 20\%$ of the initial value 2. D.F. change within $\pm 200\%$ of the specified value 3. Leakage current smaller than specification value																			
Shelf Life	Capacitors are placed in an oven for 1,000 hours at 105°C without applying rated working voltage. After being restored to 25°C, capacitors shall meet the specifications.	1. Capacitance change within $\pm 20\%$ of the initial value 2. D.F. change within $\pm 200\%$ of the specified value 3. Leakage current within $\pm 500\%$ of the specified value																			
Maximum permissible ripple current	Temperature : $105\pm 2^{\circ}\text{C}$ Voltage : DC. Voltage+peak ripple voltage \leq Rated voltage																				
Ripple current multipliers	Frequency Multipliers																				
	<table border="1"> <thead> <tr> <th rowspan="2">Cap.(uF)</th> <th colspan="4">Frequency (Hz)</th> </tr> <tr> <th>120</th> <th>1K</th> <th>10K</th> <th>100K</th> </tr> </thead> <tbody> <tr> <td>< 100</td> <td>1.00</td> <td>1.75</td> <td>2.25</td> <td>2.50</td> </tr> <tr> <td>≥ 100</td> <td>1.00</td> <td>1.67</td> <td>2.05</td> <td>2.25</td> </tr> </tbody> </table>		Cap.(uF)	Frequency (Hz)				120	1K	10K	100K	< 100	1.00	1.75	2.25	2.50	≥ 100	1.00	1.67	2.05	2.25
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