



MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

GSA Series

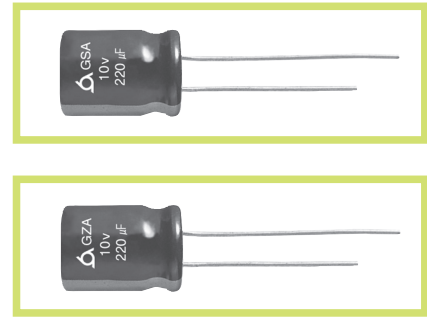
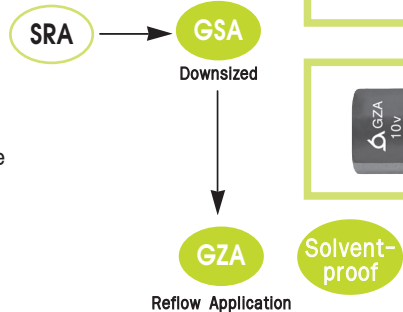
- Non-solvent proof.
- Height 7mm.
- For CAR-Audio, Tuner.

- 85°C 2,000Hrs assured.
- RoHS compliant.
- Halogen-free capacitors are also available.

GZA Series

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SPECIFICATIONS

Item	Characteristics																					
Rated Voltage Range	6.3 ~ 63 V _{dc}																					
Operating Temperature Range	-40 ~ +85°C																					
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)																					
Leakage Current	I = 0.01CV(μA) or 3μA, whichever is greater. where, I: Max. Leakage current(μA) C: Nominal capacitance(μF), V: Rated voltage(V _{dc}) (at 20°C, 2 minutes)																					
Dissipation Factor(Tanδ)	<table border="1"> <tr> <td>Rated Voltage(V_{dc})</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>Tanδ(Max.)</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.11</td> <td>0.08</td> </tr> </table> ※ 6.3 VB 220(0.27) , 16 VB 100(0.19) (at 20°C, 120Hz)	Rated Voltage(V _{dc})	6.3	10	16	25	35	50	63	Tanδ(Max.)	0.24	0.20	0.16	0.14	0.12	0.11	0.08					
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Temperature Characteristics (Max. Impedance ratio)	<table border="1"> <tr> <td>Rated Voltage(V_{dc})</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50~63</td> </tr> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>4</td> </tr> </table> (at 120Hz)	Rated Voltage(V _{dc})	6.3	10	16	25	35	50~63	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	Z(-40°C)/Z(+20°C)	8	6	4	3	3	4
Rated Voltage(V _{dc})	6.3	10	16	25	35	50~63																
Z(-25°C)/Z(+20°C)	4	3	2	2	2	2																
Z(-40°C)/Z(+20°C)	8	6	4	3	3	4																
Load Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2,000 hours at 85°C. Capacitance change ≦ ±25% of the initial value (where, ±20% for GZA Series) Tanδ ≦ 200% of the initial specified value Leakage current ≦ The initial specified value																					
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 85°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements. Capacitance change ≦ ±20% of the initial value Tanδ ≦ 200% of the initial specified value Leakage current ≦ 200% of initial specified value																					
Others	Satisfied characteristics KS C IEC 60384-4																					

DIMENSIONS OF GSA/GZA Series

Unit(mm)

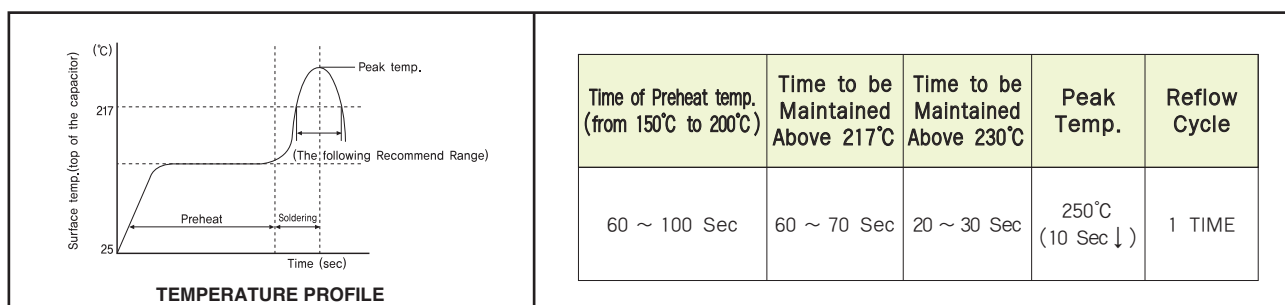
ø D	4	5	6.3	8
ø d	0.45			
F	1.5	2.0	2.5	3.5
ø D'	ø D + 0.5 max.			
L'	L + 1.0 max.			

Marking- GSA : BLACK SLEEVE, WHITE INK
GZA : GREEN SLEEVE, BLACK INK

RATINGS OF GSA / GZA Series

μF \ V _{DC}	6.3	10	16	25	35	50	63	
0.1						4×7 1.3	4×7 1.3	
0.15						4×7 2.0	4×7 2.0	
0.22						4×7 2.9	4×7 3.0	
0.33						4×7 3.5	4×7 3.7	
0.47						4×7 5.0	4×7 5.4	
0.68						4×7 7.1	4×7 7.6	
1						4×7 10	4×7 11	
1.5						4×7 12	4×7 13	
2.2						4×7 15	4×7 17	
3.3					4×7 17	4×7 18	4×7 20	
4.7				4×7 19	4×7 20	4×7 22	4×7 25	
6.8				4×7 20	4×7 23	5×7 25	5×7 28	
10			4×7 25	4×7 26	4×7 27	5×7 31	6.3×7 38	
15			4×7 28	4×7 30	5×7 36	6.3×7 48	6.3×7 51	
22	4×7 31	4×7 32	4×7 34	5×7 41	5×7 44	6.3×7 58	6.3×7 62	
33	4×7 35	4×7 38	5×7 45	5×7 50	6.3×7 64	6.3×7 68	8×7 72	
47	4×7 42	5×7 50	5×7 55	6.3×7 65	6.3×7 70	8×7 84		
68	4×7 56	5×7 60	6.3×7 83	6.3×7 85	8×7 91			
100	5×7 68	6.3×7 80	6.3×7 95	6.3×7 101				
150	6.3×7 90	6.3×7 95	8×7 116	8×7 127				
220	6.3×7 120	6.3×7 122	8×7 140					
330	6.3×7 141	8×7 152						
470	8×7 168	← Case Size $\phi D \times L$ (mm)						
		← Rated Ripple Current (mArms/85°C, 120Hz)						

RECOMMENDED REFLOW SOLDERING CONDITIONS(For GZA Series)



GSA/GZA Series