



Chinsan Electronic
Since 1970

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ALUMINUM ELECTROLYTIC CAPACITORS



CES Series

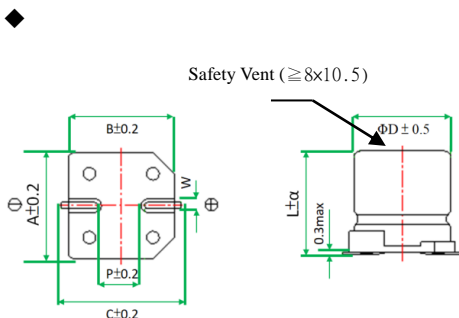
- Low impedance
- Load life 1,000 to 2,000 hours at 105°C



◆ SPECIFICATIONS

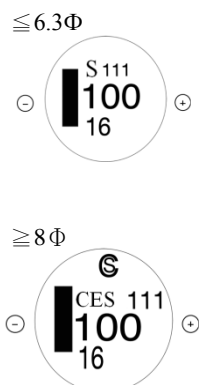
Item	Performance Characteristics																																	
Category Temperature Range	-55 ~ +105°C																																	
Working Voltage Range	6.3 ~ 50Vdc																																	
Capacitance Range	1 ~ 3,300 μF																																	
Capacitance Tolerance	±20% (at 25°C and 120Hz)																																	
Dissipation Factor (tanδ) (at 25°C, 120Hz)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>tanδ(Max) Ø4~Ø10</td> <td>0.22</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.12</td> </tr> <tr> <td>Ø12.5</td> <td>0.26</td> <td>0.22</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </tbody> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	tanδ(Max) Ø4~Ø10	0.22	0.20	0.16	0.14	0.12	0.12	Ø12.5	0.26	0.22	0.18	0.16	0.14	0.12												
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The above values should be increased by 0.02 for every additional 1000μF																																		
Leakage Current	(Ø4~Ø10) I=0.01CV or 3μA whichever is greater impress the rated voltage for 2 minutes. (Ø12.5) I=0.03CV or 4μA whichever is greater impress the rated voltage for 1 minutes. I : Leakage current (μA) C : Rated capacitance (μF) V : Rated voltage (V)																																	
Low Temperature Characteristics Impedance Ratio(MAX)	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Ø4~Ø10</td> <td>Z(-25°C)/Z(+20°C)</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-55°C)/Z(+20°C)</td> <td>5</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> </tr> <tr> <td rowspan="2">Ø12.5</td> <td>Z(-25°C)/Z(+20°C)</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-55°C)/Z(+20°C)</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> </tr> </tbody> </table>	Rated voltage (V)	6.3	10	16	25	35	50	Ø4~Ø10	Z(-25°C)/Z(+20°C)	2	2	2	2	2	Z(-55°C)/Z(+20°C)	5	4	4	3	3	Ø12.5	Z(-25°C)/Z(+20°C)	3	3	2	2	2	Z(-55°C)/Z(+20°C)	10	8	6	4	3
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	Z(-55°C)/Z(+20°C)	10	8	6	4	3																												
(at 120Hz)																																		
Endurance	The following specifications shall be satisfied when the capacitors are restored to 25°C after subjected to DC voltage with the rated voltage is applied for 2,000 hours (Ø4~6.3x5.8 for 1,000 hours) at 105°C																																	
	<table border="1"> <tbody> <tr> <td>Capacitance change</td> <td>≅ ±20% of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≅ 200% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≅ specified value</td> </tr> </tbody> </table>	Capacitance change	≅ ±20% of the initial value	Dissipation factor(tanδ)	≅ 200% of the specified value	Leakage current	≅ specified value																											
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Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 25°C after exposing them for 1000 hours at 105°C without voltage applied.																																	
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Others	Conforms to JIS-C-5101-4 (1998), characteristic W																																	

◆ DIMENSIONS (mm)



Code	Size	ΦD	L	α	A	B	C	W	P
0458	4×5.8	4	5.8	+0.4 -0.1	4.3	4.3	4.8	0.5~0.8	1
0558	5×5.8	5	5.8	+0.4 -0.1	5.3	5.3	5.8	0.5~0.8	1.3
6358	6.3×5.8	6.3	5.8	+0.4 -0.1	6.6	6.6	7.3	0.5~0.8	2.1
6377	6.3×7.7	6.3	7.7	±0.3	6.6	6.6	7.3	0.5~0.8	2.1
0862	8×6.2	8	6.2	+0.4 -0.1	8.3	8.3	8.8	0.5~0.8	2.2
08A5	8×10.5	8	10.5	0.5	8.3	8.3	9.1	0.8~1.2	3.1
10A5	10×10.5	10	10.5	0.5	10.3	10.3	11	0.8~1.2	4.6
10C5	10×12.5	10	12.5	0.5	10.3	10.3	11	0.8~1.2	4.6
12D5	12.5×13.5	12.5	13.5	1.0	12.8	12.8	13.8	0.8~1.2	4.6
1216	12.5×16	12.5	16	1.0	12.8	12.8	13.8	0.8~1.2	4.6

◆ Marking



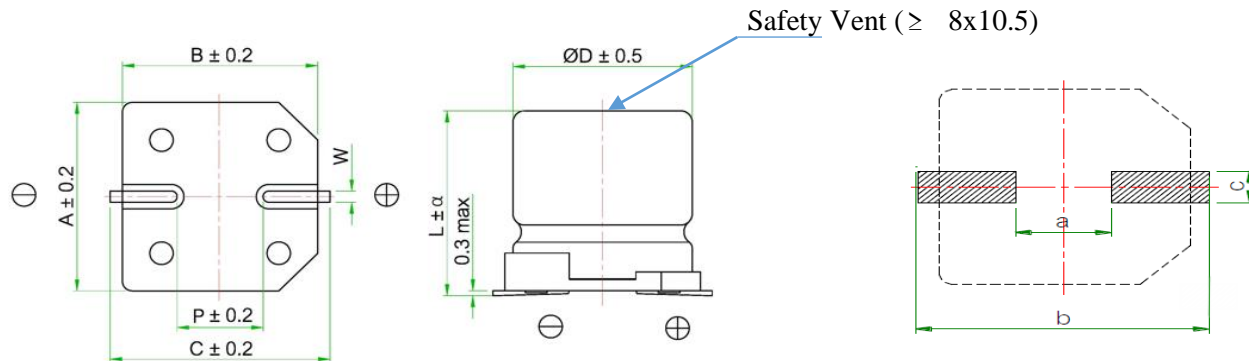
Aluminum Electrolytic Capacitor

Customer	Digi-Key	SERIES	CES	NO.:	PUBLISH DATE	2022-03-28
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1、Tape & Reel (TR)\ Cut Tape (CT)\ Digi-Reel.

2、Diagram of Dimensions (unit : mm.), and Recommended soldering pad dimensions.

Size Code	ΦD	L	A	B	C	W	P	α	a	b	c
6358	6.3	5.8	6.6	6.6	7.3	0.5~0.8	2.1	0.4/-0.1	2.1	9.1	1.6
08A5	8	10.5	8.3	8.3	9.1	0.8~1.2	3.1	0.5	3.0	11.0	2.5



No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tanδ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (Ω max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														DΦ	L	a	d	P	
1	CES1C101MCB6358		100	±20%	16		-55° C ~ 105° C	0.16	16		140mA @ 100 kHz	1.0 Ω	1000 Hrs @ 105° C	6.3mm	5.8mm			2.1mm	---
2	CES1V221MCB08A5		220	±20%	35		-55° C ~ 105° C	0.12	77		450mA @ 100 kHz	0.3 Ω	2000 Hrs @ 125° C	8.0mm	10.5mm			3.1mm	

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

REMARKS:	APPROVED BY	CHECKED BY	PREPARED BY
	李科高	张铭仁	聂婷