

Aluminum Electrolytic Capacitors Surface Mount AEC-Q200

SHTL-A series

MERITEK

FEATURE

- Ultra-Low Impedance Series
- Applications: Monitor/Computer, Communication Power Industry, Car, Electricity Meter Industry, Car, Electricity Meter
- AEC-Q200 Compliant
- Load Life: 105°C



Diameter (mm)	Load Life (Hours)
4.0 ~ 16.0	2000



SPECIFICATIONS

Item	Characteristic												
Operating Temperature	-55 ~ 105°C				-25 ~ +105°C								
Rated Working Voltage	6.3 ~ 100VDC				160 ~ 450VDC								
Nominal Capacitance	1.0 ~ 2200µF, ±20% (at 20°C, 120HZ)												
	Φ4.0~10.0		Φ12.5~16.0			Φ8.0~16.0							
Leakage Current	I _L ≤ 0.01CV or 3µA whichever is greater after 2 minutes at 20°C		I _L ≤ 0.03CV or 4µA whichever is greater after 2 minutes at 20°C			I _L ≤ 0.04CV + 100µA after 5 minutes at 20°C							
	I _L : Leakage Current (µA) C: Nominal Capacitance (µF) V: Rated Voltage (V)												
Ripple Current	Frequency (Hz)	60	120	1K	10K	--	--	--	--				
Coefficient, Frequency	Coefficient	0.85	1.00	1.15	1.25	--	--	--	--				
Low Temperature Stability, Impedance Ratio at 120Hz	Working Voltage (V)	6.3	10	16	25	35~100		160~450					
	Z-25°C / Z+20°C	4	3	2	2	2		4					
	Z-40°C / Z+20°C	8	6	4	4	3		--					
Load Life	Capacitance	Φ4~6.3	≤ ±25% of initial value					Apply Working Voltage for Rated Load Life / Temperature Stabilized at +20°C					
		Φ8~16	≤ ±20% of initial value										
	Dissipation Factor	≤ 200% of initial value											
	Leakage Current	≤ Initial specified value											
Shelf Life	Capacitance	≤ ±25% of initial value					After storage condition without voltage applied for 1000 hours at Rated Temperature, Stabilizing for 1 to 2 hours						
		Dissipation Factor	≤ 200% of initial value										
		Leakage Current	≤ Initial specified value										
Resistance to Soldering Heat	Capacitance	≤ ±20% of initial value								For other procedures than those specified, Soldering iron method: Temperature: 260±5°C. Application time of soldering iron: 10 sec			
		Dissipation Factor	≤ specified value										
		Leakage Current	≤ specified value										

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STANDARD RATING

Rated Voltage (V _{DC})	Rated Capacitance		Case Size (mm)	Tan δ (%)	Ripple Current (mA/rms)
	(μF)	Code			
6.3	22	220	4x5.4	0.30	26
	33	330	4x5.4	0.30	29
	47	470	4x5.4	0.30	31
	47	470	5x5.4	0.30	46
	100	101	5x5.4	0.30	47
	100	101	6.3x5.4	0.30	71
	220	221	6.3x5.4	0.30	80
	220	221	6.3x7.7	0.30	120
	330	331	6.3x7.7	0.30	140
	330	331	8x6.2	0.35	140
	330	331	8x10.2	0.35	290
	470	471	8x10.2	0.35	290
	470	471	10x10.2	0.35	380
	1000	102	8x10.2	0.35	290
	1000	102	10x10.2	0.35	410
	1500	152	10x10.2	0.35	460
	2200	222	12.5x13.5	0.35	680
	10	10	100	4x5.4	0.22
22		220	4x5.4	0.22	23
33		330	4x5.4	0.22	26
33		330	5x5.4	0.22	45
47		470	5x5.4	0.22	60
47		470	6.3x5.4	0.22	70
100		101	5x5.4	0.22	60
100		101	6.3x5.4	0.22	75
100		101	6.3x7.7	0.22	110
220		221	6.3x7.7	0.22	120
220		221	8x6.2	0.26	120
220		221	8x10.2	0.26	260
330		331	6.3x7.7	0.26	200
330		331	8x10.2	0.26	290
470		471	8x10.2	0.26	320
470		471	10x10.2	0.26	380
680		681	8x10.2	0.26	360
1000		102	10x10.2	0.26	410
2200	222	12.5x13.5	0.26	680	
16	10	100	4x5.4	0.16	28
	22	220	4x5.4	0.16	29
	22	220	5x5.4	0.16	39
	33	330	5x5.4	0.16	40
	33	330	5x5.4	0.16	42
	47	470	6.3x5.4	0.16	70
	100	101	6.3x5.4	0.16	71
	100	101	6.3x7.7	0.16	130

Rated Voltage (V _{DC})	Rated Capacitance		Case Size (mm)	Tan δ (%)	Ripple Current (mA/rms)	
	(μF)	Code				
16	220	221	6.3x7.7	0.16	130	
	220	221	8x6.2	0.20	130	
	220	221	8x10.2	0.20	150	
	220	221	10x10.2	0.20	210	
	330	331	10x10.2	0.20	260	
	470	471	8x10.2	0.20	240	
	470	471	10x10.2	0.20	380	
	1000	102	12.5x13.5	0.34	550	
	2200	222	16x16.5	0.34	900	
	25	3.3	3R3	4x5.4	0.14	18
		4.7	4R7	4x5.4	0.14	22
		6.8	6R8	4x5.4	0.14	25
10		100	4x5.4	0.14	25	
10		100	5x5.4	0.14	28	
22		220	5x5.4	0.14	28	
22		220	6.3x5.4	0.14	55	
33		330	6.3x5.4	0.14	65	
47		470	6.3x5.4	0.14	65	
47		470	6.3x7.7	0.14	91	
100		101	6.3x7.7	0.14	100	
100		101	8x6.2	0.16	100	
100		101	8x10.2	0.16	230	
220		221	8x10.2	0.16	270	
220		221	10x10.2	0.16	310	
330		331	8x10.2	0.16	290	
330		331	10x10.2	0.16	380	
470		471	10x10.2	0.16	380	
1000	102	12.5x13.5	0.26	510		
1500	152	12.5x16	0.26	590		
2200	222	16x16.5	0.26	900		
35	4.7	4R7	4x5.4	0.12	22	
	6.8	6R8	4x5.4	0.12	25	
	10	100	5x5.4	0.12	30	
	22	220	5x5.4	0.12	35	
	22	220	6.3x5.4	0.12	60	
	33	330	6.3x7.7	0.12	80	
	33	330	8x6.2	0.12	80	
	47	470	6.3x5.4	0.12	60	
	47	470	6.3x7.7	0.12	100	
	47	470	8x10.2	0.14	210	
	100	101	6.3x7.7	0.12	105	
	100	101	8x10.2	0.14	240	
	100	101	10x10.2	0.14	310	
	100	101	12.5x13.5	0.14	390	

Note: Ripple Current measured at 120Hz, 105°C

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Rated Voltage (V _{DC})	Rated Capacitance		Case Size (mm)	Tan δ (%)	Ripple Current (mA/rms)
	(μF)	Code			
35	220	221	8x10.2	0.14	260
	220	221	10x10.2	0.14	350
	330	331	10x10.2	0.14	370
	470	471	12.5x13.5	0.22	520
	680	681	12.5x13.5	0.22	590
	1000	102	16x16.5	0.22	800
	1500	152	16x16.5	0.22	1000
50	1.0	1R0	4x5.4	0.12	10
	2.2	2R2	4x5.4	0.12	16
	3.3	3R3	4x5.4	0.12	16
	4.7	4R7	5x5.4	0.12	23
	6.8	6R8	5x5.4	0.12	30
	10	100	5x5.4	0.12	35
	10	100	6.3x5.4	0.12	40
	22	220	6.3x5.4	0.12	42
	22	220	6.3x7.7	0.12	65
	33	330	6.3x7.7	0.12	91
	33	330	8x6.2	0.12	110
	47	470	6.3x7.7	0.12	110
	47	470	8x6.2	0.12	110
	47	470	8x10.2	0.12	210
	100	101	8x10.2	0.12	240
	100	101	10x10.2	0.12	320
	150	151	10x10.2	0.12	300
	220	221	10x10.2	0.12	330
	330	331	12.5x13.5	0.16	490
	470	471	12.5x16	0.18	550
1000	102	16x16.5	0.18	800	
63	33	330	8x10.2	0.18	140
	47	470	8x10.2	0.18	170
	100	101	10x10.2	0.18	340
	150	151	10x10.2	0.18	360
	220	221	12.5x13.5	0.14	470
	220	221	12.5x16	0.14	550
	330	331	16x16.5	0.14	650
	470	471	16x16.5	0.14	700

Rated Voltage (V _{DC})	Rated Capacitance		Case Size (mm)	Tan δ (%)	Ripple Current (mA/rms)
	(μF)	Code			
100	10	100	6.3x7.7	0.18	50
	22	220	8x10.2	0.18	100
	33	330	8x10.2	0.18	120
	33	330	10x10.2	0.18	150
	47	470	10x10.2	0.18	170
	47	470	12.5x13.5	0.18	250
	100	101	12.5x13.5	0.18	300
	100	101	16x16.5	0.18	300
160	33	330	12.5x13.5	0.20	95
	47	470	16x16.5	0.20	240
	100	101	16x16.5	0.20	250
200	10	100	12.5x13.5	0.20	80
	22	220	12.5x16	0.20	110
	33	330	12.5x16	0.20	120
	47	470	16x16.5	0.20	220
250	3.3	3R3	12.5x13.5	0.20	60
	4.7	4R7	12.5x13.5	0.20	65
	10	100	12.5x13.5	0.20	70
	22	220	12.5x13.5	0.20	105
	33	330	16x16.5	0.20	180
400	47	47	16x16.5	0.20	220
	3.3	3R3	12.5x13.5	0.25	40
	4.7	4R7	12.5x13.5	0.25	45
	10	100	12.5x13.5	0.25	50
	22	220	16x16.5	0.25	85
450	33	330	16x16.5	0.25	85
	3.3	3R3	12.5x13.5	0.25	40
	4.7	4R7	12.5x13.5	0.25	45
	10	100	12.5x16	0.25	75
22	220	16x16.5	0.25	85	

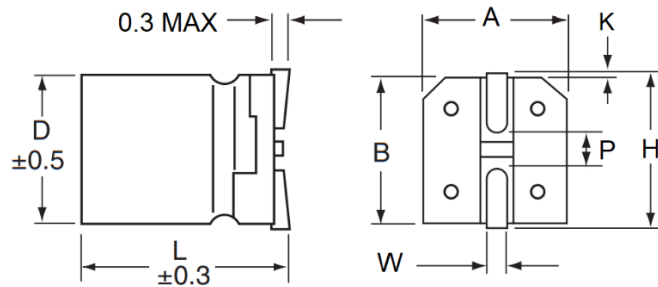
Note: Ripple Current measured at 120Hz, 105°C

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DIMENSION



Unit: mm

D	L	A ± 0.2	B ± 0.2	H Max	W	P ± 0.2	K
4.0 (D)	5.4	4.3	5.0	5.5	0.65 \pm 0.1	1.0	0.35+0.15/-0.2
5.0 (E)	5.4	5.3	6.0	6.5	0.65 \pm 0.1	1.5	0.35+0.15/-0.2
6.3 (F)	5.4	6.6	7.3	7.8	0.65 \pm 0.1	2.1	0.35+0.15/-0.2
6.3 (F)	7.7	6.6	7.3	7.8	0.65 \pm 0.1	2.1	0.35+0.15/-0.2
8.0 (H)	6.2	8.3	9.0	9.5	0.65 \pm 0.1	2.2	0.35+0.15/-0.2
8.0 (H)	10.2	8.3	9.1	10.0	0.90 \pm 0.2	3.1	0.70 \pm 0.20
10.0 (J)	10.2	10.3	11.1	12.0	0.90 \pm 0.2	4.6	0.70 \pm 0.20
12.5 (K)	13.5	13.0	14.0	15.0	1.20 \pm 0.2	4.4	0.70 \pm 0.30
12.5 (K)	16.0	13.0	14.0	15.0	1.20 \pm 0.2	4.4	0.70 \pm 0.30
16.0 (L)	16.5	17.0	18.0	19.0	1.20 \pm 0.2	6.4	0.70 \pm 0.30

PART NUMBERING SYSTEM

SHTL **2W** **220** **A** **L165**
(1) (2) (3) (4) (5)

No	Item	Code	Description
(1)	Product Code	SHTL	Aluminum Electrolytic Capacitors, SMD type, 2000 Hrs 105°C
(2)	Rated Voltage	2W	450VDC DC Voltage Code
(3)	Capacitance	220	22 μ F \pm 20% (M) First two digits: significant, Third: Multiplier
(4)	Series Code	A	AEC-Q200 Compliant Series
(5)	Size Code	L165	16x16.5mm DxL (mm)

Voltage	4	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	500
Code	0G	0J	1A	1C	1E	1V	1H	1J	2A	2C	2D	2E	2V	2G	2W	2H

Diameter	4	5	6.3	8	10	12.5	14.5	16	18	20	22	25
Code	D	E	F	H	J	K	U	L	M	N	P	Q

*Specifications subject to change without notice.