

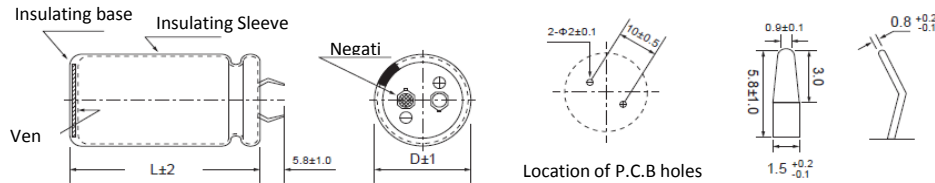
- Endurance: 85°C 3000hours
- Recommended Applications : Applying to switching power supply and other industry/ commercial field
- Corresponding product to RoHS

■ SPECIFICATIONS

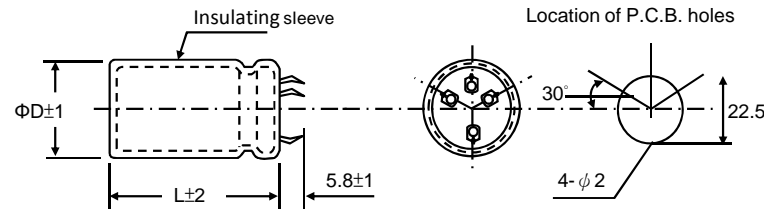
Item	Characteristics											
Category Temperature Range	-40~+85°C						-25~+85°C					
Rated Voltage Range	16 ~ 450VDC						500 ~ 550VDC					
Rated Capacitance Range	560 ~ 270000 μF						330 ~ 1500 μF					
Capacitance Tolerance	± 20 % (120Hz , 20°C)											
Leakage Current (20°C)	I = 0.02CV or 5 (mA) Whichever is smaller. (After rated voltage applied for 5minutes) I : Max. leakage current (μ A), C : Nominal capacitance (μ F), V : Rated voltage (V)											
Dissipation Factor(MAX) (tan δ) (120Hz ,20°C)	WV	16	25	35	50	63	80	100	160~450	500~550		
	Capacitance	—	—	—	—	≤27,000	>27,000	≤15,000	>15,000	—	—	
	tan δ	35 Φ	0.80	0.60	0.50	0.40	0.35	0.40	0.25	0.30	0.25	0.15
		40 Φ	0.90	0.70	0.60	0.45	0.35	0.40	0.25	0.30	0.25	0.15
	45 Φ	1.00	0.80	0.70	0.50	0.35	0.40	0.25	0.30	0.25	0.15	
	50 Φ	1.20	1.00	0.75	0.55	0.35	0.40	0.25	0.30	0.25	0.15	
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz											
	WV	16~100		160~250		350~450		500~550				
	Z-25°C / Z+20°C	4		6		8		8				
	Z-40°C / Z+20°C	15		—		—		—				
Endurance	After applying rated voltage with rated Ripple current for 3000hrs at 85°C, when the capacitors are restored to 20°C, the capacitor shall meet the following requirements.											
	Capacitance change					Within ± 20% of initial value						
	D.F. (tan δ)					Not more than 175% of specified value						
Shelf Life	After placed at 85°C without voltage applied for 1000 hours, the capacitor shall meet the same requirement as Endurance.											

■ Dimensions [mm]

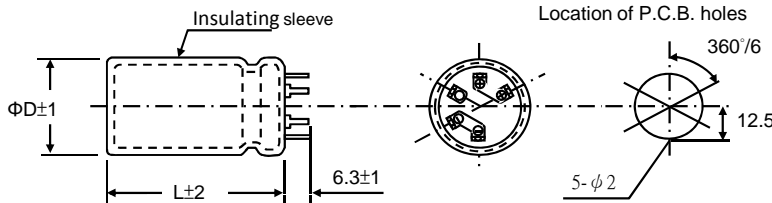
Code 11~13 : S1A(35Φ)



Code 11~13 : L4A(35~45Φ)



Code 11~13 : L5A(50Φ)



■ Multiplier for Ripple Current

≤100V	0.80	1.00	1.10	1.20	1.20
>100V	0.80	1.00	1.10	1.30	1.40

STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size Φ DxL(mm)	tan δ	Ripple current (A/rms85°C) (120Hz)	Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size Φ DxL(mm)	tan δ	Ripple current (A/rms85°C) (120Hz)
16 (20)	82000	35x60	0.80	10.25	50 (63)	33000	35x80	0.40	9.41
		45x51	1.00	10.38			40x61	0.45	9.11
	100000	35x80	0.80	11.15			45x60	0.50	9.18
		40x61	0.90	11.60			50x50	0.55	10.73
		45x50	1.00	10.84			35x90	0.40	9.99
	120000	35x80	0.80	12.39		39000	40x81	0.45	10.44
		40x81	0.90	12.47			45x70	0.50	9.92
		45x60	1.00	11.10			50x60	0.55	11.52
	150000	50x50	1.20	13.47		47000	35x100	0.40	10.59
		40x91	0.90	13.55			40x91	0.45	11.18
		45x70	1.00	12.23			45x70	0.50	10.09
	180000	50x60	1.20	14.83		56000	50x60	0.55	11.88
		40x101	0.90	14.92			40x101	0.45	11.77
		45x80	1.00	13.61			45x90	0.50	11.31
	220000	50x80	1.20	16.05		68000	50x80	0.55	12.75
45x90		1.00	15.16	45x100	0.50		12.5		
50x90		1.20	17.35	50x90	0.55		13.70		
270000	50x100	1.20	17.81	82000	50x100	0.55	12.50		
25 (32)	56000	35x60	0.60	8.81	63 (79)	15000	35x60	0.35	7.74
		40x51	0.70	9.12			40x51	0.35	8.46
	68000	35x80	0.60	10.62		18000	35x80	0.35	9.63
		40x61	0.70	10.48			40x61	0.35	9.47
		45x50	0.80	9.66			45x50	0.35	9.33
	82000	35x90	0.60	11.35		22000	35x90	0.35	10.27
		40x71	0.70	11.02			40x71	0.35	9.94
		45x60	0.80	10.26			45x60	0.35	9.89
	100000	50x50	1.00	12.54		27000	35x100	0.35	10.44
		35x100	0.60	12.06			40x81	0.35	10.94
		40x81	0.70	12.41			45x70	0.35	10.97
		45x70	0.80	11.63			50x50	0.35	11.15
	120000	50x60	1.00	13.68		33000	40x101	0.40	12.08
		40x91	0.70	13.75			45x80	0.40	11.62
		45x80	0.80	12.96			50x60	0.40	11.67
	150000	50x80	1.00	15.38		39000	45x90	0.40	11.93
		40x101	0.70	14.00			50x70	0.40	12.22
		45x90	0.80	13.36			45x100	0.40	12.67
180000	50x90	1.00	16.29	47000	50x80	0.40	13.19		
	45x100	0.80	14.61		56000	50x100	0.40	14.05	
	50x100	1.00	17.31		10000	35x60	0.25	7.26	
35 (44)	33000	35x60	0.50	7.97	80 (100)	12000	35x70	0.25	8.26
		40x51	0.60	8.22			40x51	0.25	7.77
	39000	35x80	0.50	9.56		15000	45x50	0.25	8.26
		40x61	0.60	9.74			35x80	0.25	8.91
	47000	45x50	0.70	8.88		18000	40x61	0.25	8.52
		35x90	0.50	10.53			45x60	0.25	9.06
		40x81	0.60	10.83			35x90	0.30	10.34
	56000	45x60	0.70	9.76		22000	40x81	0.30	10.61
		50x50	0.75	10.97			45x70	0.30	10.64
		35x100	0.50	11.07			50x50	0.30	10.13
	68000	40x91	0.60	11.64		27000	35x100	0.30	10.18
		45x70	0.70	11.08			40x91	0.30	10.49
		50x60	0.75	12.23			45x80	0.30	10.58
	82000	40x101	0.60	12.33		33000	50x60	0.30	11.36
		45x90	0.70	12.07			40x101	0.30	11.75
		50x80	0.75	13.22			45x90	0.30	11.90
	100000	45x100	0.70	12.81		39000	50x80	0.30	12.43
		50x90	0.75	14.22			45x100	0.30	12.26
120000	50x100	0.75	15.02	8200	50x90	0.30	13.44		
50 (63)	27000	35x80	0.40	9.14	100 (125)	6800	35x60	0.25	7.22
		40x51	0.45	8.16			40x51	0.25	7.45
		45x50	0.50	8.23			8200	35x70	0.25

STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size Φ DxL(mm)	tan δ	Ripple current (A/rms85°C) (120Hz)	Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size Φ DxL(mm)	tan δ	Ripple current (A/rms85°C) (120Hz)
100 (125)	8200	45x61	0.25	8.40	200 (250)	2700	40x61	0.15	5.91
		50x50	0.25	8.28			45x50	0.15	8.83
	10000	35x90	0.25	9.21		3300	35x80	0.15	6.48
		40x71	0.25	8.67			40x61	0.15	6.19
		45x60	0.25	8.63			45x60	0.15	6.58
		50x50	0.25	9.00			50x50	0.15	7.58
		35x100	0.25	8.83			3900	35x90	0.15
	40x81	0.25	8.92	40x71		0.15		6.99	
	45x70	0.25	8.94	45x60		0.15		6.96	
	12000	50x60	0.25	10.34		4700	50x60	0.15	8.87
		40x101	0.25	10.30			40x91	0.15	7.84
		45x80	0.25	9.91			45x70	0.15	7.45
	15000	50x70	0.25	10.96		5600	50x70	0.15	9.90
		40x90	0.25	10.25			40x101	0.15	8.13
50x80		0.25	11.12	45x80	0.15		7.82		
18000	50x100	0.25	12.59	8200	50x70	0.15	10.26		
	45x90	0.25	10.25		45x90	0.15	8.13		
160 (200)	3300	35x60	0.15	6.33	6800	50x80	0.15	11.66	
		40x51	0.15	6.38		50x90	0.15	8.13	
	3900	35x80	0.15	7.43	7500	45x100	0.15	8.26	
		40x61	0.15	7.48		50x90	0.15	12.54	
		45x50	0.15	7.37		50x100	0.15	13.36	
	47000	35x90	0.15	8.38	250 (300)	1800	35x60	0.15	4.56
		40x81	0.15	8.37		2200	40x51	0.15	4.59
		45x60	0.15	7.85			35x80	0.15	5.29
		50x50	0.15	8.40			40x61	0.15	5.06
	5600	35x100	0.15	8.30		2700	45x50	0.15	4.98
		40x81	0.15	8.37			35x80	0.15	5.86
		45x60	0.15	7.86			40x81	0.15	6.34
	6800	50x60	0.15	9.12		3300	45x60	0.15	5.95
		40x101	0.15	8.34			50x50	0.15	6.86
		45x80	0.15	8.02			3900	35x100	0.15
	50x70	0.15	9.82	40x81		0.15		7.01	
	45x90	0.15	8.24	45x70		0.15		7.03	
	8200	50x80	0.15	10.04		4700	50x60	0.15	7.97
45x100		0.15	8.75	40x101			0.15	8.19	
50x90		0.15	10.46	45x80			0.15	7.87	
10000	50x100	0.15	12.00	5600		50x70	0.15	8.57	
	45x90	0.15	8.75			45x90	0.15	8.84	
	50x80	0.15	10.04			50x80	0.15	9.69	
180 (225)	2200	35x60	0.15	5.69	6800	45x100	0.15	9.82	
		35x70	0.15	5.06		50x90	0.15	10.84	
	2700	40x61	0.15	5.14		1000	50x100	0.15	12.16
		35x80	0.15	5.58	35x60		0.15	3.84	
	3300	40x61	0.15	5.68	1200		40x51	0.15	3.86
		45x50	0.15	5.59		35x80	0.15	4.67	
		35x90	0.15	5.78	1500	40x61	0.15	4.46	
	40x71	0.15	6.56	45x50		0.15	4.39		
	45x60	0.15	6.16	50x50		0.15	5.22		
	3900	50x50	0.15	7.06	1800	35x80	0.15	5.09	
		35x100	0.15	6.18		40x71	0.15	5.2	
		40x81	0.15	6.74		45x60	0.15	5.18	
	4700	45x70	0.15	6.33	2200	50x60	0.15	6.03	
		50x60	0.15	7.89		35x100	0.15	6.03	
		40x101	0.15	7.85		40x81	0.15	5.90	
	5600	45x80	0.15	7.55	2700	45x80	0.15	6.26	
		50x70	0.15	8.37		50x80	0.15	3.97	
		45x90	0.15	8.45		40x101	0.15	7.03	
6800	50x80	0.15	8.51	400 (450)	45x90	0.15	7.12		
	45x100	0.15	8.64		50x90	0.15	7.93		
	50x90	0.15	8.74		45x100	0.15	8.06		
8200	50x100	0.15	9.27	820	50x100	0.15	8.98		
	35x60	0.15	5.69		35x60	0.15	3.55		
	40x51	0.15	5.47						
200 (250)	2700	35x70	0.15	5.83					

■ STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size Φ DxL(mm)	$\tan \delta$	Ripple current (A/rms85°C) (120Hz)	Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size Φ DxL(mm)	$\tan \delta$	Ripple current (A/rms85°C) (120Hz)	
400 (450)	820	40x51	0.15	3.58	500(550)	820	40x81	0.20	3.95	
	1000	35x80	0.15	4.26			45x80	0.20	4.20	
		40x61	0.15	4.26			50x70	0.20	4.57	
		45x50	0.15	4.29			40x101	0.20	4.82	
		50x50	0.15	4.77			45x90	0.20	4.88	
		1200	35x80	0.15			4.56	50x80	0.20	5.13
	40x61		0.15	4.56		1200	45x100	0.20	5.61	
	45x60		0.15	5.07		50x90	0.20	5.79		
	50x60		0.15	5.51		1500	50x100	0.20	6.64	
	1500	35x100	0.15	5.51		550(600)	330	35x60	0.20	2.52
		40x81	0.15	5.52				40x51	0.20	2.62
		45x80	0.15	6.14			390	35x70	0.20	2.83
		50x80	0.15	6.66	40x61			0.20	2.97	
		40x101	0.15	6.67	45x50			0.20	2.93	
		1800	45x90	0.15	6.92		470	35x80	0.20	3.18
	50x90		0.15	7.51	40x71			0.20	3.36	
	2200		45x100	0.15	7.46			45x60	0.20	3.35
		50x100	0.15	8.50	50x60			0.20	3.19	
500(550)	390	35x60	0.20	2.83	560		35x90	0.20	3.52	
		40x51	0.20	2.94			40x81	0.20	3.75	
	470	35x60	0.20	2.59			45x70	0.20	3.76	
		40x51	0.20	2.71	50x60		0.20	3.61		
		45x50	0.20	2.88	680		35x100	0.20	3.92	
	560	35x80	0.20	3.66			40x91	0.20	4.19	
		40x61	0.20	3.13			45x80	0.20	4.23	
		45x60	0.20	3.33	50x70		0.20	4.08		
		50x50	0.20	3.54	40x101		0.20	4.27		
	680	35x80	0.20	3.25	820	45x90	0.20	4.33		
		40x81	0.20	4.52		50x80	0.20	4.55		
		45x70	0.20	4.53	1000	45x100	0.20	4.14		
		50x60	0.20	4.13		50x90	0.20	5.07		
		820	35x100	0.20		4.04	1200	50x100	0.20	5.65