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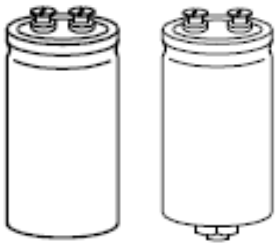


- 耐高纹波,尺寸可调,85℃ 2000 小时 ,可用于大功率电源、UPS 不间断电源、变频器等电路中.
  High ripple current ,Size may be selected ,Load life of 2000 hours at 85℃.
  Used large power source,Uninterruptible power supplies ,Frequency converter circuit .etc.
- ROHS 指令已对应完毕。Adapted to the ROHS directive

主要技术性能 Specifications

项目 Item	特性 Performance Characteristics	
使用温度范围 Operating temperature range	-40℃ ~+ 85℃	-25℃ ~ +85℃
额定电压范围 Rated voltage range	10 ~ 100 V	160 ~ 500 V
标称电容量允许偏差 Capacitance tolerance	±20% (120Hz, +20°C)	
漏电流 Leakage current	I ≤0.01CV(μA)或5mA 5分钟 取较小值(at 20℃,after 5 minutes ,Whichever is smaller)	
损耗角正切值(tgδ) Dissipation factor (+20℃, 120Hz)	小于图表中规定的数值 Less than the value specified in the standard products tables	
温度特性 Temperature characteristics (Impedance ratio at 120Hz)		

Rated Voltage (V)	10~50	63~100	160～250	350～450	500
$Z_{-25℃}/Z_{+20℃}$	4	3	5	8	9
$Z_{-40℃}/Z_{+20℃}$	12	10			

高温贮存 Shelf life	+85℃,1000 小时贮存后, 加额定工作电压处理 30 分钟,恢复 16 小时后: After storage for 1000 hours at +85℃ , U_R to be applied for 30 minutes and then resumed 16 hours 电容量变化率 Capacitance change ： ±20%初始测量值以内 Initial measured value 漏电流 Leakage current ： ≤初始规定值 Initial specified value 损耗角正切值 Dissipation factor ： ≤2倍初始规定值 2times Initial specified value

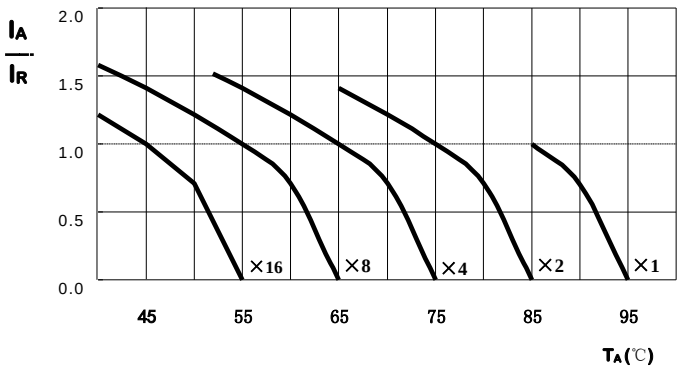
	使用寿命（Useful Life）		负载寿命（Load Life）	耐久性测试（Endurance Test）
寿命时间（Lifetime)	4000h	＞65000h	2000h	2000h
漏电流（Leakage Current)	≤初始规定值 Not more than specified value		≤初始规定值 Not more than specified value	≤初始规定值 Not more than specified value
电容量变化率（Caacitance Change)	±30%初始测量值内 Within ±30% initial value		±20%初始测量值内 Within ±20% initial value	±10%初始测量值内 Within ±10% initial value
损耗角正切值（Dissipation Factor)	≤3 倍初始规定值 Not more than 300% of specified value		≤2倍初始规定值 Not more than 200% of specified value	≤1.3 倍初始规定值 Not more than 130% of specified value
应用条件（Condition): 应用电压（Applied Voltage) 应用电流（Applied Current) 应用温度（Applied Temperature) 失效率（Outlier Percentage)	 U_R I_R 85℃ ≤1%	 U_R $1.2\times I_R$ 40℃ ≤1%	 U_R I_R 85℃ 0%	 U_R I_R=0 85℃ IEC60384

纹波电流的相关参数 Multiplier for Ripple Current

频率系数 Frequency Coefficient

Frequency (Hz) / Rated Voltage (V)	50	100 (120)	300	1k	3k	10K	≥20K
10~50	0.95	1.00	1.04	1.10	1.12	1.15	1.15
63~100	0.95	1.00	1.06	1.16	1.22	1.30	1.36
160~500	0.80	1.00	1.10	1.25	1.35	1.50	1.55

寿命时间图 Life Time Graph



此图表示电容的使用寿命时间

The graphs shows a typical trend of the standard capacitor useful life.

UR (SV)	Capac - itance	Dissip ation Factor	Max ESR 20℃, 120Hz	Typ ESR 20℃, 120Hz	Ripple Current 85℃, 120Hz	SIZE D×L
(V)	(μF)	-	(mΩ)	(mΩ)	(Arms)	(mm)
10 (13)	33000	0.80	34.7	20.5	4.3	35×50
	39000	0.80	29.4	17.6	4.7	35×50
	47000	0.80	24.4	14.6	5.2	35×65
	56000	0.80	20.5	12.5	6.1	35×80
	68000	0.80	16.9	10.1	6.7	35×80
	82000	0.80	14.0	9.0	7.7	35×100
	100000	0.80	11.5	7.5	8.8	35×100
	120000	0.80	9.6	7.1	10.0	35×120
	150000	1.00	9.6	6.5	10.8	35×120
	180000	1.00	8.0	6.0	12.0	51×95
	220000	1.50	9.8	5.0	11.2	51×120
	270000	1.50	8.0	4.4	12.8	51×120
	330000	1.50	6.5	3.8	15.3	63.5×95
	390000	1.50	5.5	3.4	17.3	63.5×115
	470000	2.00	6.1	2.9	18.7	63.5×130
	560000	2.00	5.1	2.7	19.0	76×115
	680000	2.00	4.2	2.5	21.7	76×130
	820000	2.00	3.5	2.4	24.7	76×155
16 (20)	22000	0.60	39.1	22.0	4.1	35×50
	27000	0.60	31.8	19.1	4.5	35×50
	33000	0.60	26.1	15.7	5.0	35×50
	39000	0.60	22.0	13.1	5.9	35×65
	47000	0.60	18.3	11.0	6.4	35×80
	56000	0.60	15.4	9.5	7.3	35×80
	68000	0.60	12.6	7.9	8.4	35×100
	82000	0.80	14.0	6.8	8.3	35×100
	100000	0.80	11.5	5.8	9.5	35×120
	120000	0.80	9.6	5.1	10.9	35×120
	150000	1.00	9.6	4.4	11.3	51×95
	180000	1.00	8.0	4.0	12.8	51×115
	220000	1.00	6.5	3.4	15.3	51×130
	270000	1.00	5.3	3.0	16.6	63.5×95
	330000	1.50	6.5	2.8	17.8	63.5×115
	390000	1.50	5.5	2.6	18.3	63.5×130
	470000	1.50	4.6	2.4	21.3	76×120
	560000	1.50	3.8	2.2	23.6	76×130
	680000	1.50	3.2	2.0	27.6	76×155
	820000	2.00	3.5	1.9	27.1	89×155
25 (32)	15000	0.50	47.8	22.0	3.7	35×50
	18000	0.50	39.8	18.0	4.1	35×50
	22000	0.50	32.6	15.8	4.5	35×50
	27000	0.50	26.5	12.8	5.0	35×65
	33000	0.50	21.7	11.0	5.9	35×80
	39000	0.50	18.4	9.4	6.7	35×80
	47000	0.50	15.2	7.8	7.7	35×100
	56000	0.60	15.4	6.8	7.9	35×100
	68000	0.60	12.6	5.8	9.1	35×120
	82000	0.60	10.5	5.1	10.4	35×120
	100000	0.80	11.5	4.4	10.3	51×95
	120000	0.8	9.6	4.0	11.7	51×115
	150000	0.8	7.6	3.4	14.1	51×130

UR (SV)	Capac - itance	Dissip ation Factor	Max ESR 20℃, 120Hz	Typ ESR 20℃, 120Hz	Ripple Current 85℃, 120Hz	SIZE D×L
(V)	(μF)	-	(mΩ)	(mΩ)	(Arms)	(mm)
25 (32)	180000	0.8	6.4	3.0	15.7	63.5×95
	220000	1.0	6.5	2.8	16.1	63.5×115
	270000	1.0	5.3	2.5	18.6	63.5×130
	330000	1.0	4.4	2.3	21.9	63.5×155
	390000	1.2	4.4	2.2	22.0	76×115
	470000	1.2	3.7	2.0	25.6	76×155
	560000	1.2	3.1	1.8	27.9	89×130
	680000	1.2	2.5	1.5	32.6	89×155
35 (44)	10000	0.4	57.3	23.6	3.4	35×50
	12000	0.4	47.8	20.0	3.7	35×50
	15000	0.4	38.2	17.0	4.2	35×65
	18000	0.4	31.8	13.7	4.9	35×80
	22000	0.4	26.1	11.6	5.7	35×80
	27000	0.4	21.2	9.4	6.3	35×100
	33000	0.4	17.4	9.0	7.2	35×100
	39000	0.5	18.4	8.2	7.3	35×120
	47000	0.5	15.2	7.9	8.7	51×95
	56000	0.6	15.4	7.6	8.6	51×95
	68000	0.6	12.6	6.0	9.8	51×115
	82000	0.6	10.5	4.8	11.6	63.5×95
	100000	0.6	8.6	4.0	13.3	63.5×115
	120000	0.6	7.2	3.9	14.8	63.5×120
	150000	0.8	7.6	3.6	14.9	63.5×130
	180000	0.8	6.4	3.2	17.0	76×115
	220000	0.8	5.2	2.9	20.0	76×130
	270000	1.0	5.3	2.5	20.3	76×155
	330000	1.0	4.4	2.3	23.5	89×130
	390000	1.0	3.7	2.0	26.4	89×155
	470000	1.0	3.1	1.8	29.6	89×155
50 (63)	5600	0.3	76.7	46.0	3.0	35×50
	6800	0.3	63.2	38.0	3.3	35×50
	8200	0.3	52.4	31.4	3.6	35×50
	10000	0.3	43.0	25.8	4.0	35×65
	12000	0.3	35.8	21.5	4.7	35×80
	15000	0.3	28.6	15.0	5.5	35×80
	18000	0.3	23.9	12.0	6.2	35×100
	22000	0.4	26.1	10.8	6.3	35×120
	22000	0.4	27.5	11.2	6.2	51×70
	27000	0.4	21.2	9.5	7.1	35×120
	33000	0.4	17.4	8.9	8.2	51×95
	39000	0.5	18.4	8.2	8.1	51×95
	47000	0.5	15.2	7.6	9.3	51×115
	56000	0.5	12.8	6.4	10.5	63.5×95
	68000	0.5	10.5	5.3	12.0	63.5×95
	82000	0.5	8.7	4.2	13.7	63.5×115
	93000	0.5	8.5	4.1	14.2	63.5×130
	100000	0.6	8.6	3.9	14.7	76×115
	120000	0.6	7.2	3.3	16.7	76×115
	150000	0.6	5.7	3.0	19.3	76×130
	180000	0.6	4.8	2.5	21.9	76×155
	220000	0.6	3.9	2.0	21.4	89×130
	270000	0.6	3.2	1.8	24.6	89×155

UR (SV)	Capac - itance	Dissip ation Factor	Max ESR 20℃, 120Hz	Typ ESR 20℃, 120Hz	Ripple Current 85℃, 120Hz	SIZE D×L
(V)	(μF)	-	(mΩ)	(mΩ)	(Arms)	(mm)
63 (79)	3900	0.25	91.8	47.2	2.7	35×50
	4700	0.25	76.2	39.0	3.0	35×50
	5600	0.25	64.0	38.4	3.3	35×50
	6800	0.25	52.7	31.6	3.6	35×65
	8200	0.25	43.7	26.2	4.3	35×80
	10000	0.25	35.8	23.3	4.9	35×80
	12000	0.25	29.9	18.0	5.6	35×100
	15000	0.3	28.6	16.0	5.9	35×100
	18000	0.3	23.9	14.6	6.7	35×120
	22000	0.3	19.5	13.0	7.8	35×120
	22000	0.3	21.4	14.1	7.2	51×80
	27000	0.4	21.2	12.4	7.4	51×95
	33000	0.4	17.4	7.9	8.4	51×95
	39000	0.4	14.7	7.4	9.5	51×115
	47000	0.4	12.2	6.2	11.3	51×130
	56000	0.4	10.2	5.5	12.8	63.5×115
	59000	0.4	9.8	5.2	13.5	63.5×130
	68000	0.5	10.5	5.3	12.7	63.5×120
	82000	0.5	8.7	4.4	14.5	63.5×130
	93000	0.5	8.4	4.3	14.8	63.5×130
	100000	0.5	7.2	3.6	16.7	76×115
	120000	0.5	6.0	3.0	18.9	76×130
	150000	0.5	4.8	2.4	22.4	76×150
	150000	0.5	4.8	2.4	22.4	76×155
	180000	0.6	4.8	2.4	22.4	89×130
	220000	0.6	3.9	2.0	26.2	89×155
80 (100)	3300	0.25	109	54.0	2.5	35×50
	3900	0.25	91.8	46.0	2.8	35×50
	4700	0.25	76.2	38.1	3.0	35×65
	5600	0.25	64.0	32.0	3.6	35×80
	6800	0.25	52.7	26.4	3.9	35×80
	8200	0.25	43.7	22.1	4.5	35×80
	10000	0.25	42.5	21.5	4.8	35×70
	10000	0.25	35.8	17.1	5.2	35×100
	12000	0.25	29.9	15.0	5.9	35×100
	15000	0.25	23.9	12.0	6.8	35×120
	18000	0.25	19.9	10.4	7.8	35×120
	22000	0.30	19.5	9.8	8.0	51×95
	27000	0.30	15.9	8.0	9.2	51×95
	33000	0.30	13.0	6.5	10.5	51×115
	39000	0.30	11.0	6.0	12.0	51×130
	47000	0.30	9.2	4.9	13.6	63.5×115
	47000	0.30	9.2	4.9	13.6	64×115
	56000	0.40	10.2	4.3	13.4	63.5×130
	68000	0.40	8.4	4.0	15.4	76×115
	82000	0.40	7.0	3.5	17.5	76×130
	100000	0.40	5.7	2.8	20.5	76×155
	120000	0.40	4.8	2.4	22.4	89×130
100 (125)	1800	0.25	199	48.2	1.9	35×50
	2200	0.25	163	44.0	2.1	35×50
	2700	0.25	133	38.5	2.3	35×50
	3300	0.25	109	34.6	2.6	35×65
	3900	0.25	91.8	28.4	3.0	35×80
	4700	0.25	76.2	26.3	3.5	35×80
	5600	0.25	64.0	23.0	3.9	35×100
	6800	0.25	52.7	21.8	4.5	35×100

技术参数 Technical data

UR (SV)	Capac - itance	Dissip ation Factor	Max ESR 20℃, 120Hz	Typ ESR 20℃, 120Hz	Ripple Current 85℃, 120Hz	SIZE D×L
(V)	(μ F)	-	(m Ω)	(m Ω)	(Arms)	(mm)
250 (300)	5600	0.25	64.0	14.2	7.8	63.5×95
	6800	0.25	52.7	11.8	9.1	63.5×115
	8200	0.25	43.7	11.1	10.0	63.5×115
	10000	0.25	35.8	10.7	11.7	63.5×130
	12000	0.25	29.9	9.2	12.9	76×115
	15000	0.25	23.9	7.3	15.1	76×130
	18000	0.25	19.9	5.8	17.7	76×155
	22000	0.25	16.3	3.2	20.9	89×155
350 (400)	390	0.20	735	268	1.7	35×50
	470	0.20	610	228	2.2	35×80
	560	0.20	512	190	2.4	35×80
	680	0.20	421	152	2.6	35×80
	820	0.20	349	126	3.1	35×100
	1000	0.20	287	104	3.4	35×100
	1200	0.20	239	85.8	3.8	51×75
	1500	0.20	191	72.2	4.3	51×75
	1800	0.20	159	58.2	5.1	51×95
	2200	0.20	130	47.9	5.7	51×95
	2700	0.20	107	39.0	7.1	51×130
	3300	0.20	86.8	32.1	7.9	51×130
	3900	0.20	73.5	27.8	9.0	63.5×115
	4700	0.20	61.0	25.0	10.3	63.5×130
	5600	0.20	51.2	22.5	11.4	76×115
	6800	0.20	42.1	17.1	13.1	76×130
	8200	0.20	34.9	14.4	15.4	76×155
	10000	0.20	28.6	11.5	18.1	89×155
	12000	0.20	23.9	9.8	20.0	89×155
	15000	0.20	19.1	7.9	24.5	89×195
	18000	0.20	15.9	6.5	28.8	89×235
400 (450)	330	0.20	868	280	1.5	35×50
	390	0.20	735	236	2.0	35×80
	470	0.20	610	189	2.2	35×80
	560	0.20	512	163	2.4	35×80
	680	0.20	421	132	2.8	35×100
	820	0.20	349	107	3.1	35×100
	1000	0.20	287	85	3.5	51×75
	1200	0.20	239	72	3.8	51×75
	1500	0.20	191	58.0	4.7	51×95
	1800	0.20	159	47.2	5.5	51×95
	2200	0.20	130	38.1	6.4	51×120
	2700	0.20	107	33.2	7.0	63.5×95
	3300	0.20	86.8	31.2	8.2	63.5×115
	3900	0.20	73.5	25.1	9.4	63.5×130
	4700	0.20	61.0	23.7	10.4	76×115
	5600	0.20	51.2	19.0	11.9	76×130
	6800	0.20	42.1	15.5	14.1	76×155
	8200	0.20	34.9	13.5	16.4	89×155
	10000	0.20	28.6	11.1	18.3	89×155

UR (SV)	Capac - itance	Dissip ation Factor	Max ESR 20℃, 120Hz	Typ ESR 20℃, 120Hz	Ripple Current 85℃, 120Hz	SIZE D×L
(V)	(μ F)	-	(m Ω)	(m Ω)	(Arms)	(mm)
100 (125)	8200	0.25	43.7	20.0	5.1	35×120
	8200	0.25	46.4	22	5.0	50×80
	10000	0.25	35.8	18.7	5.9	35×120
	10000	0.25	44.5	20	5.2	50×80
	12000	0.25	29.9	16.0	6.4	51×75
	15000	0.25	23.9	11.5	7.0	51×95
	15000	0.25	22.4	11.2	7.5	51×110
	18000	0.25	19.9	9.8	8.3	51×115
	22000	0.25	16.5	7.8	10.1	51×120
	22000	0.25	16.3	7.9	10.0	51×130
	22000	0.25	16.2	7.8	10.0	63.5×115
	27000	0.25	13.3	6.8	11.5	63.5×115
	33000	0.25	10.9	5.5	11.9	63.5×130
	39000	0.25	9.2	4.9	13.4	76×115
	47000	0.35	10.7	5.5	14.2	76×130
	56000	0.35	9.0	4.0	16.0	76×155
	56000	0.35	9.0	4.0	16.0	89×130
	68000	0.35	7.4	3.4	18.8	89×130
	82000	0.35	6.1	3.0	20.5	89×155
	100000	0.35	5.0	2.5	24.0	89×170
160 (200)	3300	0.25	109	30.7	5.2	35×120
	3900	0.25	91.8	26.2	5.3	51×75
	4700	0.25	76.2	20.8	5.9	51×75
	5600	0.25	64.0	18.8	7.0	51×95
	6800	0.25	52.7	16.2	7.8	51×95
	8200	0.25	43.7	13.5	9.1	51×115
	10000	0.25	35.8	12.9	10.4	63.5×95
	12000	0.25	29.9	10.2	11.3	63.5×95
	15000	0.25	23.9	9.0	14.3	63.5×130
	18000	0.25	19.9	7.5	15.6	63.5×130
	22000	0.25	16.3	6.4	18.3	76×130
	27000	0.25	13.3	5.2	20.2	76×130
	33000	0.25	10.9	3.6	23.8	89×130
	39000	0.25	9.2	2.6	27.9	89×155
200 (250)	2200	0.25	163	38.5	3.9	35×100
	2700	0.25	133	26.4	4.7	35×120
	3300	0.25	109	23.5	4.9	51×75
	3900	0.25	91.8	21.4	5.3	51×75
	4700	0.25	76.2	19.5	6.4	51×95
	5600	0.25	64.0	17.5	7.6	51×115
	6800	0.25	52.7	13.7	8.8	51×130
	8200	0.25	43.7	11.3	9.4	63.5×95
	10000	0.25	35.8	9.4	10.4	63.5×95
	12000	0.25	29.9	8.6	12.4	76×95
	15000	0.25	23.9	7.3	14.4	76×95
	18000	0.25	19.9	5.9	16.5	76×130
	22000	0.25	16.3	4.1	19.6	76×155
	27000	0.25	13.3	3.2	21.5	89×130
	33000	0.25	10.9	2.5	25.3	89×155
250 (300)	1500	0.25	239	49.1	3.2	35×100
	1800	0.25	199	41.1	3.5	35×100
	2200	0.25	163	32.5	4.0	51×75
	2700	0.25	133	27.7	4.4	51×75
	3300	0.25	109	23.1	5.4	51×95
	3900	0.25	91.8	20.0	6.3	51×115
	4700	0.25	76.2	16.5	7.1	63.5×95

UR (SV)	Capac - itance	Dissip ation Factor	Max ESR 20℃, 120Hz	Typ ESR 20℃, 120Hz	Ripple Current 85℃, 120Hz	SIZE D×L
(V)	(μF)	-	(mΩ)	(mΩ)	(Arms)	(mm)
400 (450)	12000	0.20	23.9	9.8	21.8	89×195
	15000	0.20	19.1	8.0	26.3	89×235
450 (500)	270	0.20	1061	421	1.4	35×50
	330	0.20	868	280	1.8	35×80
	390	0.20	735	243	2.0	35×80
	470	0.20	610	200	2.2	35×80
	560	0.20	512	173	2.6	35×100
	680	0.20	421	140	2.8	35×100
	820	0.20	349	112	3.2	51×75
	1000	0.20	287	89	3.5	51×75
	1200	0.20	239	72.0	4.2	51×95
	1500	0.20	191	58.5	5.1	51×115
	1800	0.20	159	49	5.9	51×130
	2200	0.20	130	39.5	6.3	63.5×95
	2700	0.20	106	31.6	7.5	63.5×115
	3300	0.20	86.8	30.0	8.7	63.5×130
	3900	0.20	73.5	26.5	9.5	76×115
	4700	0.20	61.0	21.5	10.9	76×130
	5600	0.20	51.2	16.5	12.8	76×155
	6800	0.20	42.1	14.4	15.0	89×155
	8200	0.20	34.9	12.1	16.5	89×155
	10000	0.20	28.6	10.0	20.0	89×195
	12000	0.20	23.9	8.0	23.6	89×235
500 (550)	1000	0.25	331	106	3.5	51×100
	1500	0.25	221	70.7	4.5	51×115
	2200	0.25	150	48.2	6.4	63.5×120
	2700	0.25	122	39.2	7.6	76×120
	3300	0.25	100	32.1	8.5	76×130
	3900	0.25	85	27.2	9.8	76×150
	4700	0.25	70.5	22.5	10.5	89×130
	5600	0.25	59.2	18.9	11.8	89×150
	6800	0.25	48.7	15.5	13.6	89×170