

ERA series

■ 特性 Features

- 通用标准系列 General standard series
- 耐久性: 105°C1000~2000H Endurance: 105°C for 1000~2000 hours
- 符合 RoHs 要求 Compliance with RoHS requirements



■ 仕样 Specifications

项目 Item	性能 Performance										
使用温度范围 Operating Temperature Range	-40℃~+105℃(6.3~100V)							-25℃~+105℃(160~450V)			
额定电压范围 Rated Voltage Range	6.3~450V										
额定静电容量范围 Capacitance Range	1~22000μF										
额定静电容量容许差 Capacitance Tolerance	±20%										
漏电流 Leakage Current	施加额定电压 2 分钟后 I≤0.01CV 或 3μA（以较大值为准） After 2 minutes application of rated voltage. I≤0.01CV or 3μA(whichever is greater)										
损失角正切值 Dissipation Factor (120Hz, 20℃)	当标称电容超过 1000 u F 时，每增加 1000μF ,tan δ 应在所列值上加 0.02. When nominal capacitance is over 1000μF,tan δ shall be added 0.02 to the listed value with increase of every 1000μF.										
	额定电压 Rated Voltage (V)	6.3	10	16	25	35	50	63	100~120	160~300	350~450
	tan δ	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.24
耐久性 Endurance	在 105℃下，连续施加额定电压 2000 小时后，满足以下项目 Under 105℃, apply rated voltage for 2000 hours , The capacitors shall meet the following requirements.										
	静电容量变化率 Capacitance Change				初始值的±20%以内 Within 20% of the initial value						
	损失角正切值 Dissipation Factor				不超过规定值的 200% Not more than 200% of the specified value						
	漏电流 Leakage Current				规定值以下 Not more than the specified value						

ERA series

■ 仕様 Specifications

項目 Item	性能 Performance											
高温儲存 Shelf Life	在 105°C 下无负荷放置 1000 小时后, 电容器应满足以下要求 After Leaving capacitors under no load at 105°C for 1000hrs. The capacitors shall meet the following requirements.											
	静电容量变化率 Capacitance Change	初始值的±20%以内 Within 20% of the initial value										
	损失角正切率 Dissipation Factor(tan δ)	不超过规定值的 200% Not more than 200% of the specified value										
	漏电流 Leakage Current	不超过规定值的 200% Not more than the specified value Shelf Life										
低温特性 Low Temperature Stability (阻抗比) impedance Ratio(MAX)	额定电压 Rated Voltage(V)	6.3	10	16	25	35	50	63	100~120	160~300	350~450	
	Z(-25°C)/Z(+20°C)	5	4	3	2	2	2	2	2	3	6	
	Z(-40°C)/Z(+20°C)	10	8	6	4	3	3	3	3	-	-	
其他 Other	JISC-5141 EIAJ RC-2372											

■ 尺寸图 Dimensions

(Unit:mm)

Vinyl Sleeve $\phi D \pm 0.5$ $L \pm \alpha$ $\phi d \pm 0.05$ 15min 5min $F \pm 0.5$		ΦD	5	6.3	8	10	13	16	18
		F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
		Φd	0.5			0.6		0.8	
		α	$L \leq 16: \alpha = 1.5 \quad L > 16: \alpha = 2.0$						

ERA series

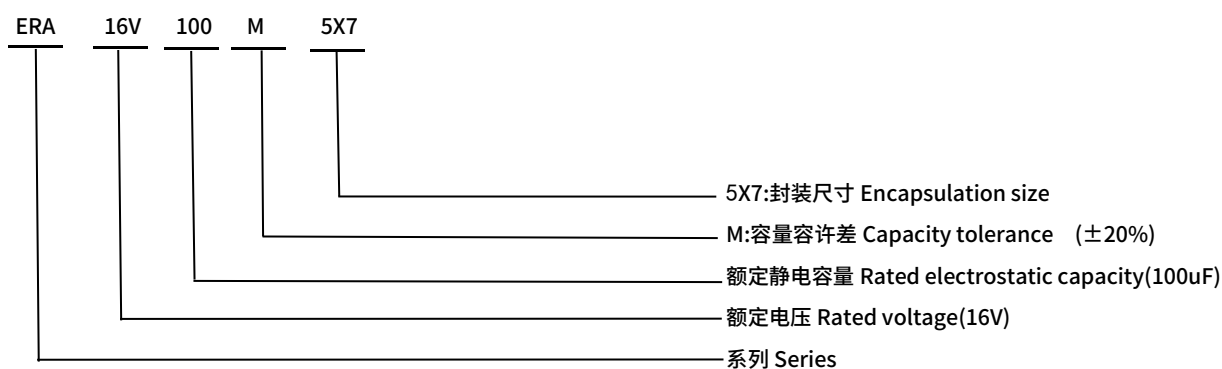
■ 纹波电流速查表 Ripple Current Quick Reference Table:

Cap(μF)	Frequency				
	50/60Hz	120Hz	300Hz	1KHz	10KHz~
Under 10uF	0.65	1.00	1.15	1.40	1.50
10<C≤100	0.70	1.00	1.15	1.40	1.50
100<C≤1000	0.75	1.00	1.18	1.30	1.35
1,000 up above	0.80	1.00	1.05	1.12	1.15

※ 铝电解电容器由于在纹波电流叠加时自我发热、温度上升而老化，每升温 5℃寿命减少一半，要想保持长寿命请在使用过程中降低纹波电流。

※ Aluminum electrolytic capacitors age due to self heating and temperature rise when ripple current is superimposed, reducing their lifespan by half for every 5 °C increase in temperature. To maintain a long lifespan, please reduce ripple current during use.

■ 品号编码体系 Part Number Coding System (Example: 16V 100μF)



注释：型号中 R 表示小数点，如 4R7 表示 4.7μF

Note: "R" in the model number denotes a decimal point (e.g., 4R7 = 4.7μF)

■ 电气特性 Electrical Characteristics

额定电压 Rated Voltage(V)	额定静电容量 Rated Capacitance(μF)	尺寸 Dimensions ΦDXL(mm)	额定纹波电流 Rated Ripple Current (mA,105°C,120Hz)	损失角正切值 tan δ	品号 Part Number
6.3	33	5X11	52	0.28	ERA6.3V33M5X11
	47	5X11	61	0.28	ERA6.3V47M5X11
	100	5X11	94	0.28	ERA6.3V100M5X11
	220	5X11	153	0.28	ERA6.3V220M5X11
	330	6.3X11	216	0.28	ERA6.3V330M6X11
	470	6.3X12	258	0.28	ERA6.3V470M6X12
	680	8X12	365	0.28	ERA6.3V680M8X12
	1000	8X12	443	0.28	ERA6.3V1000M8X12
	2200	10X16	800	0.28	ERA6.3V2200M10X16
	3300	10X20	1032	0.28	ERA6.3V3300M10X20

ERA series

额定电压 Rated Voltage(V)	额定静电容量 Rated Capacitance(μ F)	尺寸 Dimensions Φ DXL(mm)	额定纹波电流 Rated Ripple Current (mA,105°C,120Hz)	损失角正切值 $\tan \delta$	品号 Part Number
6.3	4700	13X21	1280	0.28	ERA6.3V4700M13X21
	6800	13X25	1554	0.28	ERA6.3V6800M13X25
	10000	16X25	1897	0.28	ERA6.3V10000M16X25
	22000	18X35	2420	0.28	ERA6.3V22000M18X35
10	22	5X11	48	0.24	ERA10V22M5X11
	33	5X11	56	0.24	ERA10V33M5X11
	47	5X11	66	0.24	ERA10V47M5X11
	100	5X7	105	0.24	ERA10V100M5X7
	100	5X11	105	0.24	ERA10V100M5X11
	220	5X11	170	0.24	ERA10V220M5X11
	220	6.3X11	193	0.24	ERA10V220M6X11
	330	6.3X11	239	0.24	ERA10V330M6X11
	470	8X12	259	0.24	ERA10V470M8X12
	680	8X12	380	0.24	ERA10V680M8X12
	1000	8X12	443	0.24	ERA10V1000M8X12
	1000	8X16	571	0.24	ERA10V1000M8X16
	2200	10X16	886	0.24	ERA10V2200M10X16
	2200	10X20	886	0.24	ERA10V2200M10X20
	3300	13X21	1205	0.24	ERA10V3300M13X21
	4700	13X25	1492	0.24	ERA10V4700M13X25
	6800	16X25	1824	0.24	ERA10V6800M16X25
	10000	16X30	1980	0.24	ERA10V10000M16X30
	22000	18X40	2616	0.24	ERA10V22000M18X40
	10	5X11	35	0.20	ERA16V10M5X11
	22	5X11	53	0.20	ERA16V22M5X11
	33	5X11	60	0.20	ERA16V33M5X11
16	47	5X11	80	0.20	ERA16V47M5X11
	100	5X7	120	0.20	ERA16V100M5X7
	100	5X11	125	0.20	ERA16V100M5X11
	220	6.3X11	213	0.20	ERA16V220M6X11
	330	6.3X11	315	0.20	ERA16V330M6X11
	470	8X12	366	0.20	ERA16V470M8X12
	680	8X16	480	0.20	ERA16V680M8X16
	1000	8X16	600	0.20	ERA16V1000M8X16

ERA series

额定电压 Rated Voltage(V)	额定静电容量 Rated Capacitance(μ F)	尺寸 Dimensions Φ DXL(mm)	额定纹波电流 Rated Ripple Current (mA,105°C,120Hz)	损失角正切值 $\tan \delta$	品号 Part Number
16	1000	10X16	680	0.20	ERA16V1000M10X16
	2200	10X20	980	0.20	ERA16V2200M10X20
	2200	13X21	1108	0.20	ERA16V2200M13X21
	3300	13X25	1389	0.20	ERA16V3300M13X25
	4700	13X25	1500	0.20	ERA16V4700M13X25
	4700	16X25	1740	0.20	ERA16V4700M16X25
	6800	16X30	2081	0.20	ERA16V6800M16X30
	10000	18X32	2527	0.20	ERA16V10000M18X32
25	4.7	5X11	37	0.16	ERA25V4R7M5X11
	10	5X11	37	0.16	ERA25V10M5X11
	22	5X11	56	0.16	ERA25V22M5X11
	33	5X11	75	0.16	ERA25V33M5X11
	47	5X11	84	0.16	ERA25V47M5X11
	100	6.3X11	159	0.16	ERA25V100M6X11
	220	8X12	285	0.16	ERA25V220M8X12
	330	8X12	320	0.16	ERA25V330M8X12
	470	8X14	320	0.16	ERA25V470M8X12
	470	10X13	1120	0.16	ERA25V470M10X13
	680	10X16	620	0.16	ERA25V680M10X16
	1000	10X17	780	0.16	ERA25V1000M10X17
	1000	10X20	821	0.16	ERA25V1000M10X20
	2200	13X21	1250	0.16	ERA25V2200M13X21
	3300	13X25	1646	0.16	ERA25V3300M13X25
	4700	16X30	2012	0.16	ERA25V4700M16X30
	10000	16X40	2452	0.16	ERA25V10000M16X40
35	4.7	5X11	37	0.14	ERA35V4R7M5X11
	10	5X11	40	0.14	ERA35V10M5X11
	22	5X11	67	0.14	ERA35V22M5X11
	33	5X11	80	0.14	ERA35V33M5X11
	47	5X11	101	0.14	ERA35V47M5X11
	100	6.3X7	101	0.14	ERA35V100M6X7
	100	6.3X11	168	0.14	ERA35V100M6X11
	220	8X12	290	0.14	ERA35V220M8X12
	330	10X13	419	0.14	ERA35V330M10X13
	470	10X13	500	0.14	ERA35V470M10X13

ERA series

额定电压 Rated Voltage(V)	额定静电容量 Rated Capacitance(μF)	尺寸 Dimensions ΦDXL(mm)	额定纹波电流 Rated Ripple Current (mA,105°C,120Hz)	损失角正切值 tan δ	品号 Part Number
35	470	10X17	500	0.14	ERA35V470M10X17
	680	10X20	720	0.14	ERA35V680M10X20
	1000	13X21	915	0.14	ERA35V1000M13X21
	2200	16X26	1450	0.14	ERA35V2200M16X26
	3300	16X30	1610	0.14	ERA35V3300M16X30
	3300	16X35	1610	0.14	ERA35V3300M16X35
	4700	18X35	1820	0.14	ERA35V4700M18X35
50	1.0	5X11	13	0.12	ERA50V1RM5X11
	2.2	5X11	18	0.12	ERA50V2R2M5X11
	3.3	5X11	30	0.12	ERA50V3R3M5X11
	4.7	5X11	37	0.12	ERA50V4R7M5X11
	10	5X11	54	0.12	ERA50V10M5X7
	22	5X11	79	0.12	ERA50V22M5X11
	33	5X11	115	0.12	ERA50V33M5X11
	47	6.3X11	133	0.12	ERA50V47M6X11
	100	8X12	229	0.12	ERA50V100M8X12
	220	8X12	400	0.12	ERA50V220M8X12
	220	10X13	480	0.12	ERA50V220M10X13
	330	10X16	620	0.12	ERA50V330M10X16
	330	10X20	650	0.12	ERA50V330M10X20
	470	10X20	780	0.12	ERA50V470M10X20
	470	13X21	801	0.12	ERA50V470M13X20
	680	13X21	923	0.12	ERA50V680M13X21
	1000	13X25	1287	0.12	ERA50V1000M13X25
	2200	16X30	1884	0.12	ERA50V2200M16X30
	2200	18X32	1884	0.12	ERA50V2200M18X32
	3300	18X31	1860	0.12	ERA50V3300M18X31
	4700	18X40	1956	0.12	ERA50V4700M18X40
63	10	5X11	59	0.10	ERA63V10M5X11
	22	6.3X11	87	0.10	ERA63V22M6X11
	33	6.3X11	122	0.10	ERA63V33M6X11
	47	6.3X12	146	0.10	ERA63V47M6X12
	100	8X12	215	0.10	ERA63V100M8X12
	220	10X16	480	0.10	ERA63V220M10X16
	330	13X21	720	0.10	ERA63V330M13X21

ERA series

额定电压 Rated Voltage(V)	额定静电容量 Rated Capacitance(μF)	尺寸 Dimensions ΦDXL(mm)	额定纹波电流 Rated Ripple Current (mA,105°C,120Hz)	损失角正切值 tan δ	品号 Part Number
63	470	13X21	790	0.10	ERA63V470M13X21
	680	13X25	1160	0.10	ERA63V680M813X25
	1000	16X26	1340	0.10	ERA63V1000M16X26
	2200	18X35	1760	0.10	ERA63V2200M18X35
100	1.0	5X11	16	0.08	ERA100V1RM5X11
	2.2	5X11	21	0.08	ERA100V2R2M5X11
	3.3	5X11	34	0.08	ERA100V3R3M5X11
	4.7	5X11	40	0.08	ERA100V4R7M5X11
	6.8	5X11	42	0.08	ERA100V6R8M5X11
	10	6.3X11	61	0.08	ERA100V10M6X11
	22	8X12	110	0.08	ERA100V22M8X12
	33	8X12	144	0.08	ERA100V33M8X12
	47	10X13	199	0.08	ERA100V47M10X13
	68	10X16	260	0.08	ERA100V68M10X16
	68	16X35	300	0.08	ERA100V68M16X35
	100	10X16	320	0.08	ERA100V100M10X16
	100	10X20	349	0.08	ERA100V100M10X20
	220	13X21	620	0.08	ERA100V220M13X21
	330	13X25	800	0.08	ERA100V330M13X25
	470	16X26	1620	0.08	ERA100V470M16X26
	470	16X30	1072	0.08	ERA100V470M16X30
	680	13X35	1430	0.08	ERA100V680M16X35
	1000	18X35	1098	0.08	ERA100V1000M18X35
160	1.0	5X11	16	0.2	ERA160V1RM5X11
	2.2	5X11	21	0.2	ERA160V2R2M5X11
	3.3	6.3X11	34	0.2	ERA160V3R3M6X11
	4.7	6.3X11	41	0.2	ERA160V4R7M6X11
	6.8	8X12	46	0.2	ERA160V6R8M8X12
	10	8X12	61	0.2	ERA160V10M8X12
	22	10X13	110	0.2	ERA160V22M10X13
	33	10X20	156	0.2	ERA160V33M10X20
	47	13X21	205	0.2	ERA160V47M13X21
	68	13X21	292	0.2	ERA160V68M13X21
	100	16X25	360	0.2	ERA160V100M16X25
	220	16X35	680	0.2	ERA160V220M16X35

ERA series

额定电压 Rated Voltage(V)	额定静电容量 Rated Capacitance(μF)	尺寸 Dimensions ΦDXL(mm)	额定纹波电流 Rated Ripple Current (mA,105°C,120Hz)	损失角正切值 tan δ	品号 Part Number
160	330	18X35	863	0.2	ERA160V330M18X35
200	1	5X11	14	0.2	ERA200V1RM5X11
	2.2	6.3X11	20	0.2	ERA200V2R2M6X11
	3.3	6.3X11	30	0.2	ERA200V3R3M6X11
	4.7	6.3X11	40	0.2	ERA200V4R7M6X11
	6.8	8X12	52	0.2	ERA200V6R8M8X12
	10	8X12	64	0.2	ERA200V10M8X12
	22	10X16	121	0.2	ERA200V22M10X16
	33	10X20	165	0.2	ERA200V33M10X20
	47	13X21	220	0.2	ERA200V47M13X21
	68	13X21	335	0.2	ERA200V68M13X21
	100	16X25	386	0.2	ERA200V100M16X25
	220	18X30	690	0.2	ERA200V220M18X30
	330	18X40	886	0.2	ERA200V330M18X40
250	1	6.3X11	17	0.2	ERA250V1RM6X11
	2.2	6.3X11	27	0.2	ERA250V2R2M6X11
	3.3	6.3X11	35	0.2	ERA250V3R3M6X11
	4.7	8X12	45	0.2	ERA250V4R7M8X12
	6.8	10X13	57	0.2	ERA250V6R8M10X13
	10	10X13	75	0.2	ERA250V10M10X13
	22	10X20	130	0.2	ERA250V22M10X20
	33	13X21	184	0.2	ERA250V33M13X21
	47	13X25	238	0.2	ERA250V47M13X25
	47	16X20	238	0.2	ERA250V47M16X20
	68	13X25	362	0.2	ERA250V68M13X25
	100	16X25	405	0.2	ERA250V100M16X25
	120	16X26	520	0.2	ERA250V120M16X26
	220	18X35	710	0.2	ERA250V220M18X35
350	1	6.3X11	19	0.24	ERA350V1RM6X11
	2.2	8X12	30	0.24	ERA350V2R2M8X12
	3.3	8X12	40	0.24	ERA350V3R3M8X12
	4.7	8X12	43	0.24	ERA350V4R7M8X12
	6.8	10X13	61	0.24	ERA350V6R8M10X13
	10	10X16	73	0.24	ERA350V10M10X16
	22	13X21	163	0.24	ERA350V22M13X21

ERA series

额定电压 Rated Voltage(V)	额定静电容量 Rated Capacitance(μF)	尺寸 Dimensions ΦDXL(mm)	额定纹波电流 Rated Ripple Current (mA,105°C,120Hz)	损失角正切值 tan δ	品号 Part Number
350	33	13X25	193	0.24	ERA350V33M13X25
	47	16X25	290	0.24	ERA350V47M16X25
	68	16X30	405	0.24	ERA350V68M16X30
	82	18X30	443	0.24	ERA350V82M18X30
	100	18X30	489	0.24	ERA350V100M18X30
400	1	6.3X11	19	0.24	ERA400V1RM6X11
	2.2	8X12	30	0.24	ERA400V2R2M8X12
	3.3	8X12	40	0.24	ERA400V3R3M8X12
	4.7	8X12	43	0.24	ERA400V4R7M8X12
	6.8	10X16	68	0.24	ERA400V6R8M10X16
	10	8X12	443	0.24	ERA400V10M8X12
	10	10X20	78	0.24	ERA400V10M10X20
	22	10X17	150	0.24	ERA400V22M10X17
	22	13X21	163	0.24	ERA400V22M13X21
	33	13X25	193	0.24	ERA400V33M13X25
	47	13X21	240	0.24	ERA400V47M13X21
	47	16X25	290	0.24	ERA400V47M16X25
	68	16X26	300	0.24	ERA400V68M16X26
	68	18X25	405	0.24	ERA400V68M18X25
	82	18X26	443	0.24	ERA400V82M18X26
	100	18X30	485	0.24	ERA400V100M18X30
	120	18X35	570	0.24	ERA400V120M18X35
	150	18X35	616	0.24	ERA400V150M18X35
	220	18X45	800	0.24	ERA400V220M18X45
450	1	6.3X11	19	0.24	ERA450V1RM6X11
	2.2	8X12	30	0.24	ERA450V2R2M8X12
	3.3	8X12	40	0.24	ERA450V3R3M8X12
	4.7	10X13	60	0.24	ERA450V4R7M10X13
	6.8	10X16	68	0.24	ERA450V6R8M10X16
	10	10X13	70	0.24	ERA450V10M10X13
	10	10X20	78	0.24	ERA450V10M10X20
	22	13X21	178	0.24	ERA450V22M13X21
	22	13X25	188	0.24	ERA450V22M13X25
	33	13X21	178	0.24	ERA450V33M13X21
	33	16X25	237	0.24	ERA450V33M16X25

ERA series

额定电压 Rated Voltage(V)	额定静电容量 Rated Capacitance(μF)	尺寸 Dimensions ΦDXL(mm)	额定纹波电流 Rated Ripple Current (mA,105°C,120Hz)	损失角正切值 tan δ	品号 Part Number
450	47	18X25	305	0.24	ERA450V47M18X25
	68	18X30	418	0.24	ERA450V68M18X30
	82	18X30	443	0.24	ERA450V82M18X30
	100	18X32	500	0.24	ERA450V100M18X32
	120	18X36	580	0.24	ERA450V120M18X36
	120	18X40	592	0.24	ERA450V120M18X40
	150	18X40	420	0.24	ERA450V150M18X40