

Type RA Radial PET Film Capacitors



The RA style capacitor is constructed in an efficient rugged self-encased size. The non-inductive multilayer metallized polyester film capacitor features a small size, high dv/dt capability, very low ESR at high frequency and a self-healing capability. RA type capacitors are ideal for use in high frequency switching power supplies, noise suppression, EMI reduction and long-life applications.

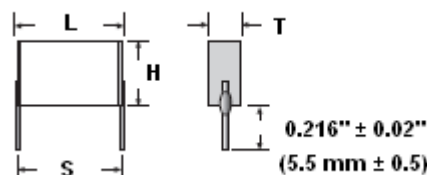
Highlights

- Efficient size
- Self healing
- Low ESR/ESL
- High dv/dt
- Wave solderable

Specifications

Capacitance Range (at 1 kHz)	0.1 to 10 μ F
Capacitance Tolerance	Standard Tolerance \pm 10% (K), Optional \pm 5% (J) or \pm 20% (M)
Rated Voltage	100, 250, 400, 500 Vdc
Operating Temperature Range	-55 $^{\circ}$ C to 125 $^{\circ}$ C
Dissipation Factor (at 1 kHz/25 $^{\circ}$ C)	\leq 1.0%
Insulation Resistance	\geq 1,000 M Ω x μ F - Need not exceed 1,000 M Ω Test Voltage for 100 Vdc rating: 10 Vdc Test Voltage for >100 Vdc rating : 100 Vdc
Dielectric Strength	1.6 x rated VDC for 2 seconds max. Bold P.N.: 1.3 x rated VDC for 2 seconds max.
Self Inductance (typical)	2 to 6 nH
Temperature Range	-55 $^{\circ}$ to +125 $^{\circ}$ C at Rated DC Voltage Bold P.N.: -55$^{\circ}$ to +125$^{\circ}$C (derate voltage 1.25% / $^{\circ}$ C above +85 $^{\circ}$ C)
Life Test:	Apply 1.25 x the rated DC voltage for 1000 hours at +85 $^{\circ}$ C. After the test, the capacitance, DF, and IR should meet the following: Capacitance change: \leq 5.0% DF will meet the initial specification Insulation Resistance will meet the initial specification
Moisture Test:	Subject the capacitor to +85 $^{\circ}$ C / 85% RH for 21 days without voltage. After the test, the capacitance, DF, and IR should meet the following: Capacitance change: \leq 7.0% DF will meet the initial specification Insulation Resistance \geq 30% of the initial limit
Long Term Stability :	After 2 years of storage in a standard environment. Capacitance change: \leq 2.0%
Vibration	Mil Std 202 Method 204D
Solder Resistance	260 $^{\circ}$ C, 5 sec. Capacitance change: \leq 2.0%

Outline Drawing



Type RA Radial PET Film Capacitors

Ratings

Catalog Part Number	Capacitance (uF)	Dimensions (in.)					Dimensions (mm)					Max. dv/dt (V/us)
		L Max.	T Max.	H Max.	S ± 0.02	d	L Max.	T Max.	H Max.	S ± 0.5	d	
100 Vdc / 80 Vac												
RA3224K100-FA	0.22	0.350	0.155	0.280	0.295	0.025	8.9	3.9	7.1	7.5	0.6	75
RA3474K100-FA	0.47	0.350	0.180	0.305	0.295	0.025	8.9	4.6	7.7	7.5	0.6	65
RA4105K100-FA	1.0	0.450	0.175	0.285	0.394	0.025	11.4	4.4	7.2	10	0.6	35
RA3225K100-FA	2.2	0.350	0.250	0.350	0.295	0.025	8.9	6.3	8.9	7.5	0.6	25
RA4225K100-FA	2.2	0.450	0.205	0.285	0.394	0.025	11.4	5.2	7.2	10	0.6	25
RA4335K100-FA	3.3	0.450	0.250	0.350	0.394	0.025	11.4	6.3	8.9	10	0.6	25
RA4405K100-FA	4.0	0.450	0.200	0.380	0.394	0.032	11.4	5.1	9.7	10	0.8	20
RA4505K100-FA	5.0	0.450	0.220	0.480	0.394	0.032	11.4	5.6	12.2	10	0.8	20
RA6106K100-FA	10.0	0.650	0.260	0.460	0.591	0.032	16.5	6.6	11.7	15	0.8	13
250 Vdc / 160 Vac												
RA4104K250-FA	0.10	0.450	0.160	0.255	0.394	0.025	11.4	4.1	6.5	10	0.6	100
RA4224K250-FA	0.22	0.450	0.190	0.305	0.394	0.025	11.4	4.8	7.7	10	0.6	75
RA4334K250-FA	0.33	0.450	0.250	0.330	0.394	0.025	11.4	6.3	8.4	10	0.6	75
RA4474K250-FA	0.47	0.450	0.210	0.305	0.394	0.025	11.4	5.3	7.7	10	0.6	55
RA6474K250-FA	0.47	0.650	0.230	0.340	0.591	0.032	16.5	5.8	8.6	15	0.8	50
RA6105K250-FA	1.0	0.650	0.240	0.340	0.591	0.032	16.5	6.1	8.6	15	0.8	35
400 Vdc / 250 Vac												
RA6224K400-FA	0.22	0.650	0.230	0.340	0.591	0.032	16.5	5.8	8.6	15	0.8	65
RA6474K400-FA	0.47	0.650	0.290	0.440	0.591	0.032	16.5	7.4	11.1	15	0.8	120
500 Vdc / 250 Vac												
RA6504K500-FA	0.5	0.650	0.280	0.540	0.591	0.032	16.5	7.1	13.7	15	0.8	120

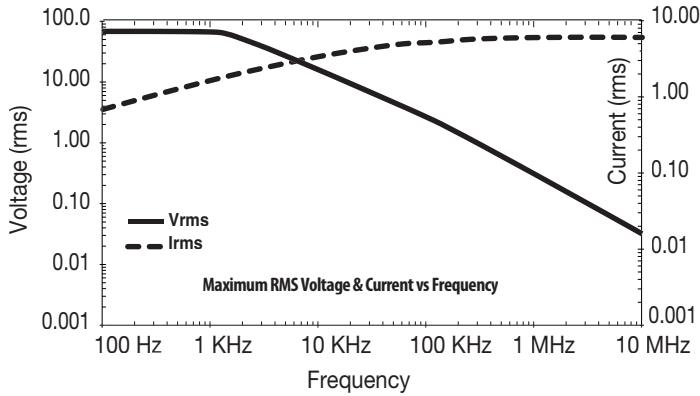
Part Numbering System

RA	3	224	K	100	-FA
Type	Case Size	Capacitance	Tolerance	Voltage	RoHS
	3 = 0.3"=7.5 mm	224 = 0.22 µF	K = ±10%	100 = 100Vdc	-FA = 6/6 Compliant w Sn plated wire leads
	4 = 0.4"=10 mm				(Blank = 5/6 compliant w SnPb wire lead finish)
	6 = 0.6"=15 mm				

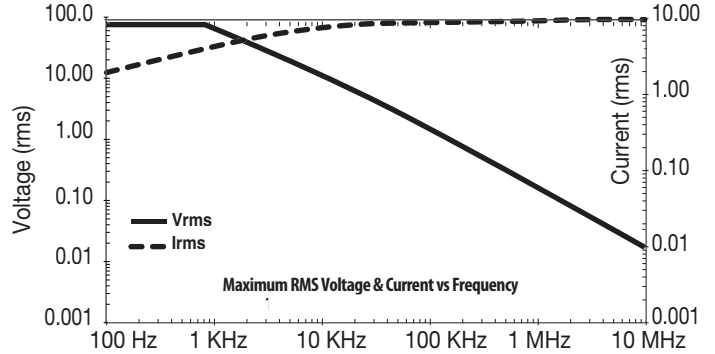
Type RA Radial PET Film Capacitors

Typical Performance Curves

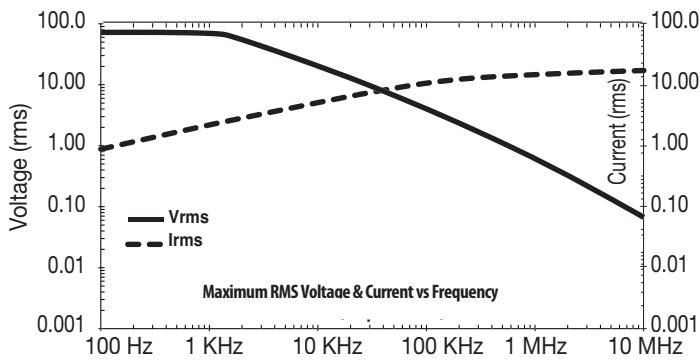
3.3 μF 100 VDC RA4



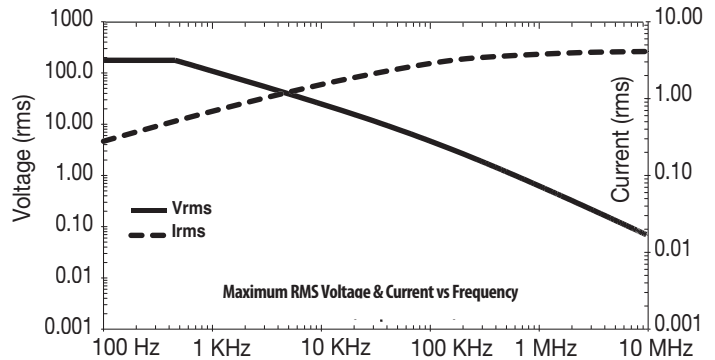
10.0 μF 100 VDC RA6



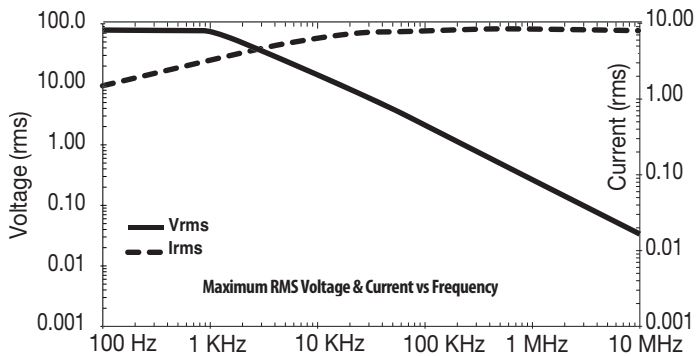
4.0 μF 100 VDC RA4



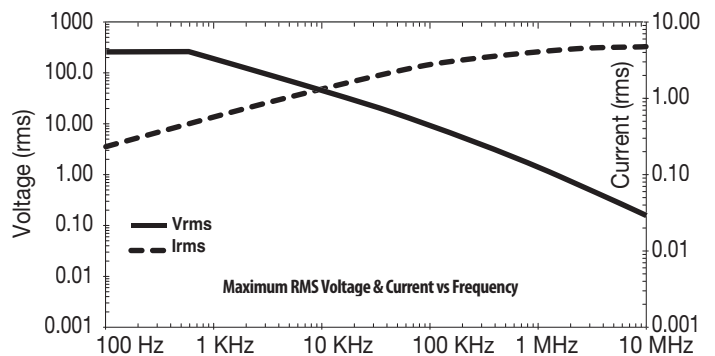
1.0 μF 250 VDC RA6



5.0 μF 100 VDC RA4

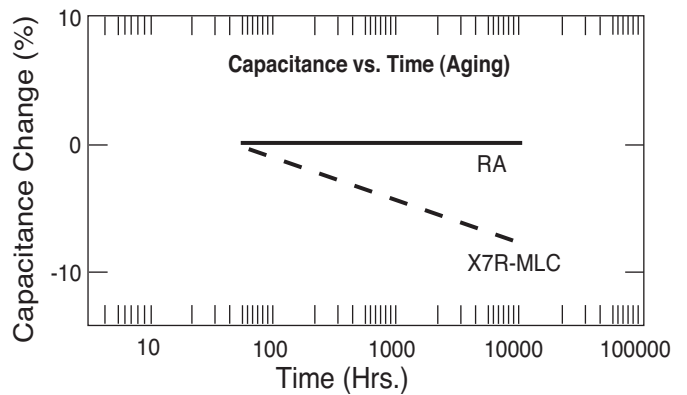
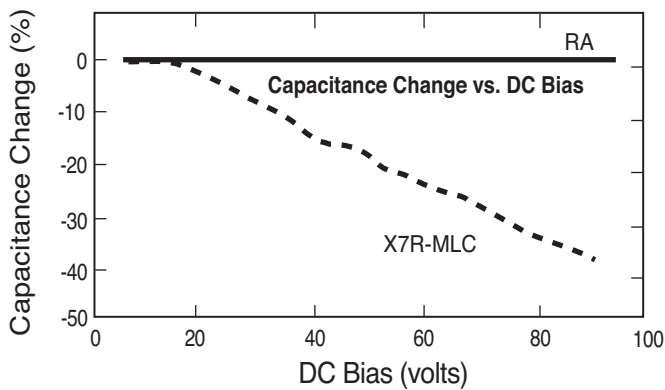
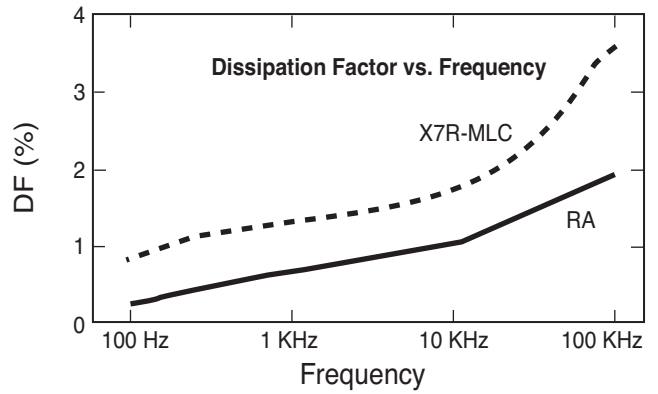
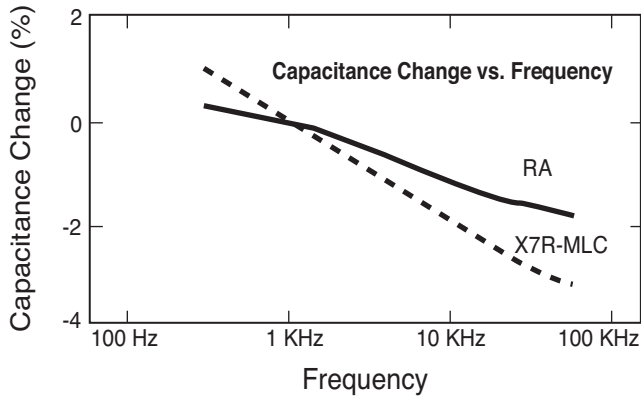
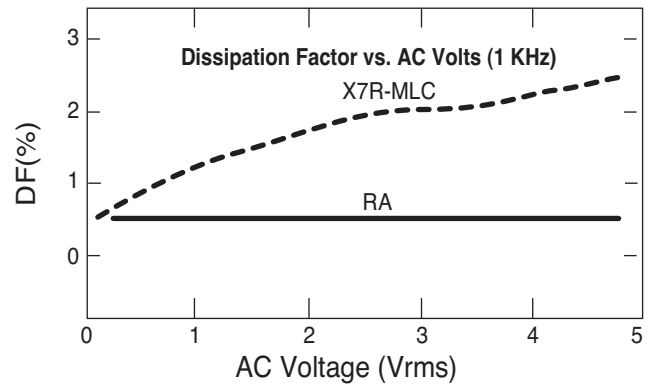
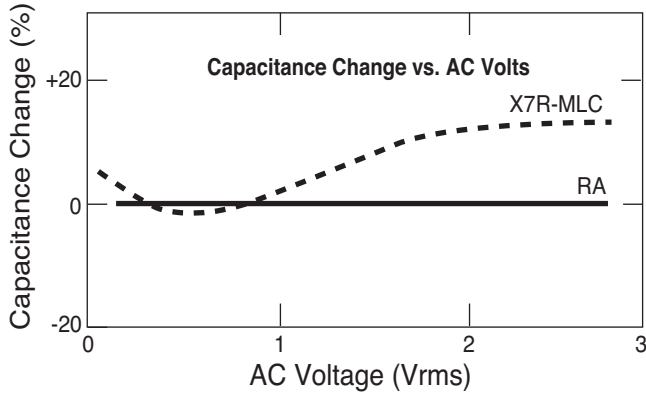
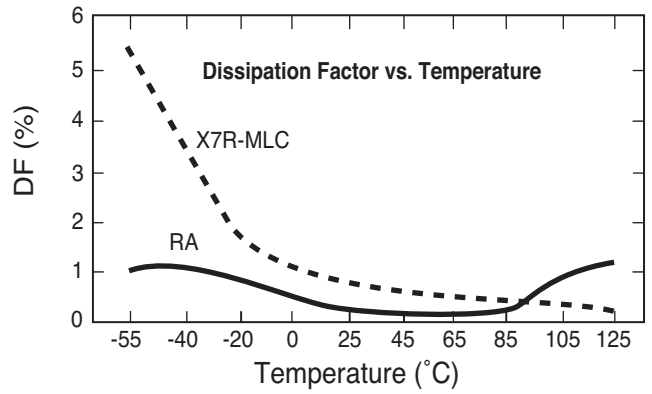
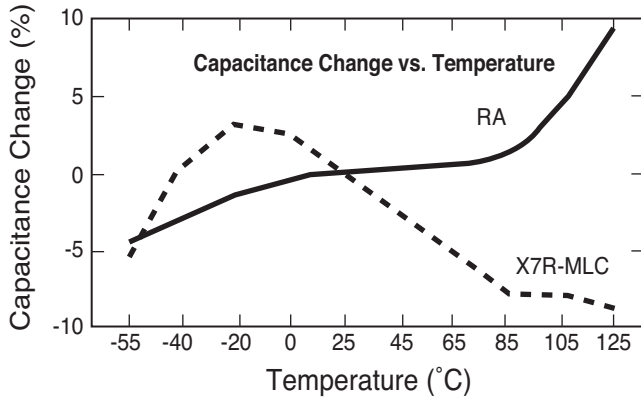


0.47 μF 400 VDC RA6



Type RA Radial PET Film Capacitors

Typical Performance Curves



Notice and Disclaimer: All product drawings, descriptions, specifications, statements, information and data (collectively, the "Information") in this datasheet or other publication are subject to change. The customer is responsible for checking, confirming and verifying the extent to which the Information contained in this datasheet or other publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without any guarantee, warranty, representation or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on the knowledge that the Cornell Dubilier company providing such statements ("Cornell Dubilier") has of operating conditions that such Cornell Dubilier company regards as typical for such applications, but are not intended to constitute any guarantee, warranty or representation regarding any such matter – and Cornell Dubilier specifically and expressly disclaims any guarantee, warranty or representation concerning the suitability for a specific customer application, use, storage, transportation, or operating environment. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by Cornell Dubilier with reference to the use of any Cornell Dubilier products is given gratis (unless otherwise specified by Cornell Dubilier), and Cornell Dubilier assumes no obligation or liability for the advice given or results obtained. Although Cornell Dubilier strives to apply the most stringent quality and safety standards regarding the design and manufacturing of its products, in light of the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies or other appropriate protective measures) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage. Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated in such warnings, cautions and notes, or that other safety measures may not be required.