

**YXF SERIES**
**105°C Long Life. Low impedance.**  
**(Rated Voltage 6.3~250V.DC)**
**◆ FEATURES**

- Load Life : 105°C 2000~10000hours.
- Low impedance at 100kHz with selected materials.
- RoHS compliance.


**◆ SPECIFICATIONS**

Items	Characteristics																																				
Category Temperature Range	-40~+105°C																																				
Rated Voltage Range	6.3~250V.DC																																				
Capacitance Tolerance	±20% (20°C, 120Hz)																																				
Leakage Current(MAX)	6.3wv~100wv $I=0.01CV$ or $3\mu A$ whichever is greater (After 2 minutes) <span style="float:right">I= Leakage Current(<math>\mu A</math>)</span>  160wv~250wv $I=0.04CV + 100\mu A$ (After 1 minute application of rated voltage) <span style="float:right">C=Rated Capacitance(<math>\mu F</math>)</span> $I=0.02CV + 25\mu A$ (After 5 minutes application of rated voltage) <span style="float:right">V=Rated Voltage(V)</span>																																				
Dissipation Factor(MAX) (tan $\delta$ )	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>Rated Voltage(V)</td> <td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td><td>160</td><td>200</td><td>250</td> </tr> <tr> <td>tan<math>\delta</math></td> <td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.08</td><td>0.12</td><td>0.12</td><td>0.12</td> </tr> </table> (20°C, 120Hz)  When rated capacitance is over 1000 $\mu F$ , tan $\delta$ shall be added 0.02 to the listed value with increase of every 1000 $\mu F$ .	Rated Voltage(V)	6.3	10	16	25	35	50	63	100	160	200	250	tan $\delta$	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.12	0.12	0.12												
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tan $\delta$	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.12	0.12	0.12																										
Endurance	After life test with rated ripple current at conditions stated in the table below, the capacitors shall meet the following requirements. <table border="1" style="display: inline-table; vertical-align: middle; margin-top: 10px;"> <tr> <td>Capacitance Change</td> <td>Within ±25% of the initial value.(160wv to 250wv:±20%)</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 200% of the specified value.</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> </tr> </table> <table border="1" style="display: inline-table; vertical-align: middle; margin-top: 10px;"> <thead> <tr> <th rowspan="2">Case Dia</th> <th colspan="3">Life Time(hrs)</th> </tr> <tr> <th>6.3~10WV</th> <th>16~100WV</th> <th>160~250WV</th> </tr> </thead> <tbody> <tr> <td><math>\phi D \leq 6.3</math></td> <td>4000</td> <td>5000</td> <td>-</td> </tr> <tr> <td><math>\phi D = 8</math></td> <td>6000</td> <td>7000</td> <td>-</td> </tr> <tr> <td><math>\phi D = 10</math></td> <td>6000</td> <td>7000</td> <td>2000</td> </tr> <tr> <td><math>\phi D \geq 12.5</math></td> <td>8000</td> <td>10000</td> <td>2000</td> </tr> </tbody> </table>	Capacitance Change	Within ±25% of the initial value.(160wv to 250wv:±20%)	Dissipation Factor	Not more than 200% of the specified value.	Leakage Current	Not more than the specified value.	Case Dia	Life Time(hrs)			6.3~10WV	16~100WV	160~250WV	$\phi D \leq 6.3$	4000	5000	-	$\phi D = 8$	6000	7000	-	$\phi D = 10$	6000	7000	2000	$\phi D \geq 12.5$	8000	10000	2000							
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Low Temperature Stability Impedance Ratio(MAX)	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>Rated Voltage(V)</td> <td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td><td>160</td><td>200</td><td>250</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>3</td><td>3</td><td>3</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>8</td><td>6</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>4</td><td>4</td><td>4</td> </tr> </table> (120Hz)	Rated Voltage(V)	6.3	10	16	25	35	50	63	100	160	200	250	Z(-25°C)/Z(20°C)	4	3	2	2	2	2	2	2	3	3	3	Z(-40°C)/Z(20°C)	8	6	4	3	3	3	3	3	4	4	4
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Z(-25°C)/Z(20°C)	4	3	2	2	2	2	2	2	3	3	3																										
Z(-40°C)/Z(20°C)	8	6	4	3	3	3	3	3	4	4	4																										

**◆ MULTIPLIER FOR RIPPLE CURRENT**

 Frequency coefficient  
 (6.3wv~100wv)

Frequency(Hz)		120	1k	10k	100k $\leq$
Coefficient	0.47~10 $\mu F$	0.42	0.60	0.80	1.00
	22~33 $\mu F$	0.55	0.75	0.90	1.00
	47~330 $\mu F$	0.70	0.85	0.95	1.00
	470~1000 $\mu F$	0.75	0.90	0.98	1.00
	2200~15000 $\mu F$	0.80	0.95	1.00	1.00

(160wv~250wv)

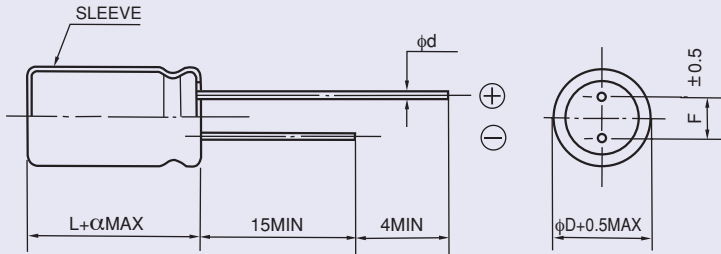
Frequency(Hz)	60(50)	120	1k	10k	100k $\leq$
Coefficient	0.40	0.50	0.75	0.90	1.00

**◆ PART NUMBER**

□□□	YXF	□□□□□	□	□□□	□□	D×L
Rated Voltage	Series	Rated Capacitance	Capacitance Tolerance	Option	Lead Forming	Case Size

◆ DIMENSIONS

(mm)



φD	5	6.3	8	10	12.5	16	18
φd	0.5		0.6		0.8		
F	2.0	2.5	3.5	5.0		7.5	
α	L ≤ 16 : α=1.5			L ≥ 20 : α=2.0			

◆ STANDARD SIZE

Rated voltage 6.3V(0J)				
Rated capacitance (μF)	Size φ D×L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance (ΩMAX)	
			20°C, 100kHz	-10°C, 100kHz
100	5 × 11	150	0.90	3.6
220	6.3 × 11	250	0.40	1.6
330	6.3 × 11	250	0.40	1.6
470	8 × 11.5	400	0.25	1.0
1000	10 × 12.5	580	0.16	0.65
2200	12.5 × 20	1300	0.062	0.21
3300	12.5 × 20	1300	0.062	0.21
4700	16 × 25	1850	0.034	0.096
6800	16 × 25	1850	0.034	0.096
10000	16 × 31.5	2000	0.029	0.087
15000	18 × 35.5	2200	0.025	0.058

Rated voltage 10V(1A)				
Rated capacitance (μF)	Size φ D×L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance (ΩMAX)	
			20°C, 100kHz	-10°C, 100kHz
100	5 × 11	150	0.90	3.6
220	6.3 × 11	250	0.40	1.6
330	8 × 11.5	400	0.25	1.0
470	8 × 11.5	400	0.25	1.0
1000	10 × 16	770	0.12	0.46
2200	12.5 × 20	1300	0.062	0.21
3300	12.5 × 25	1650	0.048	0.16
4700	16 × 25	1850	0.034	0.096
6800	16 × 31.5	2000	0.029	0.087
10000	18 × 35.5	2200	0.025	0.058

Rated voltage 16V(1C)				
Rated capacitance ( $\mu$ F)	Size $\phi$ D $\times$ L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance ( $\Omega$ MAX)	
			20°C, 100kHz	-10°C, 100kHz
47	5 $\times$ 11	150	0.90	3.6
100	6.3 $\times$ 11	250	0.40	1.6
220	8 $\times$ 11.5	400	0.25	1.0
330	8 $\times$ 11.5	400	0.25	1.0
470	10 $\times$ 12.5	580	0.16	0.65
1000	10 $\times$ 20	1050	0.078	0.30
2200	12.5 $\times$ 25	1650	0.048	0.16
3300	16 $\times$ 25	1850	0.034	0.096
4700	16 $\times$ 31.5	2000	0.029	0.087
6800	18 $\times$ 35.5	2200	0.025	0.058

Rated voltage 25V(1E)				
Rated capacitance ( $\mu$ F)	Size $\phi$ D $\times$ L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance ( $\Omega$ MAX)	
			20°C, 100kHz	-10°C, 100kHz
33	5 $\times$ 11	150	0.90	3.6
47	5 $\times$ 11	150	0.90	3.6
100	6.3 $\times$ 11	250	0.40	1.6
220	8 $\times$ 11.5	400	0.25	1.0
330	10 $\times$ 12.5	580	0.16	0.65
470	10 $\times$ 16	770	0.12	0.46
1000	12.5 $\times$ 20	1300	0.062	0.21
2200	16 $\times$ 25	1850	0.034	0.096
3300	16 $\times$ 31.5	2000	0.029	0.087
4700	18 $\times$ 35.5	2200	0.025	0.058

Rated voltage 35V(1V)				
Rated capacitance ( $\mu$ F)	Size $\phi$ D $\times$ L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance ( $\Omega$ MAX)	
			20°C, 100kHz	-10°C, 100kHz
33	5 $\times$ 11	150	0.90	3.6
47	6.3 $\times$ 11	250	0.40	1.6
100	8 $\times$ 11.5	400	0.25	1.0
220	10 $\times$ 12.5	580	0.16	0.65
330	10 $\times$ 16	770	0.12	0.46
470	10 $\times$ 20	1050	0.078	0.30
1000	12.5 $\times$ 25	1650	0.048	0.16
2200	16 $\times$ 31.5	2000	0.029	0.087
3300	18 $\times$ 35.5	2200	0.025	0.058

Rated voltage 50V(1H)				
Rated capacitance ( $\mu$ F)	Size $\phi$ D $\times$ L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance ( $\Omega$ MAX)	
			20°C, 100kHz	-10°C, 100kHz
0.47	5 $\times$ 11	17	5.5	12.0
1	5 $\times$ 11	30	4.0	8.0
2.2	5 $\times$ 11	43	2.5	6.0
3.3	5 $\times$ 11	53	2.2	5.6
4.7	5 $\times$ 11	88	1.9	5.0
10	5 $\times$ 11	100	1.5	4.0
22	5 $\times$ 11	150	0.90	3.6
33	6.3 $\times$ 11	250	0.40	1.6
47	6.3 $\times$ 11	250	0.40	1.6
100	8 $\times$ 11.5	400	0.25	1.0
220	10 $\times$ 16	770	0.12	0.46
330	10 $\times$ 20	1050	0.078	0.30
470	12.5 $\times$ 20	1300	0.062	0.21
1000	16 $\times$ 25	1850	0.034	0.096
2200	18 $\times$ 35.5	2200	0.025	0.058

Rated voltage 63V(1J)				
Rated capacitance ( $\mu$ F)	Size $\phi$ D $\times$ L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance ( $\Omega$ MAX)	
			20°C, 100kHz	-10°C, 100kHz
10	5 $\times$ 11	87	2.3	9.3
22	6.3 $\times$ 11	140	1.3	5.2
33	6.3 $\times$ 11	140	1.2	5.0
47	8 $\times$ 11.5	210	0.63	2.8
100	10 $\times$ 12.5	300	0.43	1.8
220	10 $\times$ 20	520	0.21	0.84
330	12.5 $\times$ 20	660	0.16	0.64
470	12.5 $\times$ 25	750	0.12	0.45
1000	16 $\times$ 31.5	1390	0.054	0.20

Rated voltage 100V(2A)				
Rated capacitance ( $\mu$ F)	Size $\phi$ D $\times$ L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance ( $\Omega$ MAX)	
			20°C, 100kHz	-10°C, 100kHz
0.47	5 $\times$ 11	15	6.0	17.0
1	5 $\times$ 11	20	4.5	15.0
2.2	5 $\times$ 11	30	3.0	13.0
3.3	5 $\times$ 11	40	2.7	11.0
4.7	5 $\times$ 11	65	2.5	10.0
10	6.3 $\times$ 11	140	1.2	5.0
22	8 $\times$ 11.5	160	0.63	2.8
33	10 $\times$ 12.5	230	0.43	1.8
47	10 $\times$ 16	290	0.31	1.5
100	12.5 $\times$ 20	430	0.16	0.64
220	16 $\times$ 25	900	0.073	0.27
330	16 $\times$ 25	900	0.073	0.27

Rated voltage 160V(2C)			
Rated capacitance ( $\mu$ F)	Size $\phi$ D $\times$ L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance ( $\Omega$ MAX)
			20°C, 100kHz
22	10 $\times$ 20	350	1.0
33	12.5 $\times$ 20	450	0.70
47	12.5 $\times$ 25	600	0.45
68	12.5 $\times$ 25	600	0.45
100	16 $\times$ 25	950	0.24
150	16 $\times$ 31.5	1200	0.17
220	18 $\times$ 35.5	1400	0.14

Rated voltage 200V(2D)			
Rated capacitance ( $\mu$ F)	Size $\phi$ D $\times$ L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance ( $\Omega$ MAX)
			20°C, 100kHz
22	10 $\times$ 20	350	1.0
33	12.5 $\times$ 25	550	0.55
47	12.5 $\times$ 25	600	0.44
68	16 $\times$ 25	950	0.24
100	16 $\times$ 31.5	1200	0.17
150	16 $\times$ 35.5	1280	0.16
220	18 $\times$ 35.5	1400	0.14

Rated voltage 250V(2E)			
Rated capacitance ( $\mu$ F)	Size $\phi$ D $\times$ L(mm)	Rated ripple current (mA r.m.s./105°C, 100kHz)	Impedance ( $\Omega$ MAX)
			20°C, 100kHz
22	10 $\times$ 20	300	1.4
33	12.5 $\times$ 25	450	0.70
47	16 $\times$ 25	850	0.31
68	16 $\times$ 31.5	1050	0.22
100	18 $\times$ 35.5	1200	0.18