

FT Series

Features

- ◆ Low ESR, High Ripple Current and High Endurance
- ◆ Operating Temperature Range : -40 to +105°C
- ◆ Long life 6000 hours at 105°C
- ◆ RoHS compliant.

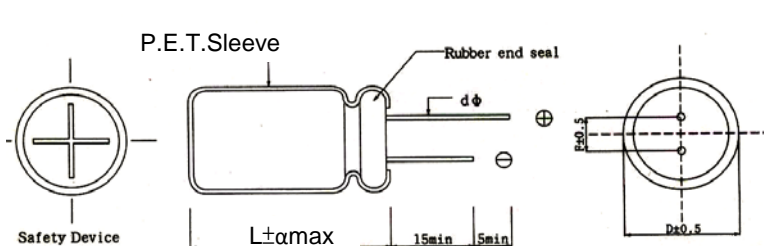
Specifications

Item	Performance Characteristics															
Operating Temperature Range	-40~+105°C															
Rated Voltage Range	160~500V.DC															
capacitance range	0.47~330uF															
Capacitance Tolerance	±20% (120Hz, +20°C)															
Leakage Current (+20°C, max.)	$I \cong 0.03CV + 10\mu A$ I = Leakage Current(μA) C = Rated Capacitance V = Rated voltage(V)															
Dissipation Factor (tanδ, at 20°C, 120Hz)	<table border="1"> <tr> <td>working voltage(VDC)</td> <td>160-250</td> <td>300-360</td> <td>400-450</td> <td>500</td> </tr> <tr> <td>D.F.(%)max</td> <td>12</td> <td>15</td> <td>17</td> <td>20</td> </tr> </table> <p>For capacitance > 1000μF, add 2% per another 1000μF</p>	working voltage(VDC)	160-250	300-360	400-450	500	D.F.(%)max	12	15	17	20					
working voltage(VDC)	160-250	300-360	400-450	500												
D.F.(%)max	12	15	17	20												
Low Temperature Characteristics (at 120Hz)	<table border="1"> <tr> <td>Working Voltage(VDC)</td> <td>160-250</td> <td>300-360</td> <td>400-450</td> <td>500</td> </tr> <tr> <td>Z-25°C / Z+20°C</td> <td>3</td> <td>5</td> <td>5</td> <td>6</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>6</td> <td>6</td> <td>6</td> <td>10</td> </tr> </table>	Working Voltage(VDC)	160-250	300-360	400-450	500	Z-25°C / Z+20°C	3	5	5	6	Z-40°C / Z+20°C	6	6	6	10
Working Voltage(VDC)	160-250	300-360	400-450	500												
Z-25°C / Z+20°C	3	5	5	6												
Z-40°C / Z+20°C	6	6	6	10												
Endurance	<p>After applying rated voltage with rated ripple current for 6000 hours at 105°C and measured at 20°C, the capacitors shall meet the following requirements.</p> <p>Capacitance Change : Within ±20% of the initial value. Dissipation Factor : Not more than 200% of the specified value. Leakage Current : Not more than the specified value.</p>															
Shelf Life	<p>Storage without voltage applied at 105°C for 1000 hours and measured at 20°C, the capacitors shall meet the following requirements.</p> <p>Capacitance Change : Within ±20% of the initial value. Dissipation Factor : Not more than 200% of the specified value. Leakage Current : Not more than 200% of the specified value.</p>															

Multiplier for Ripple Current

Voltage (V) \ Frequency (Hz)	120	1K	10K	100K
160-500	0.50	0.80	0.90	1.00

Diagram of Dimensions:(unit:mm)



Dφ	5	6.3	8	10	13	16	18
F	2	2.5	3.5	5.0	7.5		
dφ	0.5	L < 20	L ≥ 20	0.6	0.8		
		0.5	0.6				

α	D < 18	D = 18	
		L < 35.5	L ≥ 35.5
	1.5	1.5	2.0

Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mArms/105 °C /100KHz)
160	0.47	5x11	43
160	1	5x11	62
160	1.2	5x11	65
160	1.5	5x11	67
160	1.8	5x11	69
160	2.2	5x11	74
160	2.7	5x11	82
160	3.3	5x11	94
160	3.9	5x11	104
160	4.7	6.3x11	117
160	5.6	6.3x11	127
160	6.8	6.3x11	134
160	8.2	6.3x11	144
160	10	8x9	179
160	12	8x9	199
160	15	8x11.5	220
160	18	8x11.5	265
160	22	8x11.5	290
160	27	10x12.5	340
160	33	10x12.5	380
160	39	10x16	460
160	47	10x16	490
160	56	10x16	540
160	68	10x20	580
160	82	10x20	670
160	100	13x20	850
160	120	13x20	900
160	150	13x25	1070
160	180	16x21	1170
160	220	18x21	1270
160	270	18x25	1370
160	330	18x25	1800
160	390	18x31.5	1960
160	470	18x35.5	2100
160	560	18x41	2240
200	0.47	5x11	45
200	1	5x11	63
200	1.2	5x11	67
200	1.5	5x11	70
200	1.8	5x11	73
200	2.2	5x11	77
200	2.7	5x11	84
200	3.3	6.3x11	96
200	3.9	6.3x11	106
200	4.7	6.3x11	119
200	5.6	6.3x11	129
200	6.8	8x9	144
200	8.2	8x9	156
200	10	8x9	190
200	12	8x11.5	240
200	15	8x11.5	270
200	18	10x12.5	300
200	22	10x12.5	350
200	27	10x16	390
200	33	10x16	470
200	39	10x20	540
200	47	10x20	600
200	56	10x20	660
200	68	13x20	740
200	82	13x20	790

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mArms/105 °C /100KHz)
200	100	13x20	870
200	120	13x25	920
200	150	16x21	1120
200	180	18x21	1220
200	220	18x25	1320
200	270	18x31.5	1420
200	330	18x35.5	1850
200	390	18x41	1990
220	0.47	5x11	55
220	1	5x11	64
220	1.2	5x11	69
220	1.5	5x11	72
220	1.8	5x11	74
220	2.2	6.3x11	78
220	2.7	6.3x11	86
220	3.3	6.3x11	98
220	3.9	6.3x11	109
220	4.7	6.3x11	124
220	5.6	8x9	134
220	6.8	8x9	146
220	8.2	8x11.5	165
220	10	10x9	195
220	12	10x12.5	250
220	15	10x12.5	280
220	18	10x16	310
220	22	10x16	360
220	27	10x20	420
220	33	10x20	520
220	39	13x20	580
220	47	13x20	640
220	56	13x20	700
220	68	13x25	770
220	82	13x25	820
220	100	16x21	880
220	120	16x25	940
220	150	16x25	1140
220	180	18x25	1240
220	220	18x31.5	1340
220	270	18x35.5	1440
220	330	18x41	1870
250	0.47	5x11	57
250	1	5x11	65
250	1.2	5x11	70
250	1.5	5x11	73
250	1.8	5x11	76
250	2.2	6.3x11	82
250	2.7	6.3x11	92
250	3.3	6.3x11	102
250	3.9	6.3x11	112
250	4.7	6.3x11	129
250	5.6	8x9	139
250	6.8	8x9	154
250	8.2	8x11.5	174
250	10	10x9	198
250	12	10x12.5	255
250	15	10x12.5	285
250	15	10*12.5	468
250	18	10x16	330
250	22	10x16	390
250	27	10x20	440

Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mA rms/105 °C /100KHz)
250	33	10x20	540
250	39	13x20	590
250	47	13x20	660
250	56	13x20	720
250	68	13x25	790
250	82	13x25	850
250	100	16x21	920
250	120	16x25	1040
250	150	16x25	1180
250	180	18x25	1260
250	220	18x31.5	1380
250	270	18x35.5	1480
250	330	18x41	1880
350	0.47	6.3x11	62
350	1	6.3x11	67
350	1.2	6.3x11	73
350	1.5	6.3x11	77
350	1.8	6.3x11	82
350	2.2	6.3x11	87
350	2.7	6.3x11	95
350	3.3	8x11.5	106
350	3.9	8x11.5	122
350	4.7	8x11.5	134
350	5.6	8x11.5	144
350	6.8	8x11.5	164
350	8.2	10x9	194
350	10	10x12.5	230
350	12	10x16	280
350	15	10x16	330
350	18	10x16	370
350	22	10x20	420
350	27	13x20	490
350	33	13x20	550
350	39	13x20	610
350	47	13x20	670
350	56	13x25	760
350	68	16x21	820
350	82	16x25	920
350	100	16x25	1040
350	120	18x25	1240
350	150	18x31.5	1440
350	180	18x35.5	1640
350	220	18x41	1840
400	0.47	6.3x11	67
400	1	6.3x11	72
400	1.2	6.3x11	77
400	1.5	6.3x11	82
400	1.8	6.3x11	87
400	2.2	6.3x11	92
400	2.7	6.3x11	104
400	3.3	6.3x11	114
400	3.9	8x11.5	127
400	4.7	8x11.5	144
400	5.6	8x11.5	154
400	6.8	8x14	174
400	8.2	8x14	204
400	10	8x16	240
400	12	10x16	300
400	15	10x16	350
400	18	10x16	390

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mA rms/105 °C /100KHz)
400	22	10x20	440
400	27	13x20	510
400	33	13x20	570
400	39	13x25	640
400	47	13x25	720
400	56	16x21	780
400	68	16x25	840
400	82	18x25	940
400	100	18x31.5	1150
400	120	18x35.5	1450
400	150	18x41	1640
450	0.47	6.3x11	72
450	1	6.3x11	77
450	1.2	6.3x11	82
450	1.5	8x9	87
450	1.8	8x11.5	92
450	2.2	8x11.5	97
450	2.7	8x11.5	112
450	3.3	8x11.5	122
450	3.9	8x11.5	134
450	4.7	8x14	149
450	5.6	8x16	164
450	6.8	10x12.5	184
450	8.2	10x14	215
450	10	10x16	250
450	12	10x16	320
450	15	10x20	370
450	18	12.5x16	420
450	22	13x20	480
450	27	13x25	540
450	33	13x25	600
450	39	16x21	670
450	47	16x21	750
450	56	16x25	810
450	68	18x25	870
450	82	18x31.5	970
450	100	18x35.5	1200
450	120	18x41	1500
500	0.47	8x11.5	82
500	1	8x11.5	87
500	1.2	8x11.5	92
500	1.5	8x11.5	97
500	1.8	8x11.5	104
500	2.2	8x11.5	112
500	2.7	8x14	120
500	3.3	8x14	134
500	3.9	8x16	144
500	4.7	10x12.5	154
500	5.6	10x14	170
500	6.8	10x16	190
500	8.2	10x16	220
500	10	13x16	260
500	12	13x20	350
500	15	13x20	390
500	18	13x25	440
500	22	16x21	490
500	27	16x21	590
500	33	16x25	660
500	39	18x25	770
500	47	18x31.5	900

Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mArms/105 °C /100KHz)	
500	56	18x31.5	980	
500	68	16*45	1170	
500	68	18x35.5	1100	
500	82	18x41	1300	