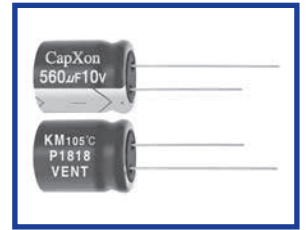


## KM Series Standard 105°C



### Features

- ◆ Used in communication equipments, switching power supply, etc.
- ◆ Safety vent construction design.
- ◆ RoHS Compliant

### Specifications

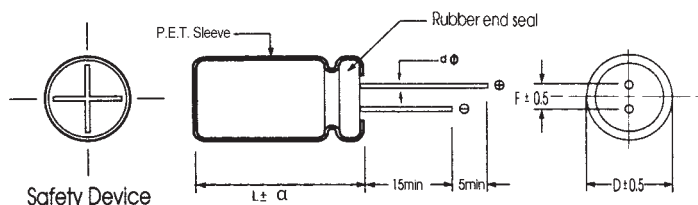
Item	Performance Characteristics																																			
Operating Temperature Range	-40 to +105°C	-25 to +105°C																																		
Rated Voltage Range	6.3 to 100 VDC	160 to 500 VDC																																		
Capacitance Range	0.1 to 22000 µF	0.47 to 560 µF																																		
Capacitance Tolerance	±20% (120Hz, +20°C)																																			
Leakage Current (+20°C, max.)	I ≤ 0.01 CV or 3 (µA) After 1 minute whichever is greater measured with rated working voltage applied.	I ≤ 0.03 CV (µA) After 1 minute with rated working voltage applied.																																		
Dissipation Factor (tan δ · at 20°C · 120Hz)	<table border="1"> <tr> <td>Working Voltage(VDC)</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> </tr> <tr> <td>D.F. (%)max.</td> <td>22</td> <td>17</td> <td>16</td> <td>14</td> <td>12</td> <td>10</td> <td>9</td> <td>8</td> </tr> </table>								Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	D.F. (%)max.	22	17	16	14	12	10	9	8										
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100																											
D.F. (%)max.	22	17	16	14	12	10	9	8																												
		<table border="1"> <tr> <td>Working Voltage(VDC)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>420</td> <td>450</td> <td>500</td> </tr> <tr> <td>D.F. (%)max.</td> <td>12</td> <td>12</td> <td>12</td> <td>15</td> <td>15</td> <td>17</td> <td>17</td> <td>22</td> </tr> </table> <p>For capacitance &gt; 1000 µF, add 2% per another 1000 µF.</p>								Working Voltage(VDC)	160	200	250	350	400	420	450	500	D.F. (%)max.	12	12	12	15	15	17	17	22									
Working Voltage(VDC)	160	200	250	350	400	420	450	500																												
D.F. (%)max.	12	12	12	15	15	17	17	22																												
Low Temperature Characteristics (at 120Hz)	Impedance ratio max																																			
	<table border="1"> <tr> <td>Working Voltage(VDC)</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> </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> </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> </tr> </table>									Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	Z-25°C/Z+20°C	4	3	2	2	2	2	2	2	Z-40°C/Z+20°C	8	6	4	3	3	3	3	3
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100																											
	Z-25°C/Z+20°C	4	3	2	2	2	2	2	2																											
Z-40°C/Z+20°C	8	6	4	3	3	3	3	3																												
<table border="1"> <tr> <td>Working Voltage(VDC)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>420</td> <td>450</td> <td>500</td> </tr> <tr> <td>Z-25°C/Z+20°C</td> <td>2</td> <td>2</td> <td>3</td> <td>5</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> </tr> </table>									Working Voltage(VDC)	160	200	250	350	400	420	450	500	Z-25°C/Z+20°C	2	2	3	5	6	6	6	6										
Working Voltage(VDC)	160	200	250	350	400	420	450	500																												
Z-25°C/Z+20°C	2	2	3	5	6	6	6	6																												
For Capacitance > 1000 µF, add 0.5 per another 1000 µF for -25°C/+20°C add 1 per another 1000 µF for -40°C/+20°C																																				
Endurance	Test conditions Duration time :2000Hrs Ambient temperature :+105°C Applied voltage :Rated DC working voltage After test requirement at +20°C Capacitance change :≤ ±20% of the initial measured value Dissipation factor :≤ 200% of the initial specified value Leakage current :≤ The initial specified value																																			
Shelf Life	Test conditions Duration time :1000Hrs Ambient temperature :+105°C Applied voltage :None After test requirement at +20°C:Same limits as Endurance. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.																																			

Radial

### Multiplier for Ripple Current vs. Frequency

CAP(µF)/Frequency(Hz)	50(60)	120	400	1K	10K	50K-100K
CAP ≤ 10	0.80	1.00	1.30	1.45	1.65	1.7
10 < CAP ≤ 100	0.80	1.00	1.23	1.36	1.48	1.53
100 < CAP ≤ 1000	0.80	1.00	1.16	1.25	1.35	1.38
1000 < CAP	0.80	1.00	1.11	1.17	1.25	1.28

### Diagram of Dimensions:(unit:mm)



D φ	5	6.3	8	10	13	16	18	20	22
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10	10
d φ	0.5		L < 20	L ≥ 20	0.6		0.8		
			0.5	0.6					
α	D < 16		D = 16		D = 18		D > 18		
			L:25~35.5	L < 25 and L ≥ 40	L:25~31.5	L < 25 and L ≥ 35.5			
	1.5	1.5	2.0	1.5	2.0	2.0	2.0	2.0	2.0

## Case Size

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mAmps/85°C /120Hz)
6.3	33	5x11	54
6.3	47	5x11	65
6.3	68	5x11	75
6.3	100	5x11	96
6.3	120	5x11	110
6.3	150	5x11	120
6.3	150	6.3x11	130
6.3	180	6.3x11	140
6.3	220	6.3x11	160
6.3	330	6.3x11	195
6.3	470	6.3x11	220
6.3	470	8x11.5	270
6.3	560	8x11.5	310
6.3	680	8x11.5	360
6.3	820	8x11.5	390
6.3	1000	10x12.5	430
6.3	1200	10x12.5	550
6.3	1500	10x16	625
6.3	1800	10x16	710
6.3	2200	10x16	750
6.3	2200	10x20	775
6.3	2700	10x20	850
6.3	3300	13x20	960
6.3	3900	13x20	1000
6.3	4700	13x20	1150
6.3	5600	13x25	1300
6.3	6800	13x25	1480
6.3	8200	16x25	1520
6.3	10000	16x25	1680
6.3	12000	16x31.5	1750
6.3	15000	16x35.5	2075
6.3	18000	18x31.5	2150
6.3	22000	18x40	2300
10	22	5x11	45
10	33	5x11	60
10	47	5x11	70
10	68	5x11	80
10	100	5x11	105
10	120	5x11	110
10	120	6.3x11	120
10	150	5x11	120
10	150	6.3x11	145
10	180	6.3x11	160
10	220	6.3x11	175
10	330	6.3x11	205
10	330	8x11.5	255
10	470	6.3x11	235
10	470	8x11.5	290
10	560	8x11.5	330
10	560	10x12.5	340
10	680	8x11.5	365
10	680	8x16	410
10	820	10x12.5	480
10	1000	10x12.5	520
10	1200	10x16	630
10	1500	8x20	715
10	1500	10x16	770
10	1800	10x20	820
10	2200	10x20	860
10	2700	10x25	880

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mAmps/85°C /120Hz)
10	2700	13x20	920
10	3300	13x20	1100
10	3900	13x20	1280
10	4700	13x25	1350
10	5600	16x25	1490
10	6800	16x25	1670
10	8200	16x31.5	1840
10	10000	16x35.5	1900
10	12000	16x35.5	2050
10	15000	18x35.5	2180
10	18000	18x35.5	2205
16	10	5x11	35
16	22	5x11	54
16	33	5x11	64
16	47	5x11	100
16	68	5x11	105
16	100	5x11	115
16	100	6.3x11	130
16	120	6.3x11	155
16	150	6.3x11	170
16	180	6.3x11	190
16	220	6.3x11	215
16	330	6.3x11	225
16	330	8x11.5	265
16	470	8x11.5	370
16	470	8x16	400
16	560	10x12.5	410
16	680	8x16	470
16	680	10x12.5	480
16	820	10x16	550
16	1000	10x12.5	540
16	1000	10x16	600
16	1200	10x20	700
16	1500	10x20	820
16	1800	13x20	920
16	2200	13x20	1000
16	2700	13x20	1080
16	3300	13x25	1200
16	3900	16x25	1490
16	4700	16x25	1600
16	5600	16x31.5	1720
16	6800	16x31.5	1900
16	8200	16x35.5	2020
16	10000	18x35.5	2060
16	12000	18x35.5	2150
25	4.7	5x11	26
25	6.8	5x11	32
25	10	5x11	38
25	22	5x11	58
25	33	5x11	69
25	47	5x11	105
25	68	6.3x11	120
25	100	6.3x11	145
25	120	6.3x11	175
25	150	6.3x11	180
25	150	8x11.5	200
25	180	8x11.5	210
25	220	8x11.5	235
25	330	8x11.5	310
25	330	10x12.5	335

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mArms/85°C /120Hz)
25	470	8x11.5	410
25	470	10x12.5	440
25	560	10x16	460
25	680	10x16	520
25	820	10x20	640
25	1000	10x20	710
25	1200	13x20	810
25	1500	13x20	900
25	1800	13x25	1050
25	2200	13x25	1200
25	2700	16x25	1320
25	3300	16x25	1460
25	3900	16x31.5	1670
25	4700	16x35.5	1780
25	5600	16x35.5	1890
25	6800	18x35.5	2050
25	8200	18x35.5	2090
35	4.7	5x11	28
35	6.8	5x11	36
35	10	5x11	46
35	22	5x11	61
35	33	5x11	75
35	47	5x11	110
35	68	6.3x11	140
35	100	6.3x11	160
35	100	8x11.5	175
35	120	8x11.5	185
35	150	8x11.5	215
35	180	8x11.5	225
35	180	10x12.5	265
35	220	8x11.5	255
35	220	10x12.5	300
35	330	10x12.5	400
35	470	10x16	520
35	560	10x20	540
35	680	10x20	560
35	680	13x20	650
35	820	13x20	760
35	1000	13x20	830
35	1200	13x20	900
35	1200	13x25	930
35	1500	13x25	960
35	1800	16x25	1150
35	2200	16x25	1290
35	2200	16x31.5	1350
35	2700	16x31.5	1480
35	3300	16x35.5	1650
35	3900	18x31.5	1820
35	4700	18x35.5	1900
35	5600	18x35.5	2000
50	0.1	5x11	1
50	0.22	5x11	3
50	0.33	5x11	4
50	0.47	5x11	7
50	1	5x11	13
50	2.2	5x11	20
50	3.3	5x11	26
50	4.7	5x11	32
50	6.8	5x11	40
50	10	5x11	48
50	22	5x11	60
50	22	6.3x11	70

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mArms/85°C /120Hz)
50	33	5x11	75
50	33	6.3x11	90
50	47	6.3x11	115
50	68	6.3x11	130
50	68	8x11.5	155
50	100	8x11.5	200
50	120	8x16	220
50	120	10x12.5	225
50	150	10x12.5	245
50	180	10x12.5	260
50	180	10x16	280
50	220	10x12.5	345
50	220	10x16	360
50	330	10x16	450
50	330	10x20	470
50	470	10x20	600
50	470	13x20	650
50	560	13x20	660
50	680	13x20	700
50	680	13x25	770
50	820	13x25	850
50	1000	13x25	890
50	1000	16x25	1000
50	1200	16x25	1150
50	1500	16x31.5	1300
50	1800	16x35.5	1480
50	2200	16x35.5	1530
50	2700	18x35.5	1590
50	3300	18x35.5	1750
63	0.1	5x11	1
63	0.22	5x11	3
63	0.33	5x11	5
63	0.47	5x11	7
63	1	5x11	13
63	2.2	5x11	20
63	3.3	5x11	28
63	4.7	5x11	32
63	6.8	5x11	40
63	10	5x11	42
63	10	6.3x11	48
63	22	6.3x11	82
63	33	6.3x11	100
63	47	6.3x11	125
63	47	8x11.5	140
63	68	8x11.5	155
63	68	10x12.5	185
63	100	10x12.5	230
63	120	10x16	255
63	150	10x16	270
63	180	10x16	310
63	220	10x16	375
63	220	10x20	400
63	330	13x20	580
63	470	13x20	690
63	560	13x25	770
63	680	16x25	880
63	820	16x25	920
63	1000	16x31.5	1185
63	1200	16x35.5	1200
63	1500	18x31.5	1350
100	0.1	5x11	2
100	0.22	5x11	3

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA <sub>rms</sub> /85°C /120Hz)
100	0.33	5x11	5
100	0.47	5x11	10
100	1	5x11	15
100	2.2	5x11	21
100	3.3	5x11	30
100	4.7	5x11	35
100	6.8	6.3x11	47
100	10	6.3x11	56
100	10	8x11.5	60
100	22	6.3x11	75
100	22	8x11.5	90
100	33	8x11.5	140
100	33	10x12.5	155
100	47	8x16	165
100	47	10x12.5	170
100	68	10x16	240
100	100	10x20	280
100	120	10x20	295
100	150	13x20	340
100	150	13x25	360
100	180	13x20	410
100	180	13x25	480
100	220	13x25	520
100	330	16x25	690
100	470	16x25	820
100	470	16x31.5	860
100	560	16x35.5	900
100	680	16x35.5	920
100	680	18x31.5	950
100	820	18x35.5	1020
100	1000	18x40	1200
160	0.47	5x11	11
160	1	5x11	17
160	1	6.3x11	19
160	2.2	6.3x11	25
160	3.3	6.3x11	32
160	4.7	6.3x11	38
160	4.7	8x11.5	42
160	6.8	8x11.5	56
160	10	8x11.5	63
160	10	10x12.5	75
160	22	10x12.5	95
160	22	10x16	105
160	22	10x20	120
160	33	10x16	155
160	33	10x20	170
160	47	10x20	180
160	47	13x20	210
160	68	13x20	260
160	68	13x25	280
160	100	13x25	310
160	100	16x25	330
160	120	13x25	320
160	120	16x25	350
160	150	16x25	470
160	180	16x25	550
160	220	16x31.5	560
160	220	16x35.5	580
160	330	18x31.5	660
160	330	18x35.5	700
160	470	18x35.5	810
160	470	18x40	860

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA <sub>rms</sub> /85°C /120Hz)
200	0.47	5x11	12
200	1	6.3x11	17
200	2.2	6.3x11	25
200	3.3	6.3x11	33
200	3.3	8x11.5	35
200	4.7	6.3x11	42
200	4.7	8x11.5	50
200	6.8	8x11.5	60
200	6.8	10x12.5	63
200	10	8x11.5	78
200	10	10x12.5	85
200	22	10x16	125
200	22	10x20	130
200	33	10x16	160
200	33	10x20	180
200	33	13x20	190
200	47	13x20	220
200	68	13x20	270
200	68	13x25	300
200	100	13x25	320
200	100	16x25	345
200	120	16x25	360
200	120	16x31.5	390
200	150	16x25	440
200	150	16x31.5	480
200	180	16x31.5	550
200	180	16x35.5	560
200	220	16x35.5	670
200	220	18x31.5	690
200	330	18x35.5	750
200	330	18x40	810
200	470	18x40	840
200	470	22x40	925
200	560	18x50	940
250	0.47	5x11	8
250	1	6.3x11	16
250	2.2	6.3x11	20
250	2.2	8x11.5	25
250	3.3	8x11.5	33
250	4.7	8x11.5	46
250	4.7	10x12.5	50
250	6.8	8x11.5	60
250	6.8	10x12.5	70
250	10	8x11.5	68
250	10	10x12.5	80
250	22	10x16	110
250	22	10x20	125
250	22	13x20	150
250	33	13x20	190
250	47	13x20	230
250	47	13x25	240
250	56	13x20	255
250	56	13x25	280
250	68	13x25	310
250	68	16x25	355
250	82	16x25	370
250	100	16x25	375
250	100	16x31.5	395
250	120	16x31.5	420
250	120	16x35.5	430
250	150	16x35.5	460
250	150	18x31.5	460

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA <sub>rms</sub> /85°C /120Hz)
250	180	18x31.5	465
250	180	18x35.5	470
250	220	18x35.5	650
250	220	18x40	700
250	330	18x45	720
250	330	22x40	780
350	0.47	6.3x11	13
350	1	6.3x11	16
350	2.2	8x11.5	31
350	3.3	8x11.5	34
350	3.3	10x12.5	38
350	4.7	8x11.5	47
350	4.7	10x12.5	52
350	6.8	10x12.5	79
350	10	10x16	87
350	10	10x20	92
350	22	13x20	160
350	22	13x25	170
350	33	13x20	180
350	33	13x25	200
350	47	16x25	245
350	47	16x31.5	260
350	56	16x25	330
350	68	16x31.5	370
350	82	16x35.5	385
350	100	18x31.5	390
350	120	16x40	400
350	120	18x35.5	400
350	150	18x40	420
350	180	18x40	430
350	220	22x40	500
400	0.47	6.3x11	14
400	1	6.3x11	17
400	2.2	6.3x15	34
400	2.2	8x11.5	35
400	2.2	10x12.5	40
400	3.3	6.3x15	35
400	3.3	8x11.5	36
400	3.3	8x16	40
400	3.3	10x12.5	41
400	4.7	8x11.5	48
400	4.7	8x16	54
400	4.7	10x12.5	55
400	4.7	10x16	65
400	6.8	8x14	75
400	6.8	8x15	77
400	6.8	8x16	80
400	6.8	10x12.5	82
400	6.8	10x16	90
400	10	10x14	104
400	10	10x15	107
400	10	10x16	110
400	10	10x20	125
400	22	10x25	162
400	22	13x20	170
400	22	13x25	190
400	33	13x20	235
400	33	13x25	260
400	33	16x25	290
400	47	16x25	300
400	47	16x31.5	360
400	47	18x25	320

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA <sub>rms</sub> /85°C /120Hz)
400	56	16x25	360
400	56	16x31.5	400
400	68	16x25	410
400	68	16x31.5	450
400	68	16x35.5	480
400	68	18x25	440
400	68	18x31.5	500
400	82	16x31.5	480
400	82	18x25	470
400	82	18x31.5	520
400	100	16x31.5	490
400	100	16x35.5	520
400	100	18x31.5	530
400	100	18x35.5	550
400	120	18x31.5	550
400	120	18x35.5	580
400	150	18x35.5	610
400	150	18x40	650
400	150	22x30	640
400	180	18x45	700
420	0.47	6.3x11	14
420	1	8x11.5	20
420	2.2	8x11.5	35
420	3.3	10x12.5	42
420	4.7	10x12.5	58
420	4.7	10x16	61
420	6.8	10x16	84
420	10	10x20	112
420	22	13x25	185
420	33	16x25	230
420	47	16x25	280
420	47	16x31.5	310
420	56	16x35.5	390
420	68	18x31.5	470
420	82	18x31.5	475
420	82	18x35.5	500
420	100	16x35.5	525
420	100	18x31.5	535
420	100	18x35.5	555
420	120	18x31.5	560
420	120	18x35.5	590
420	120	18x40	630
420	150	18x35.5	615
420	150	18x40	660
420	180	18x45	680
420	180	20x40	685
450	0.47	6.3x11	14
450	1	8x11.5	20
450	2.2	8x11.5	30
450	2.2	10x12.5	35
450	3.3	8x11.5	32
450	3.3	10x12.5	38
450	3.3	10x16	42
450	4.7	8x16	44
450	4.7	10x16	50
450	4.7	10x12.5	45
450	4.7	10x16	50
450	6.8	10x12.5	58
450	6.8	10x16	65
450	6.8	10x20	72
450	10	10x16	80
450	10	10x20	92

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA <sub>rms</sub> /85°C /120Hz)
450	10	13x20	98
450	22	13x20	165
450	22	16x25	200
450	22	13x25	180
450	33	13x25	185
450	33	16x25	210
450	33	16x31.5	230
450	47	16x25	305
450	47	16x31.5	340
450	47	16x35.5	380
450	47	18x25	350
450	47	18x31.5	360
450	56	16x31.5	370
450	56	16x35.5	400
450	56	18x25	370
450	68	16x31.5	425
450	68	16x35.5	450
450	68	18x25	410
450	68	18x31.5	460
450	68	18x35.5	470
450	82	18x31.5	465
450	82	18x35.5	480
450	100	18x31.5	500
450	100	18x35.5	525
450	100	18x40	560
450	120	18x40	580
450	120	20x35	580
450	120	22x40	650
450	150	18x45	690
450	150	20x40	695
450	150	22x35	695
450	150	22x40	720
500	1	8x11.5	20
500	1	8x16	23
500	1	10x12.5	24

WV (Vdc)	Cap (µF)	Size (mm)	Rated Ripple current (mA <sub>rms</sub> /85°C /120Hz)
500	2.2	8x16	32
500	2.2	10x12.5	33
500	2.2	10x16	36
500	3.3	10x12.5	38
500	3.3	10x16	42
500	3.3	10x20	49
500	4.7	10x16	50
500	4.7	10x20	58
500	6.8	10x16	63
500	6.8	10x20	70
500	6.8	13x20	80
500	10	10x20	90
500	10	13x20	98
500	10	13x25	115
500	22	13x25	160
500	22	16x25	180
500	33	16x31.5	230
500	33	18x25	220
500	47	18x25	330
500	47	18x31.5	360
500	47	16x35.5	360
500	56	16x35.5	390
500	56	16x40	420
500	56	18x31.5	400
500	68	16x45	480
500	68	18x35.5	460
500	68	18x40	490
500	82	16x45	490
500	82	18x35.5	470
500	82	18x40	500
500	100	18x40	550
500	100	18x45	570
500	100	20x40	580
500	120	20x45	600
500	150	22x45	750