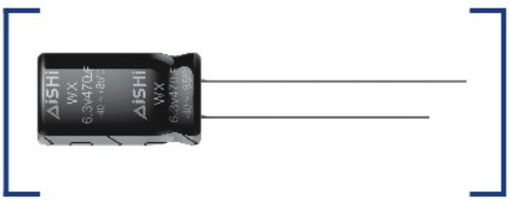
WX SERIES

- Standard series for general purples
- Downsize from WK Series
- Endurance: 85℃ 2,000 hours
- RoHS Compliant

Down Size

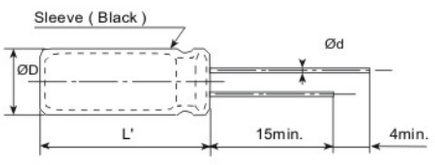
WK → WX

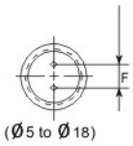


◆SPECIFICATIONS

Items	Characteristics															
Category Temperature Range	－40 to +85℃(6.3 to 450Vdc)															
Rated Voltage Range	6.3 to 450Vdc															
Capacitance Tolerance	±20% (at 20℃, 120Hz)															
Leakage Current	V=6.3~100 I=0.01CV or 3μA whichever is greater	V=160~450 I=0 .03CV+10μA	Where, I : Max. leakage current (μA), C : Nominal capacit ance (μF), V : Rated voltage (V) (at 20℃ after 2 minutes)													
Dissipation Factor (tanδ)	Rated voltage (Vdc)	6.3	10	16	25	35	50	63	100	160	200	250	315	350	400	450
	tanδ (Max.)	0.24	0.20	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.15	0.15	0.20	0.20	0.20	0.20
	When nominal capacitance is over 1,000 uF, tanδ shall be added 0.02 to the listed value with increase of every 1,000 uF															(at 20℃, 120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (Vdc)	6.3	10	16	25	35	50	63	100	160	200	250	315	350	400	450
	Z(－25℃)/Z(+20℃)	5	4	3	2					4						(at 120Hz)
	Z(－40℃)/Z(+20℃)	12	10	4	5	4	3			15			10			
Endurance	After application of the rated DC voltage and rated ripple current at 85℃ 2,000hours ,the capacitors shall meet the requirement below															
	Capacitance change	≤±20% of the initial value														
	D.F. (tanδ)	≤200% of the initial specified value														
	Leakage current	≤The initial specified value														
Shelf Life	After leaving capacitors under no load at 85℃for 1,000 hours, capacitors shall meet the requirement below															
	Capacitance change	≤±20% of the initial value														
	D.F. (tanδ)	≤200% of the initial specified value														
	Leakage current	≤200%The initial specified value														

◆DIMENSIONS [mm]





ØD	5	6.3	8		10	12.5	16	18
Ød	0.5	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5		5.0	5.0	7.5	7.5
ØD'	ØD+0.5max.							
L'	L+2max.							

◆PART NUMBERING SYSTEM

WX 2E M 2R2 E11 O T

- Sleeve Code: PVC is"C" PET is"T"
- Terminal code
- Size code
- Capacitance code
- Capacitance tolerance code
- Voltage code
- Series code

※Sleeve Code and Terminal Code should follow the part number system

◆RATED RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current (Hz)

Ø5 to Ø18

Freq.(Hz) / Cap.(uF)	50	120	300	1K	10K	100K
0.1 to 4.7	0.65	1.00	1.35	1.75	2.30	2.50
10 to 68	0.75	1.00	1.25	1.50	1.75	1.80
100 to 1000	0.80	1.00	1.15	1.30	1.40	1.50
2,200 to	0.85	1.00	1.03	1.05	1.08	1.08

Ø20 to Ø22

Freq.(Hz) / Vdc.(V)	50	120	300	1K	10K	100K
6.3 to 50	0.95	1.00	1.03	1.05	1.08	1.08
63 to 100	0.92	1.00	1.07	1.13	1.19	1.20

The endurance of capacitors is shorted with internal heating produced by ripple current at the rate of halving the lifetime with every 5℃ rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

◆RATED TEMPERATURE COEFFICIENT

Temperature	+70	+85
Factor	1.35	1.00

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◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size ΦDxL(mm)	tanδ	Ripple current (mArms/85℃,120Hz)
6.3(0J)	220	5x12	0.24	200
	330	6.3x12	0.24	270
	470	6.3x12	0.24	322
	1000	8x11.5	0.24	546
	2200	10x20	0.26	1010
	3300	12.5x20	0.28	1230
	4700	12.5x20	0.30	1710
	6800	12.5x25	0.34	1930
	10000	16x25	0.42	2450
	15000	16x35.5	0.52	2860
	22000	18x40	0.66	3340
10(1A)	47	5x11	0.20	99
	100	5x11	0.20	146
	220	6.3x11	0.20	240
	330	6.3x12	0.20	290
	470	8x11.5	0.20	417
	1000	8x16	0.20	650
	2200	10x20	0.22	1080
	3300	12.5x20	0.24	1430
	4700	12.5x25	0.26	1780
	6800	16x25	0.30	2220
	10000	16x30	0.38	2700
	15000	18x35.5	0.48	3100
16(1C)	10	5x11	0.16	50
	22	5x11	0.16	75
	33	5x11	0.16	92
	47	5x11	0.16	110
	100	5x11	0.16	160
	220	6.3x12	0.16	264
	330	8x11.5	0.16	383
	470	8x12.5	0.16	457
	1000	10x16	0.16	791
	2200	12.5x20	0.18	1350
	3300	12.5x25	0.20	1690
	4700	16x25	0.22	2100
	6800	16x30	0.26	2580
	10000	16x35	0.34	3130
25(1E)	4.7	5x11	0.14	38
	10	5x11	0.14	55
	22	5x11	0.14	82
	33	5x11	0.14	100
	47	5x11	0.14	118
	100	6.3x11	0.14	199
	220	8x11.5	0.14	349
	330	8x12.5	0.14	510
	470	10x12.5	0.14	545
	1000	10x20	0.14	996
	2200	12.5x25	0.16	1660
	3300	16x25	0.18	2030
	4700	16x30	0.20	2650
	6800	18x35.5	0.24	3290

WV (Vdc)	Cap (μF)	Case size ΦDxL(mm)	tanδ	Ripple current (mArms/85℃,120Hz)
35(1V)	4.7	5x11	0.12	40
	10	5x11	0.12	59
	22	5x11	0.12	87
	33	5x11	0.12	107
	47	6.3x11	0.12	130
	100	6.3x12	0.12	214
	220	8x12.5	0.12	443
	330	10x16	0.12	542
	470	10x16	0.12	664
	1000	12.5x20	0.12	1210
	2200	16x25	0.14	1950
	3300	16x30	0.16	2510
	4700	18x30	0.18	2990
50(1H)	0.1	5x11	0.10	3
	0.22	5x11	0.10	6
	0.33	5x11	0.10	9
	0.47	5x11	0.10	13
	1	5x11	0.10	21
	2.2	5x11	0.10	31
	3.3	5x11	0.10	38
	4.7	5x11	0.10	45
	10	5x11	0.10	66
	22	5x12	0.10	98
	33	6.3x11	0.10	126
	47	6.3x12	0.10	155
	100	8x12.5	0.10	260
	220	10x16	0.10	443
	330	10x20	0.10	595
	470	12.5x20	0.10	887
	1000	12.5x25	0.10	1400
	2200	16x35.5	0.12	2340
	3300	18x35.5	0.14	2810
63(1J)	4.7	5x11	0.09	45
	10	5x11	0.09	66
	22	6.3x11	0.09	100
	33	6.3x11	0.09	140
	47	8x12	0.09	170
	100	10x12.5	0.09	300
	220	10x20	0.09	470
	330	12.5x20	0.09	710
	470	12.5x20	0.09	900
	1000	16x25	0.09	1300
100(1K)	0.1	5x11	0.08	2.1
	0.22	5x11	0.08	4.7
	0.33	5x11	0.08	7
	0.47	5x11	0.08	10
	1	5x11	0.08	21
	2.2	5x11	0.08	30
	3.3	5x11	0.08	40
	4.7	5x11	0.08	45
	10	6.3x12	0.08	75

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◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size ΦDxL (mm)	tanδ	Ripple current (mArms/85℃,120Hz)
100(1K)	22	8x12	0.08	130
	33	8x12.5	0.08	180
	47	10x16	0.08	230
	100	10x20	0.08	370
	220	12.5x25	0.08	620
	330	16x25	0.08	760
	470	16x30	0.08	1000
	1000	18x40	0.08	1380
160(2C)	0.47	6.3x11	0.15	15
	1	6.3x11	0.15	22
	2.2	6.3x11	0.15	32
	3.3	6.3x12	0.15	40
	4.7	8x12	0.15	48
	10	8x12.5	0.15	81
	22	10x16	0.15	151
	33	10x20	0.15	202
	47	10x20	0.15	266
	100	12.5x25	0.15	422
	220	16x30	0.15	783
	330	18x30	0.15	1080
200(2D)	0.47	6.3x11	0.15	15
	1	6.3x11	0.15	22
	2.2	6.3x11	0.15	32
	3.3	6.3x12	0.15	40
	4.7	8x12.5	0.15	56
	10	10x12.5	0.15	94
	22	10x16	0.15	170
	33	12.5x20	0.15	223
	47	12.5x20	0.15	265
	100	16x25	0.15	483
	220	18x35.5	0.15	882
250(2E)	0.47	6.3x11	0.15	15
	1	6.3x11	0.15	22
	2.2	6.3x11	0.15	32
	3.3	8x11.5	0.15	48
	4.7	8x12.5	0.15	56
	10	10x16	0.15	101
	22	10x20	0.15	182
	33	12.5x20	0.15	243

WV (Vdc)	Cap (μF)	Case size ΦDxL (mm)	tanδ	Ripple current (mArms/85℃,120Hz)
250(2E)	47	12.5x25	0.15	295
	100	16x30	0.15	528
315(2F)	1	6.3x11	0.20	22
	2.2	8x11.5	0.20	38
	3.3	8x12.5	0.20	53
	4.7	10x12.5	0.20	65
	10	10x20	0.20	115
	22	12.5x20	0.20	182
	33	16x25	0.20	277
	47	16x25	0.20	330
	100	18x31.5	0.20	567
350(2V)	0.47	6.3x11	0.20	15
	1	6.3x11	0.20	22
	2.2	8x11.5	0.20	38
	3.3	10x12.5	0.20	53
	4.7	10x12.5	0.20	65
	10	10x20	0.20	115
	22	12.5x25	0.20	197
	33	16x25	0.20	277
	47	16x25	0.20	330
	100	18x31.5	0.20	507
400(2G)	0.47	6.3x11	0.20	15
	1	6.3x11	0.20	22
	2.2	8x11.5	0.20	38
	3.3	10x12.5	0.20	54
	4.7	10x16	0.20	71
	10	12.5x20	0.20	123
	22	12.5x25	0.20	197
	33	16x25	0.20	277
	47	16x31.5	0.20	361
450(2W)	0.47	8x11.5	0.20	18
	1	8x11.5	0.20	25
	2.2	10x12.5	0.20	43
	3.3	10x16	0.20	59
	4.7	10x20	0.20	76
	10	12.5x20	0.20	123
	22	16x25	0.20	226
	33	16x31.5	0.20	304
	47	16x35.5	0.20	380