

## FEATURES

- Wide temperature range (-55°C ~ +105°C).
- Long life (2000 hours @ 105°C) (  $\phi D > 10$  ).
- Solvent resistant.

## PART NUMBERING

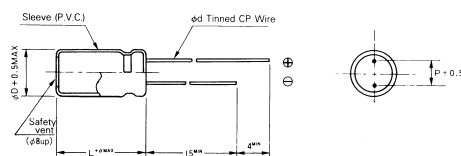
Part Number Example: 725W-050/100M5X11F							
725W	-	050	/	100	M	5X11	F
Type		Rated DC Voltage		Capacitance Code ( $\mu F$ )*	Tolerance Code	Size	RoHs Compliant

\* Capacitance Code: First two digits represent significant figures, third digit represents multiplier (number of zeros).

## SPECIFICATIONS

Performance Characteristics											
Operating Temperature Range	-55°C ~ +105°C @ 6.3VDC ~ 100VDC. -40°C ~ +105°C @ 160VDC ~ 400VDC. -25°C ~ +105°C @ 450VDC.										
Temperature Characteristics (120Hz)	Impedance Ratio										
	Rated Voltage (WVDC)	6.3	10	16	25	35	50 ~ 100	160 ~ 200	250	315 ~ 400	450
	Z (-25°C) / Z (+20°C)	4	3	2	2	2	2	2	3	3	5
	Z (-40°C) / Z (+20°C)	8	6	4	3	3	3	6	6	6	
Voltage Range	6.3VDC ~ 450VDC.										
Capacitance Range	0.1 $\mu F$ ~ 15000 $\mu F$ .										
Capacitance Tolerance (20°C, 120Hz)	$\pm 20\%$ .										
Maximum Dissipation Factor (20°C, 120Hz)	Rated Voltage (WVDC)	6.3	10	16	25	35	50	63	100	160 ~ 350	400 ~ 450
	DF %	24	20	16	14	12	10	9	8	20	25
	For capacitance of more than 1000 $\mu F$ , add 0.02 $\mu F$ for every increase of 1000 $\mu F$ .										
Maximum Leakage Current	6.3VDC ~ 100VDC						160VDC ~ 450VDC				
	0.03CV or 4 $\mu A$ , whichever is greater, after 1 minute application of rated voltage. 0.01CV or 3 $\mu A$ , whichever is greater, after 2 minutes application of rated voltage.						CV $\leq$ 1000: 0.1CV + 40 $\mu A$ or less after 1 minute application of rated voltage. CV > 1000: 0.04CV + 100 $\mu A$ or less after 1 minute application of rated voltage.				
Applicable Standards	Characteristics of JIS C-5141.										
Load Life Test (105°C)	After 2000 hours application of rated voltage, capacitors meet the characteristics requirements mentioned below. ( $\phi D \leq 8$ , 1000 hours).										
	Capacitance Change	Within $\pm 20\%$ of initial value.									
	DF	200% or less of initial specified value.									
	Leakage Current	Initial specified value or less.									
Shelf Life (105°C)	After leaving capacitors under no load for 1000 hours and applying voltage according to JIS C-5102 4-3, they meet the specified value for load life characteristics listed above.										

## DIMENSIONS



## DIMENSIONS (UNIT: mm)

D	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
d $\phi$	0.5		0.6			0.8	
$\alpha$	~100WV	1.0	1.0	1.0	1.5	1.5	1.5
	160WV~		1.5	1.5	2.0	2.0	2.0

## MULTIPLIER FOR RIPPLE CURRENT VS TEMP.

Ambient Temperature (°C)	~ +70	+85	+105
Multiplier	1.78	1.4	1.0

CASE SIZE OF STANDARD PRODUCTS (DxL (mm))

Cap. (µF)		WVDC							
		6.3	10	16	25	35	50	63	100
0.10	0R1						5 x 11		
0.15	R15						5 x 11		
0.22	R22						5 x 11	5 x 11	
0.33	R33						5 x 11	5 x 11	5 x 11
0.47	R47						5 x 11	5 x 11	5 x 11
0.68	R68						5 x 11	5 x 11	5 x 11
1.0	010					5 x 11	5 x 11	5 x 11	5 x 11
2.2	2R2					5 x 11	5 x 11	5 x 11	5 x 11
3.3	3R3					5 x 11	5 x 11	5 x 11	5 x 11
4.7	4R7					5 x 11	5 x 11	5 x 11	5 x 11
10	100				5 x 11	5 x 11	5 x 11	5 x 11	6.3 x 13
15	150				5 x 11	5 x 11	5 x 11	6.3 x 11	8 x 11.5
22	220				5 x 11	5 x 11	5 x 11	6.3 x 11	8 x 11.5
33	330			5 x 11	5 x 11	6.3 x 11	6.3 x 11	6.3 x 11	10 x 12.5
47	470		5 x 11	5 x 11	5 x 11	6.3 x 11	6.3 x 11	8 x 11.5	10 x 16
100	101	5 x 11	5 x 11	6.3 x 11	6.3 x 11	8 x 11.5	8 x 11.5	10 x 12.5	13 x 20
150	151	6.3 x 11	6.3 x 11	8 x 11.5	6.3 x 11	10 x 12.5	10 x 16	10 x 20	13 x 20
220	221	6.3 x 11	6.3 x 11	8 x 11.5	8 x 11.5	10 x 12.5	10 x 16	10 x 20	16 x 25
330	331	6.3 x 11	8 x 11.5	8 x 11.5	10 x 12.5	10 x 16	10 x 20	13 x 20	16 x 25
470	471	8 x 11.5	8 x 11.5	10 x 13	10 x 16	10 x 20	13 x 20	13 x 25	16 x 31.5
1000	102	10 x 12.5	10 x 16	10 x 20	13 x 20	13 x 25	16 x 25	16 x 31.5	
1500	152	10 x 20	13 x 20	13 x 20	13 x 25	16 x 25	18 x 31.5		
2200	222	13 x 20	13 x 20	13 x 25	16 x 25	16 x 31.5	18 x 35.5		
3300	332	13 x 20	13 x 25	16 x 25	16 x 31.5	18 x 35.5			
4700	472	16 x 25	16 x 25	16 x 31.5	18 x 35.5				
6800	682	16 x 25	16 x 31.5	18 x 35.5					
10000	103	16 x 31.5	18 x 35.5						
15000	223	18 x 35.5							

For capacitance values, voltages or sizes not listed above consult Factory or Area Representative.

CASE SIZE OF STANDARD PRODUCTS (DxL (mm)) (CONT.)

Cap. (µF)		WVDC						
		160	200	250	315	350	400	450
0.10	0R1							
0.15	R15							
0.22	R22							
0.33	R33							
0.47	R47	6.3 x 11	6.3 x 11	6.3 x 11				
0.68	R68							
1	010	6.3 x 11	6.3 x 11	6.3 x 11	8 x 11.5	8 x 11.5	8 x 11.5	10 x 12.5
2.2	2R2	6.3 x 11	6.3 x 11	6.3 x 11	8 x 11.5	8 x 11.5	10 x 12.5	10 x 20
3.3	3R3	6.3 x 11	6.3 x 11	8 x 11.5	10 x 12.5	10 x 12.5	10 x 12.5	13 x 20
4.7	4R7	6.3 x 11.5	8 x 11.5	10 x 12.5	10 x 12.5	10 x 12.5	10 x 16	13 x 20
10	100	10 x 12.5	10 x 12.5	10 x 16	10 x 20	10 x 20	13 x 20	16 x 25
15	150							
22	220	10 x 16	10 x 20	13 x 20	13 x 25	13 x 25	13 x 25	16 x 31.5
33	330	10 x 20	13 x 20	13 x 20	16 x 25	16 x 25	16 x 31.5	18 x 35.5
47	470	13 x 25	13 x 25	16 x 25	16 x 35.5	16 x 35.5	18 x 35.5	
100	101	16 x 25	16 x 25	16 x 31.5				
150	151	16 x 31.5	1 x 35.5					
220	221	18 x 35.5						
330	331							
470	471							

For capacitance values, voltages or sizes not listed above consult Factory or Area Representative.

**MAXIMUM RIPPLE ((mA) 105°C, 120Hz)**

Cap. (µF)		WVDC														
		6.3	10	16	25	35	50	63	100	160	200	250	315	350	400	450
0.10	0R1						4									
0.15	R15						5									
0.22	R22						6	6								
0.33	R33						7	7	7							
0.47	R47						8	8	8	10	10	10				
0.68	R68						10	10	9							
1.0	010					12	12	13	15	14	14	17	17	17	13	15
2.2	2R2					13	19	19	22	21	21	24	20	20	24	22
3.3	3R3					20	25	27	30	31	31	36	35	35	34	30
4.7	4R7					25	30	32	36	37	42	46	40	40	40	41
10	100				40	45	50	51	60	68	69	80	61	61	70	60
15	150				50	55	60	65	80							
22	220				65	70	75	85	110	115	125	145	110	110	115	110
33	330			75	80	85	85	106	155	163	170	185	140	140	145	155
47	470		80	90	90	110	125	150	200	210	210	220	190	190	170	
100	101	105	110	140	150	190	240	260	370	310	320	350				
150	151	130	125	185	180	240	260	315	410	330	350					
220	221	170	180	240	250	330	390	460	580	475						
330	331	200	270	290	350	440	530	630	710							
470	471	290	300	400	460	570	700	780	860							
1000	102	475	570	680	840	1000	1110	1190								
1500	152	590	810	800	910	1150	1300									
2200	222	980	980	1150	1200	1420	1530									
3300	332	1150	1320	1420	1530	1620										
4700	472	1390	1490	1650	1730											
6800	682	1570	1700	1830												
10000	103	1790	1880													
15000	223	1980														

For capacitance values, voltages or sizes not listed above consult Factory or Area Representative.

**FREQUENCY COEFFICIENCY OF ALLOWABLE RIPPLE CURRENT**

WVDC	Capacitance (µF)	Frequency				
		50Hz	120Hz	300Hz	1KHz	10KHz
6.3 ~ 100	~ 47	0.75	1	1.35	1.57	2.00
	100 ~ 470	0.80	1	1.23	1.34	1.50
	1000 ~ 22000	0.85	1	1.10	1.13	1.15
160 ~ 450	0.47 ~ 220	0.80	1	1.25	1.40	1.60
	330 ~ 470	0.90	1	1.10	1.13	1.15