



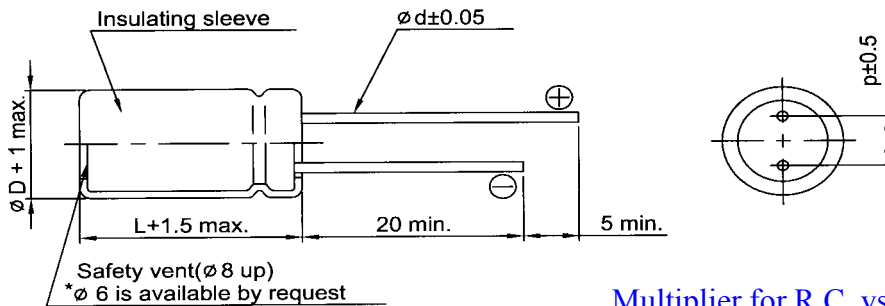
RRX SERIES

Low Impedance, Radial, Through-Hole

- RRX series capacitors are ideal for use in switching power supplies.
- Other High Frequency Applications.
- **Low Impedance** and long life.

Characteristics

Voltage Range	6.3 to 100 VDC				160 to 450 VDC				
Capacitance Range	0.47 to 10000uF				0.47 to 470uF				
Temperature Range	-40 to +105°C				-25 to +105°C				
Leakage Current	I ≤ 0.01CV or 2μA, whichever is greater 3 minutes after Rated Voltage applied				I ≤ 0.03CV or 3μA, whichever is greater 3 minutes after Rated Voltage applied				
Capacitance Tolerance	±20% at 120Hz, 20°C								
Dissipation Factor	Working Voltage (V)	6.3	10	16	25	35	50	63	100
	tanδ (%) max	22	19	16	14	12	10	9	8
	Working Voltage (V)	160	200	250	350	400	450		
	tanδ (%) max	12	12	12	15	15	17		
Low temperature Characteristics (120Hz)	For capacitance > 1000μF, add 0.02 for every 1000μF.(at 20°C, 120Hz)								
	Working Voltage (V)	6.3	10	16	25	35	50	63	100
	Z-25°C/Z 20°C	4	3	3	3	3	3	2	2
	Z-40°C/Z 20°C	8	6	4	3	3	3	3	3
	Working Voltage (V)	160	200	250	350	400	450		
	Z-25°C/Z 20°C	2	2	3	5	5	6		
	For capacitance > 1000μF, add 0.5 every 1000μF for -25°C/+20°C add 1.0 every 1000μF for -40°C/+20°C								
Load life :		After the rated voltage with ripple current has been applied for at 105°C (160V~450V : 2000HRS)	Capacitance change		Within ±20% of initial value				
Dø	Life Hours		D.F. tanδ		200% or less of initial specified value				
5 - 6.3ø	2000		Leakage current		Less than initial specified value				
8ø	3000								
≥ 10ø	5000								
Shelf life (at 105°C)		After 1000 hrs no load: test the leakage current, capacitance and tan δ are same as load life value.							



Multiplier for R.C. vs Temperature

Temp.(°C)	45	60	70	85	95	105
Multiplier	2.10	1.90	1.65	1.40	1.25	1.00

Drawing

Dø	5	6.3	8	10	13	16	18
p	2.0	2.5	3.5	5.0	5.0	7.5	7.5
dø	0.5	0.5	0.5	0.6	0.6	0.8	0.8

Ripple Current Coefficients

Frequency (Hz)	60	120	400	1K	10K	50K - 100K
Cap.(μF) / Hz	Multiplier					
Cap. ≤ 10	0.47	0.59	0.76	0.85	0.97	1
10 < Cap. ≤ 100	0.52	0.62	0.80	0.89	0.97	1
100 < Cap. ≤ 1000	0.58	0.72	0.84	0.90	0.98	1
1000 < Cap.	0.63	0.78	0.87	0.91	0.98	1



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Dimensions, Maximum Permissible Ripple Current & Impedance

WV (SV)	6.3 (8)			10 (13)			16 (20)			25 (32)		
	Spec. μF	DøxL(mm)	Impedance (Ω) max 20°C	DøxL(mm)	Impedance (Ω) max 20°C	Ripple Current mA (rms)	DøxL(mm)	Impedance (Ω) max 20°C	Ripple Current mA (rms)	DøxL(mm)	Impedance (Ω) max 20°C	Ripple Current mA (rms)
			105°C 100KHZ			105°C 100KHZ			105°C 100KHZ			105°C 100KHZ
10										5x11	2.56	85
22							5x11	2.60	100	5x11	1.95	125
33							5x11	2.00	114	5x11	1.42	155
47							5x11	1.10	155	5x11	1.10	205
68							5x11	0.69	195	6.3x11	0.65	280
100				5x11	0.80	210	6.3x11	0.50	265	6.3x11	0.35	370
150				6.3x11	0.61	290	8x12	0.41	370	8x12	0.31	410
220	6.3x11	0.65	310	6.3x11	0.35	340	8x12	0.25	480	8x12	0.15	555
330	8x12	0.42	390	8x12	0.27	460	8x12	0.15	590	8x14 10x12.5	0.12 0.114	700 820
470	8x12	0.25	450	8x12	0.15	555	10x12.5	0.12	750	10x16	0.076	1200
680	8x14	0.21	520	8x14	0.10	805	10x16	0.080	850	10x21	0.065	1320
1000	8x12 10x12.5	0.17 0.10	555 750	10x12.5 10x21	0.080 0.076	805 1040	10x21	0.065	1350	13x21	0.045	1650
1500	8x16 10x16	0.14 0.08	830 940	10x16 10x21	0.070 0.062	1000 1400	13x21	0.045	1630	13x26	0.038	2210
2200	10x21	0.068	1050	10x21	0.052	1220	13x21	0.039	1900	16x26	0.036	2650
3300	10x21 13x21	0.052 0.060	1220 1650	13x21	0.035	1900	16x26	0.030	2790	16x31	0.026	3240
4700	13x21	0.039	1660	13x26	0.031	2000	16x31	0.026	2880	16x36	0.024	3650
6800	16x26	0.030	2450	16x26	0.028	2290	16x36	0.025	2990	18x41	0.024	3850
10000	16x31	0.026	2650	16x31	0.024	2770	18x36	0.024	3320			

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WV (SV)	400 (450)			450 (500)		
	Spec. D \times L(mm)	Impedance (Ω)max 20°C 100KHZ	Ripple Current mA(ms) 105°C 100KHz	D \times L(mm)	Impedance (Ω)max 20°C 100KHZ	Ripple Current mA(ms) 105°C 100KHz
μ F						
1	8x12	16.5	36	10x12.5	17.35	41
2.2	10x12.5	8.58	56	10x16	10.25	60
3.3	10x16	5.01	86	10x21	5.65	89
4.7	10x21	4.82	120	13x21	5.01	130
10	13x21	3.32	245	13x26	3.78	165
22	13x26	2.65	305	13x26	2.80	255
33	16x26	1.21	335	16x26	2.20	360
47	16x31	0.92	560	16x36	1.02	550
68	18x32	0.75	750	18x36	0.78	700
100	18x41	0.52	950			