

RW SERIES ■ STANDARD, AUDIO 85°C TYPE

KEY FEATURES



- ALUMINUM ELECTROLYTIC CAPACITOR ■ THT type
- Endurance: 85°C ■ 2000 hours
- Optimized for cost effective applications
- High capacitance range
- Especially for audio applications



SPECIFICATIONS

Items		Performance Characteristics								
Operating Temperature Range		-40 ~ +85°C								
Rated Voltage Range	V_R	6.3 ~ 100V DC								
Surge Voltage	V_S	$V_S = 1.15 \cdot V_R$								
Capacitance Range	C_R	0.1 ~ 33000 μ F								
Cap. Tolerance	ΔC	$\pm 20\%$ (120Hz ■ 20°C)								
Leakage Current (20°C ■ V_R applied)	I_{LEAK}	$\leq 0.01 \cdot C_R \cdot V_R$ or 3 μ A, whichever is greater ■ After 1 minute [I_{LEAK} (μ A) ; C_R (μ F) ; V_R (V)]								
Dissipation Factor % (20°C ■ 120Hz)	$\tan \delta$	V_R (V DC)	6.3	10	16	25	35	50	63	100
		$\tan \delta$ (%)	28	24	20	16	14	12	10	8
		For $C_R \geq 1000\mu$ F, add 2% per every multiple 1000 μ F of rated capacitance value								
Low Temperature Characteristics at 120Hz	Z ratio max.	V_R (V DC)	6.3	10	16	25	35	50	63	100
		Z-25°C/Z+20°C	5	4	3	2	2	2	2	2
		Z-40°C/Z+20°C	12	10	8	5	4	3	3	3
		For capacitance > 1000 μ F								
		Z-25°C/Z+20°C	Add 0.5 for every multiple 1000 μ F of rated capacitance value							
Z-40°C/Z+20°C	Add 1 for every multiple 1000 μ F of rated capacitance value									

Lifetime Test			
Endurance 85°C (V_R applied)	Test	2000 hours	
	$\Delta C/C_R$	$\leq \pm 20\%$ of initial measured value	
	$\tan \delta$	$\leq 200\%$ of initial specified value	
	I_{Leak}	\leq the initial specified value	
Shelf Life 85°C ($V_R = 0$)	Test	1000 hours	
	$\Delta C/C_R$	$\leq \pm 20\%$ of initial measured value	
	$\tan \delta$	$\leq 200\%$ of initial specified value	
	I_{Leak}	\leq the initial specified value	
	Before measurement: Restore capacitor to 20°C, apply V_R for 30 min according JIS-C-5101-4		

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

C_R (μ F) / Frequency (Hz)	50/60	100/120	300	1k	10k
$C_R \leq 47$	0.75	1	1.35	1.57	1.2
$100 < C_R \leq 470$	0.8	1	1.23	1.34	1.5
$1000 < C_R \leq 33000$	0.85	1	1.1	1.13	1.15

STANDARD RATINGS

Part number shows bulk version with straight leads

V_R (V)	C_R (μ F)	ϕ D (mm)	L (mm)	I_R - Max. Ripple Current +85°C • 120Hz (mA rms)	CapXon Part Number
6.3	330	6.3	11	282	RW331M6R3E110A
	470	6.3	11	330	RW471M6R3E110A
	1000	8	11.5	560	RW102M6R3F115A
	2200	10	20	1015	RW222M6R3G200A
	3300	10	20	1245	RW332M6R3G200A
	4700	13	20	1435	RW472M6R3I200A
	6800	13	25	1600	RW682M6R3I250A
	10000	16	25	2000	RW103M6R3J250A
	15000	16	35.5	2620	RW153M6R3J355A
	22000	18	40	3220	RW223M6R3K400A
33000	22	50	3900	RW333M6R3M500A	
10	100	5	11	162	RW101M010C110A
	220	6.3	11	247	RW221M010E110A
	330	6.3	11	300	RW331M010E110A
	470	6.3	11	355	RW471M010E110A
	1000	10	12.5	600	RW102M010G125A
	2200	10	20	1075	RW222M010G200A
	3300	13	20	1410	RW332M010I200A
	4700	13	25	1800	RW472M010I250A
	6800	16	25	2200	RW682M010J250A
	10000	16	35.5	2450	RW103M010J355A
	15000	18	35.5	2900	RW153M010K355A
	22000	22	40	3700	RW223M010M400A
33000	22	50	4300	RW333M010M500A	
16	100	5	11	155	RW101M016C110A
	220	6.3	11	265	RW221M016E110A
	330	8	11.5	365	RW331M016F115A
	470	8	11.5	445	RW471M016F115A
	1000	10	16	780	RW102M016G160A
	2200	13	20	1300	RW222M016I200A
	3300	13	25	1700	RW332M016I250A
	4700	16	25	2100	RW472M016J250A
	6800	16	35.5	2520	RW682M016J355A
	10000	18	35.5	2670	RW103M016K355A
	15000	22	40	3400	RW153M016M400A
	22000	22	50	4200	RW223M016M500A
25	47	5	11	117	RW470M025C110A
	100	6.3	11	187	RW101M025E110A
	220	8	11.5	325	RW221M025F115A
	330	10	12.5	415	RW331M025G125A
	470	10	12.5	535	RW471M025G125A
	1000	10	20	950	RW102M025G200A
	2200	13	25	1550	RW222M025I250A
3300	16	25	1675	RW332M025J250A	

See "PACKAGING INFORMATION" to taped or formed products.

STANDARD RATINGS

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V_R (V)	C_R (μ F)	ϕ D (mm)	L (mm)	I_R - Max. Ripple Current +85°C • 120Hz (mA rms)	CapXon Part Number
25	4700	16	31.5	2380	RW472M025J315A
	6800	18	35.5	2650	RW682M025K355A
	10000	22	40	3000	RW103M025M400A
	15000	22	50	3800	RW153M025M500A
35	33	5	11	107	RW330M035C110A
	47	5	11	125	RW470M035C110A
	100	6.3	11	205	RW101M035E110A
	220	10	12.5	370	RW221M035G125A
	330	10	12.5	475	RW331M035G125A
	470	10	16	630	RW471M035G160A
	1000	13	20	1120	RW102M035I200A
	2200	16	25	1650	RW222M035J250A
	3300	16	35.5	2270	RW332M035J355A
	4700	18	35.5	2540	RW472M035K355A
	6800	22	40	3000	RW682M035M400A
50	0.1	5	11	2.1	RW0R1M050C110A
	0.22	5	11	2.7	RWR22M050C110A
	0.33	5	11	4.2	RWR33M050C110A
	0.47	5	11	6	RWR47M050C110A
	1	5	11	12	RW010M050C110A
	2.2	5	11	24	RW2R2M050C110A
	3.3	5	11	35	RW3R3M050C110A
	4.7	5	11	41	RW4R7M050C110A
	10	5	11	65	RW100M050C110A
	22	5	11	97	RW220M050C110A
	33	5	11	120	RW330M050C110A
	47	6.3	11	150	RW470M050E110A
	100	8	11.5	255	RW101M050F115A
	220	10	12.5	417	RW221M050G125A
	330	10	16	580	RW331M050G160A
	470	13	20	770	RW471M050I200A
	1000	13	25	1320	RW102M050I250A
	2200	16	35.5	2090	RW222M050J355A
	3300	18	35.5	2430	RW332M050K355A
	4700	22	40	2900	RW472M050M400A
6800	22	50	3500	RW682M050M500A	
63	0.1	5	11	1.5	RW0R1M063C110A
	0.22	5	11	3	RWR22M063C110A
	0.33	5	11	5	RWR33M063C110A
	0.47	5	11	7	RWR47M063C110A
	1	5	11	15	RW010M063C110A
	2.2	5	11	28	RW2R2M063C110A
	3.3	5	11	35	RW3R3M063C110A
	4.7	5	11	45	RW4R7M063C110A

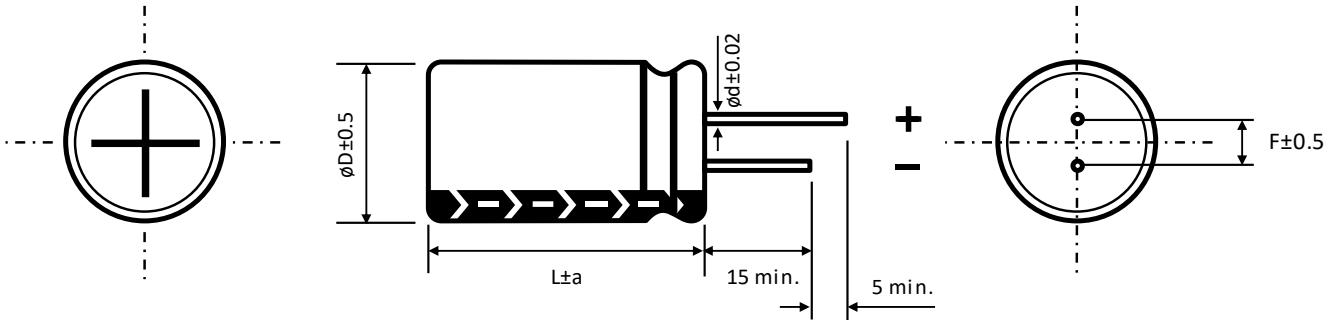
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V_R (V)	C_R (μ F)	ϕ D (mm)	L (mm)	I_R - Max. Ripple Current +85°C - 120Hz (mA rms)	CapXon Part Number
63	10	5	11	70	RW100M063C110A
	22	5	11	107	RW220M063C110A
	33	6.3	11	137	RW330M063E110A
	47	6.3	11	172	RW470M063E110A
	100	10	12.5	300	RW101M063G125A
	220	10	16	485	RW221M063G160A
	330	10	20	670	RW331M063G200A
	470	13	20	880	RW471M063I200A
	1000	16	25	1350	RW102M063J250A
	2200	18	35.5	2220	RW222M063K355A
	3300	22	40	2700	RW332M063M400A
4700	22	50	3400	RW472M063M500A	
100	0.1	5	11	2.1	RW0R1M100C110A
	0.22	5	11	4.7	RWR22M100C110A
	0.33	5	11	7.5	RWR33M100C110A
	0.47	5	11	11	RWR47M100C110A
	1	5	11	21	RW010M100C110A
	2.2	5	11	31	RW2R2M100C110A
	3.3	5	11	40	RW3R3M100C110A
	4.7	5	11	46	RW4R7M100C110A
	10	6.3	11	75	RW100M100E110A
	22	6.3	11	125	RW220M100E110A
	33	8	11.5	165	RW330M100F115A
	47	10	12.5	220	RW470M100G125A
	100	10	20	370	RW101M100G200A
	220	13	25	615	RW221M100I250A
	330	13	25	755	RW331M100I250A
	470	16	25	1000	RW471M100J250A
	1000	18	40	1500	RW102M100K400A
2200	22	50	2400	RW222M100M500A	

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DIMENSIONS ▪ All dimensions in mm


ø D	5	6.3	8	10	13	16	18	22
F	2	2.5	3.5	5	5	7.5	7.5	10
ø d	0.5		L < 20	L ≥ 20	0.6		0.8	
			0.5	0.6				

a	ø D < 16	ø D = 16		ø D = 18		ø D > 18
	1.5	L = 25 to 35.5	L < 25 and L ≥ 40	L = 25 to 31.5	L < 25 and L ≥ 35.5	2
	1.5	2	1.5	2		

PRECAUTIONS, GUIDELINES AND PACKAGING INFORMATION

Unless otherwise agreed in individual specifications, all products are subject to our “General Precautions and Guidelines” as well as our “Packaging Information”. Please refer to the following links in the table.

General Precautions & Guidelines	Packaging Information	3D Models

DISCLAIMER

All product related data (e.g. specification, statements and general information) are subject to change without any notice. It is necessary that the customer observes all product related technical / application information and handling instructions.

CapXon products are designed and manufactured according to severe quality and safety standards. Under no circumstance, CapXon warrants that any CapXon product is suitable for the purposes intended for your application, even CapXon knows the application. It is customer's duty and obligation to check and make sure that CapXon products are suitable for the purposes intended and select the correct and proper CapXon product. Customers are requested to perform a sufficient validation and reliability evaluation to assure needed safety level and reliability performance by suitable designs and to apply proper safeguards (e.g. redundancies, protective circuits).

Particular operating conditions (ambient temperature, ripple current, voltage, thermal resistance, etc.) as well as storage, production or assembly may affect the performance and the lifetime of the capacitor. Please consult CapXon for lifetime estimation, failure mode considerations or worst-case scenarios according to the product technology, product tolerances / deviations or change of the characteristics of the capacitor due to shipment, storage, handling, production and usage.

For aerospace or military application, life-saving, life-sustaining, safety critical applications or any application where failure may cause severe personal injury or death, please consult us before design-in the capacitor in your application.

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