

RY Series 85°C

Features

Extremely Long useful life

Applications

- ◆ Professional power supplies
- ◆ Frequency converters
- ◆ Uninterruptible power supplies

Features

- ◆ Long useful life
- ◆ High reliability
- ◆ High ripple current capability
- ◆ All-welded construction ensures reliable electrical contact
- ◆ Version with low-inductance design available
- ◆ Self-extinguishing electrolyte
- ◆ RoHS-compatible

Construction

- ◆ Charge-discharge proof, polar
- ◆ Aluminum case with insulating sleeve
- ◆ Poles with screw terminal connections
- ◆ Mounting with ring clips, clamps or threaded stud

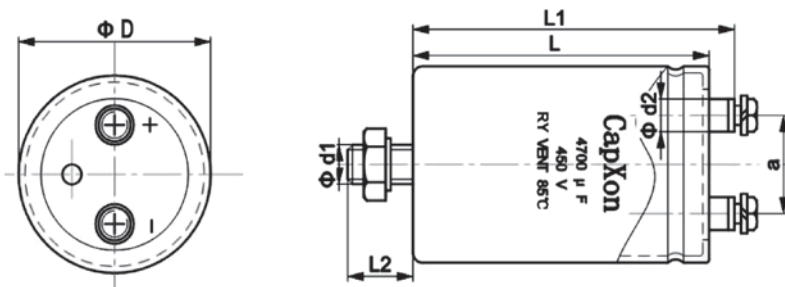


Specifications

Item	Performance Characteristics					
Rated voltage V_R	350... 450 V DC					
Surge voltage V_S	1.15 V_R (for $V_R \leq 315$ V) or 1.10 V_R (for $V_R > 315$ V)					
Rated capacitance C_R	1500 ... 22000 μ F					
Capacitance tolerance	$\pm 20\%$					
tan δ (at 20°C, 120Hz)	Less than the value under table(%)					
	ΦD	35	51	63.5	76.2	89
	WV	15	15	20	20	20
		20	20	25	25	25
Leakage Current I_{leak} (20°C, 5 min)	$I_{leak} \leq 0.3\mu A * (C*V)^{0.7} + 4\mu A$					
Self-inductance ESL	d = 51 mm: approx. 17 nH					
	d \geq 63.5 mm: approx. 20 nH					
	Capacitors with low-inductance design: d \geq 63.5 mm: approx. 15 nH					
Useful life 85°C; V_R, I_{AC}^R	> 12000 h	Requirements: $\Delta C/C \leq \pm 50\%$ of initial value ESR \leq 5 times initial specified limit $I_{leak} \leq$ initial specified limit				
Voltage Endurance test 85°C; V_R	2000 h	Post test requirements: $\Delta C/C \leq \pm 20\%$ of initial value ESR \leq 2 times initial specified limit $I_{leak} \leq$ initial specified limit				
Vibration Resistance test	To IEC 60068-2-6, test Fc:					
	Displacement amplitude 0.75 mm, frequency range 10 ... 55 Hz, acceleration max. 10 g, duration 3X2 h. Capacitor mounted by its body which is rigidly clamped to the work surface.					
Low Temperature Characteristics	Max. impedance ratio at 120 Hz					
	V_R	≤ 400 V	≥ 450 V			
	$Z_{-25^\circ C} / Z_{20^\circ C}$	3	4			
	$Z_{-40^\circ C} / Z_{20^\circ C}$	9	12			
Sectional specification	IEC 60384-4 and JIS-C-5101					

Dimensional drawings

Ring clip/clamp mounting:



M5:Min.reach of screw = 8mm
M6:Min.reach of screw = 12mm

Dimensions

Terminal	Dimensions(mm) with insulating sleeve						
	$D \pm 2$	$L \pm 3$	$L_1 \pm 3$	$L_2 \pm 1$	d_1	$d_2 \text{ max.}$	$a \pm 0.5$
M5	63.5	80~140	86.5~146.5	16	M12	10.3	28.6
M5	76.2/89	100~240	106.4~246.5	16	M12	10.3	31.8
M6	76.2/89	100~240	106.4~246.5	16	M12	17.5	31.8

Packing

Diameter D(mm)	Length L(mm)	Packing (pcs.)
63.5	all	24
76.2	all	15
89	all	12

Accessories

The following items are included in the delivery package, but are not fastened to the capacitors.

	Thread	Maximum torque
For terminal	M5	2 Nm
	M6	2.5 Nm

Case Size

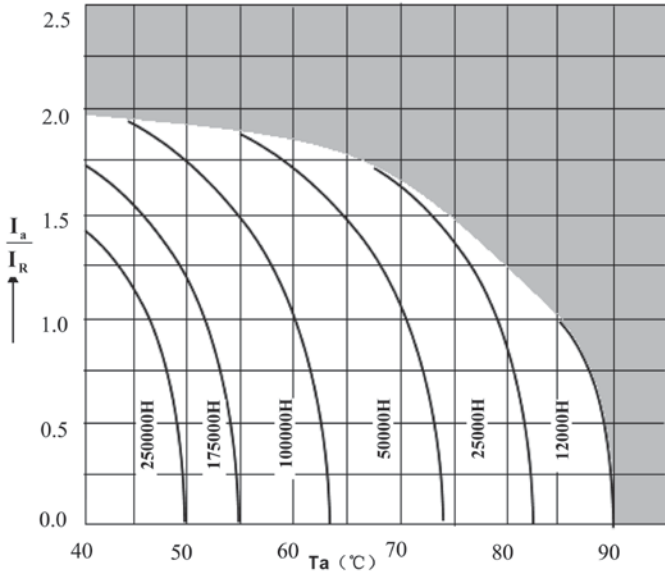
φ DxL(mm)

WV(V) Cap(μF)	350		400		450	
	Size	Ripple	Size	Ripple	Size	Ripple
1500					63.5x80	13.0
2200					63.5x100	14.0
					63.5x105	15.0
					63.5x120	16.0
2700	63.5x80	16.0	63.5x105	17.0	76.2x105	18.0
3300			63.5x100	20.0	63.5x140	23.0
	63.5x100	19.0	63.5x120	21.5	76.2x100	23.0
					76.2x120	25.0
3900	63.5x105	21.0	76.2x100	23.0	76.2x120	24.0
			76.2x105	23.0	76.2x140	25.0
4700	63.5x120	22.0	76.2x100	26.0	76.2x120	27.0
	63.5x140	23.5	76.2x120	28.0	76.2x140	28.0
	76.2x100	24.0			76.2x160	29.0
5600	63.5x140	28.0	76.2x140	30.0	76.2x160	31.5
	76.2x105	30.0				
6800	76.2x120	31.0	76.2x140	33.0	76.2x160	32.0
	76.2x140	33.0	76.2x160	35.0		
	89x100	34.0				
8200	76.2x140	36.0	76.2x160	34.0	76.2x220	36.0
	76.2x160	38.0				
10000	76.2x160	42.0	76.2x190	38.0	76.2x220	40.0
	89x120	42.0	89x160	39.0	89x170	40.0
12000	76.2x180	45.0	89x160	41.0		
	76.2x220	49.0	89x220	46.0		
	89x145	51.0				
15000	76.2x220	53.0	76.2x230	48.0		
	89x160	53.0	89x180	52.0		
	89x220	55.0	89x220	57.0		
18000	89x220	58.0	89x240	60.0		
22000	89x230	60.0				

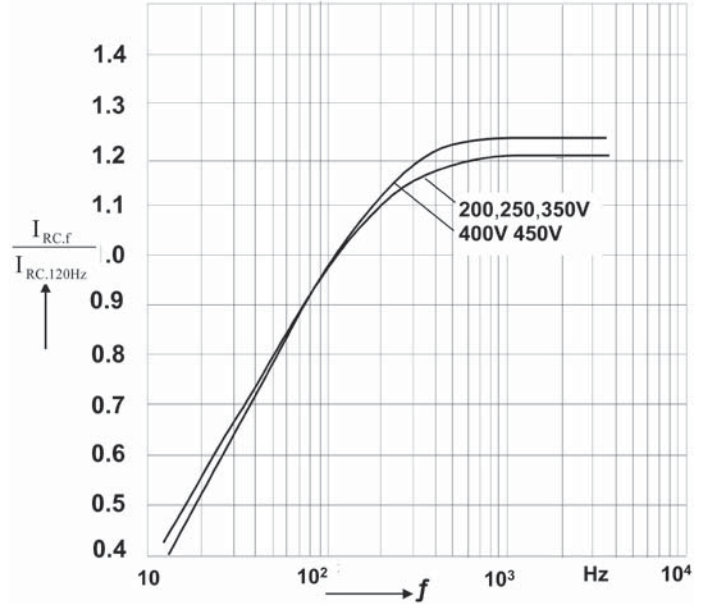
Ripple Current(A,rms) at 85°C 120Hz

Useful life

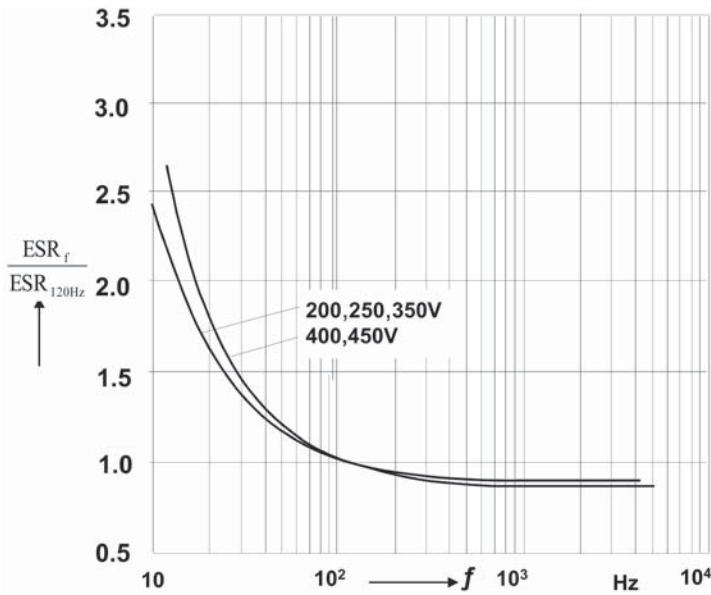
depending on ambient temperature T_a versus under ripple current operating conditions



Frequency factor of permissible ripple current I_{RC} versus frequency f



Frequency characteristics of ESR Typical behavior



Impedance Z versus frequency f

