

YB SERIES ■ ECONOMY, MINIATURIZED HIGH RIPPLE CURRENT TYPE

KEY FEATURES



- **HYBRID CONDUCTIVE POLYMER** • SMD type
- Endurance: 125°C • 4 000 hours
- Low ESR and **extremely** high ripple current in small dimensions
- Economy series for cost effective applications
- Lower leakage current than comparable solid polymer capacitors



SPECIFICATIONS

Items		Performance Characteristics
Operating Temperature Range		-55 ~ +125°C
Rated Voltage Range	V_R	25 ~ 35V DC
Surge Voltage	V_S	($V_R \leq 100V$): $V_S = 1.25 \cdot V_R$
Capacitance Range	C_R	33 ~ 680 μ F
Cap. Tolerance	ΔC	$\pm 20\%$ (120Hz • 20°C)
Leakage Current (20°C • V_R applied)	I_{LEAK}	Not to exceed the values shown in standard ratings After 2 minutes
Dissipation Factor % (20°C • 120Hz)	$\tan \delta$	Not to exceed the values shown in standard ratings
Equivalent Series Resistance (20°C • 100kHz)	ESR	Not to exceed the values shown in standard ratings
Lifetime Test		
Endurance 125°C (V_R & I_R applied)	Test	4 000 hours
	$\Delta C/C_R$	Within $\pm 30\%$ of the initial value
	$\tan \delta$	Less than 200% of the specified value
	ESR	Less than 200% of the specified value
	I_{Leak}	Less than the specified value

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

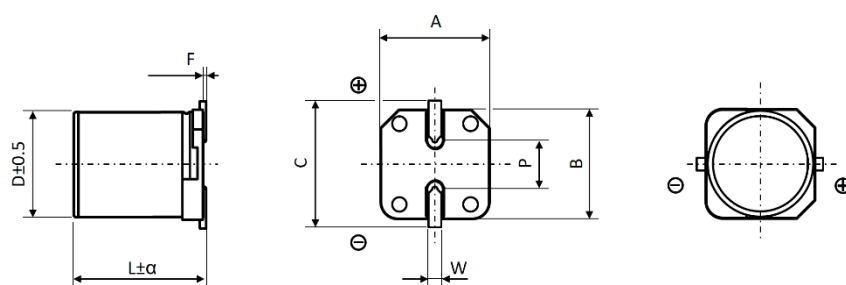
Frequency (Hz)	100 ≤ Freq. < 120	120 ≤ Freq. < 200	200 ≤ Freq. < 300	300 ≤ Freq. < 500
Coefficient K_f	0.15	0.15	0.20	0.25
Frequency (Hz)	500 ≤ Freq. < 1k	1k ≤ Freq. < 2k	2k ≤ Freq. < 3k	3k ≤ Freq. < 5k
Coefficient K_f	0.35	0.45	0.55	0.60
Frequency (Hz)	5k ≤ Freq. < 10k	10k ≤ Freq. < 15k	15k ≤ Freq. < 20k	20k ≤ Freq. < 40k
Coefficient K_f	0.65	0.70	0.75	0.75
Frequency (Hz)	40k ≤ Freq. < 50k	50k ≤ Freq. < 100k	100k ≤ Freq. < 500k	500k ≤ Freq. < 1M
Coefficient K_f	0.80	0.85	1.00	1.05

STANDARD RATINGS

Part number shows blister tape on paper reel

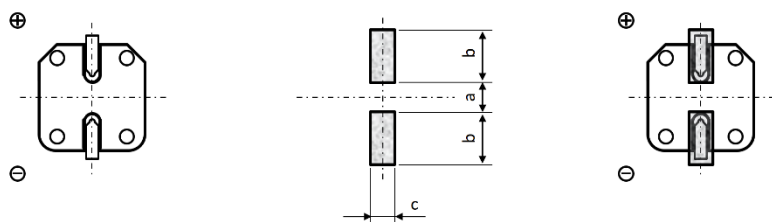
V_R (V)	C_R (μF)	ϕD (mm)	L (mm)	I_{LEAK} (μA , 2min)	$\tan \delta$ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (m Ω)	I_R - Max. Ripple Current +125°C • 100kHz (mA rms)	CapXon Part Number
25	47	5.0	5.8	11.8	14	80	850	YB470M025C058PTR
	56	5.0	5.8	14.0	14	80	850	YB560M025C058PTR
	68	6.3	5.8	17.0	14	50	1300	YB680M025E058PTR
	82	6.3	5.8	20.5	14	50	1300	YB820M025E058PTR
	100	6.3	5.8	25.0	14	50	1300	YB101M025E058PTR
	150	6.3	7.7	37.5	14	30	1800	YB151M025E077PTR
	180	6.3	7.7	45.0	14	30	1800	YB181M025E077PTR
	270	8.0	10.5	67.5	14	27	2000	YB271M025F105PTR
	330	8.0	10.5	82.5	14	27	2000	YB331M025F105PTR
	470	10.0	10.5	117.5	14	20	2800	YB471M025G105PTR
	560	10.0	10.5	140.0	14	20	2800	YB561M025G105PTR
	680	10.0	12.4	170.0	14	16	3160	YB681M025G124PTR
35	33	5.0	5.8	11.5	12	100	750	YB330M035C058PTR
	39	5.0	5.8	13.7	12	100	750	YB390M035C058PTR
	56	6.3	5.8	19.6	12	60	1200	YB560M035E058PTR
	68	6.3	5.8	23.8	12	60	1200	YB680M035E058PTR
	100	6.3	7.7	35.0	12	35	1700	YB101M035E077PTR
	120	6.3	7.7	42.0	12	35	1700	YB121M035E077PTR
	180	8.0	10.5	63.0	12	27	2000	YB181M035F105PTR
	220	8.0	10.5	77.0	12	27	2000	YB221M035F105PTR
	330	10.0	10.5	115.5	12	20	2800	YB331M035G105PTR
	390	10.0	10.5	136.5	12	20	2800	YB391M035G105PTR

DIMENSIONS STANDARD PACKAGE ▀ All dimensions in mm



ϕD	L	α	$A \pm 0.2$	$B \pm 0.2$	$C \pm 0.2$	F	$P \pm 0.2$	W
5.0	5.8	0.3	5.3	5.3	5.9	0.3 max.	1.4	0.5 to 0.8
6.3	5.8	0.3	6.6	6.6	7.2	0.3 max.	2.2	0.5 to 0.8
6.3	7.7	0.3	6.6	6.6	7.2	0.3 max.	2.2	0.5 to 0.8
8.0	10.5	0.3	8.3	8.3	9.0	0.3 max.	3.1	0.7 to 1.1
10.0	10.5	0.3	10.3	10.3	11.0	0.3 max.	4.5	0.7 to 1.1
10.0	12.4	0.3	10.3	10.3	11.0	0.3 max.	4.5	1.0 to 1.4

PAD LAYOUT STANDARD PACKAGE ▀ All dimensions in mm



Bottom view

Recommended land patterns

Capacitor mounted on pads

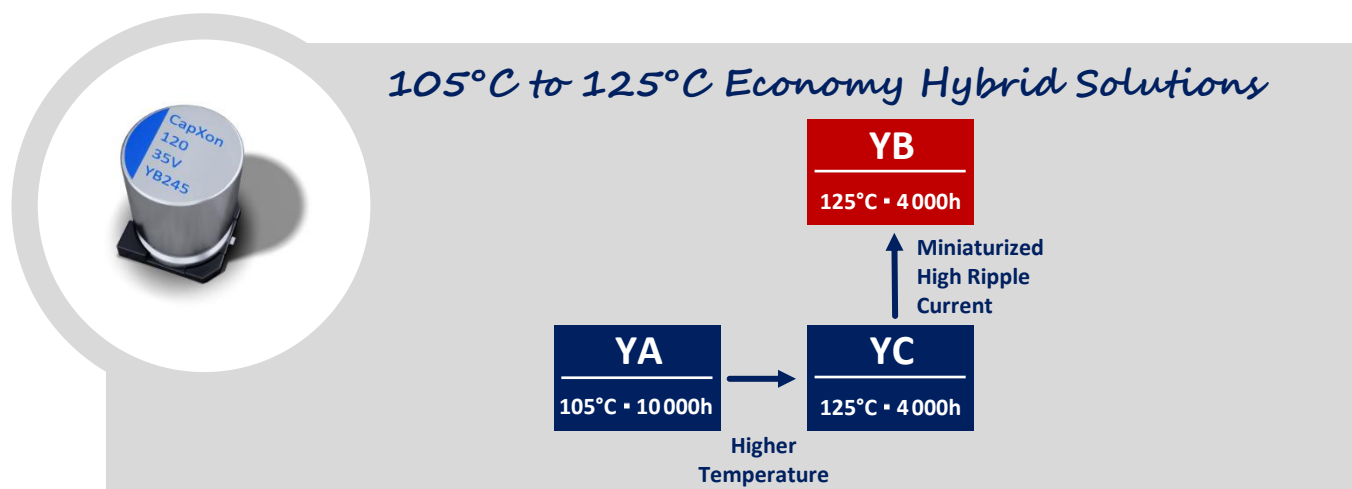
∅ D	L	a	b	c
5.0	5.8	1.4	3.0	1.6
6.3	5.8	2.1	3.5	1.6
6.3	7.7	2.1	3.5	1.6
8.0	10.5	2.8	4.2	1.9
10.0	10.5	4.3	4.4	1.9
10.0	12.4	4.3	4.4	1.9

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	Vibration Test Profiles	3D Models	Reliability Tests

GROUP CHART



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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