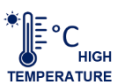


AC SERIES ■ LONG LIFE AT 125°C

KEY FEATURES



AEC-Q200



HIGH TEMPERATURE

- HYBRID CONDUCTIVE POLYMER • SMD type
- Endurance: 125°C ■ 4 000 hours
- Low ESR and high ripple current
- Vibration Proof (VP) version (up to 30g) available
- AEC-Q200 version available



SPECIFICATIONS

Items		Performance Characteristics
Operating Temperature Range		-55 ~ +125°C
Rated Voltage Range	V_R	16 ~ 100V DC
Surge Voltage	V_S	($V_R \leq 100V$): $V_S = 1.25 \cdot V_R$
Capacitance Range	C_R	10 ~ 1500 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	0.10	0.10	0.10	0.15
Frequency (Hz)	500 ≤ Freq. < 1k	1k ≤ Freq. < 2k	2k ≤ Freq. < 3k	3k ≤ Freq. < 5k
Coefficient K_f	0.20	0.30	0.40	0.45
Frequency (Hz)	5k ≤ Freq. < 10k	10k ≤ Freq. < 15k	15k ≤ Freq. < 20k	20k ≤ Freq. < 40k
Coefficient K_f	0.50	0.60	0.65	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)	Standard	Vibration-proof	C _R (μF)	ø D (mm)	L (mm)	I _{LEAK} (μA, 2min)	tanδ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (mΩ)	I _R • Max. Ripple Cur- rent +125°C • 100kHz (mA rms)	CapXon Part Number
16	•	•	100	6.3	5.8	16.0	16	50	900	AC101M016E058PTR □□
	•	•	120	6.3	5.8	19.2	16	50	900	AC121M016E058PTR □□
	•	•	150	6.3	5.8	24.0	16	50	900	AC151M016E058PTR □□
	•	•	220	6.3	7.7	35.2	16	30	1400	AC221M016E077PTR □□
	•	•	270	6.3	7.7	43.2	16	30	1700	AC271M016E077PTR □□
	•	•	330	10.0	10.5	52.8	16	20	2000	AC331M016G105PTR □□
	•	•	470	8.0	10.5	75.2	16	27	1600	AC471M016F105PTR □□
	•	•	470	10.0	10.5	75.2	16	20	2000	AC471M016G105PTR □□
	•	•	560	8.0	11.7	89.6	16	23	1650	AC561M016F117PTR □□
	•	•	560	10.0	10.5	89.6	16	20	2000	AC561M016G105PTR □□
	•	•	820	10.0	12.4	131.2	16	16	2260	AC821M016G124PTR □□
25	•	•	1500	10.0	16.5	240.0	16	11	4000	AC152M016G165PTR □□
	•	•	33	5.0	5.8	8.3	14	80	550	AC330M025C058PTR □□
	•	•	56	6.3	5.8	14.0	14	50	900	AC560M025E058PTR □□
	•	•	100	6.3	7.7	25.0	14	30	1400	AC101M025E077PTR □□
	•	•	220	8.0	10.5	55.0	14	27	1600	AC221M025F105PTR □□
	•	•	270	8.0	11.7	67.5	14	25	1650	AC271M025F117PTR □□
	•	•	330	10.0	10.5	82.5	14	20	2000	AC331M025G105PTR □□
	•	•	470	10.0	12.4	117.5	14	16	2260	AC471M025G124PTR □□
35	•	•	560	10.0	16.5	140.0	14	11	4000	AC561M025G165PTR □□
	•	•	22	5.0	5.8	7.7	12	100	550	AC220M035C058PTR □□
	•	•	47	6.3	5.8	16.5	12	60	900	AC470M035E058PTR □□
	•	•	68	6.3	7.7	23.8	12	35	1400	AC680M035E077PTR □□
	•	•	100	8.0	10.5	35.0	12	27	1600	AC101M035F105PTR □□
	•	•	150	8.0	10.5	52.5	12	27	1600	AC151M035F105PTR □□
	•	•	180	8.0	11.7	63.0	12	25	1650	AC181M035F117PTR □□
	•	•	270	10.0	10.5	94.5	12	20	2000	AC271M035G105PTR □□
	•	•	330	10.0	12.4	115.5	12	17	2260	AC331M035G124PTR □□
50	•	•	470	10.0	16.5	164.5	12	11	4000	AC471M035G165PTR □□
	•	•	10	5.0	5.8	5.0	10	120	500	AC100M050C058PTR □□
	•	•	22	6.3	5.8	11.0	10	80	750	AC220M050E058PTR □□
	•	•	33	6.3	7.7	16.5	10	40	1100	AC330M050E077PTR □□
	•	•	56	10.0	10.5	28.0	10	28	1600	AC560M050G105PTR □□
	•	•	68	8.0	10.5	34.0	10	30	1250	AC680M050F105PTR □□
	•	•	82	8.0	11.7	41.0	10	28	1300	AC820M050F117PTR □□
	•	•	100	10	10.5	50.0	10	28	1600	AC101M050G105PTR □□
	•	•	120	10	10.5	60.0	10	28	1600	AC121M050G105PTR □□
	•	•	120	10	12.4	60.0	10	25	1750	AC121M050G124PTR □□
	•	•	220	10	16.5	110.0	10	13	3700	AC221M050G165PTR □□

□ see description at end of standard ratings

STANDARD RATINGS

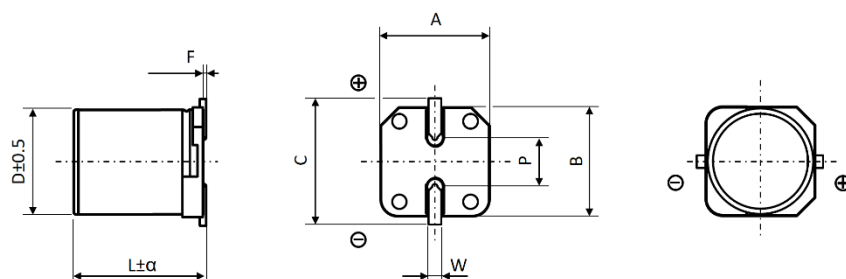
Part number shows blister tape on reel version

V _R (V)	Standard	Vibration-proof	C _R (μF)	ø D (mm)	L (mm)	I _{LEAK} (μA, 2min)	tanδ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (mΩ)	I _R • Max. Ripple Cur- rent +125°C • 100kHz (mA rms)	CapXon Part Number
63	•	•	10	6.3	5.8	6.3	8	120	700	AC100M063E058PTR □□
	•	•	22	6.3	7.7	13.9	8	80	900	AC220M063E077PTR □□
	•	•	33	8.0	10.5	20.8	8	40	1100	AC330M063F105PTR □□
	•	•	47	8.0	10.5	29.6	8	40	1100	AC470M063F105PTR □□
	•	•	47	8.0	11.7	29.6	8	38	1130	AC470M063F117PTR □□
	•	•	56	10.0	10.5	35.3	8	30	1400	AC560M063G105PTR □□
	•	•	68	10.0	10.5	42.8	8	30	1400	AC680M063G105PTR □□
	•	•	82	10.0	12.4	51.7	8	22	1650	AC820M063G124PTR □□
	•	•	150	10.0	16.5	94.5	8	15	3500	AC151M063G165PTR □□
80	•	•	22	8.0	10.5	17.6	8	45	1050	AC220M080F105PTR □□
	•	•	27	8.0	11.7	21.6	8	43	1080	AC270M080F117PTR □□
	•	•	33	10.0	10.5	26.4	8	36	1360	AC330M080G105PTR □□
	•	•	47	10.0	10.5	37.6	8	36	1360	AC470M080G105PTR □□
	•	•	56	10.0	12.4	44.8	8	35	1440	AC560M080G124PTR □□
	•	•	68	10.0	12.4	54.4	8	32	1540	AC680M080G124PTR □□
100	•	•	22	8.0	10.5	22.0	8	55	950	AC220M100F105PTR □□
	•	•	22	8.0	11.7	22.0	8	52	980	AC220M100F117PTR □□
	•	•	22	10.0	10.5	22.0	8	45	1200	AC220M100G105PTR □□
	•	•	27	10.0	12.4	27.0	8	40	1360	AC270M100G124PTR □□
	•	•	33	10.0	12.4	33.0	8	40	1360	AC330M100G124PTR □□

□□: Leave **blank** for Standard package
 □□: Enter **W** for Vibration proof version

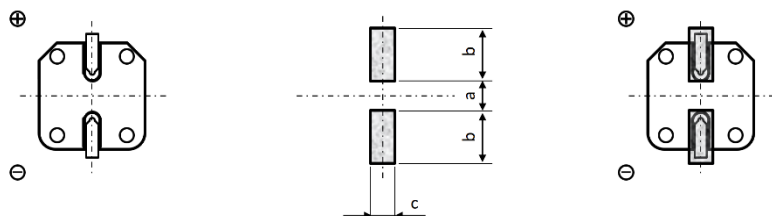
□□: Enter **X** for AEC-Q200
 □□: Enter **XW** for AEC-Q200 and Vibration proof version

DIMENSIONS STANDARD PACKAGE ▪ All dimensions in mm



∅ D	L	α	A ± 0.2	B ± 0.2	C ± 0.2	F	P ± 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
8.0	11.7	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
10.0	16.5	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



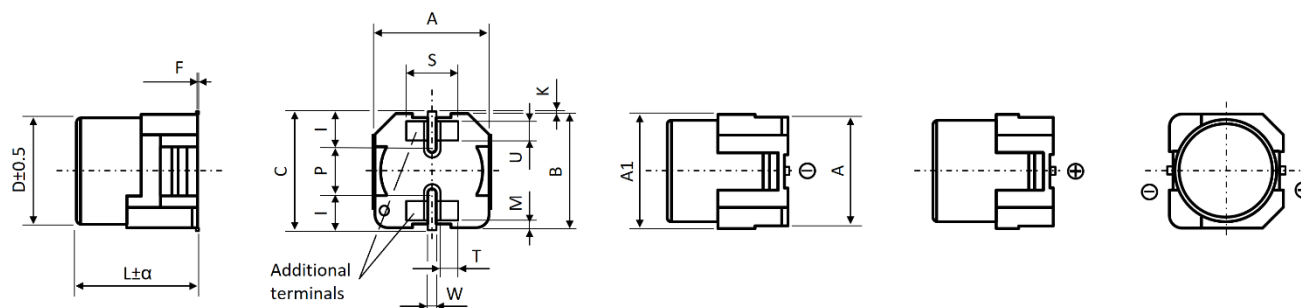
Bottom view

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
8.0	11.7	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
10.0	16.5	4.3	4.4	1.9

DIMENSIONS VP PACKAGE (VIBRATION-PROOF) Ø D6.3 ▀ All dimensions in mm

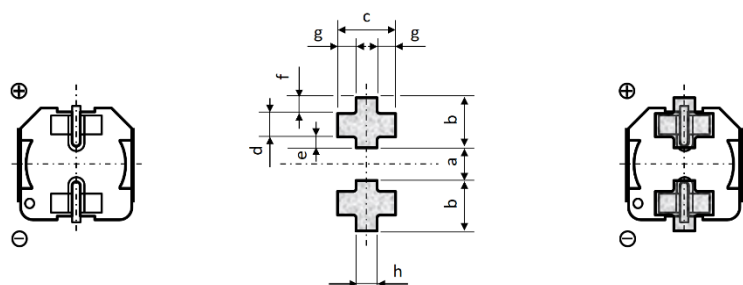


Note: Additional terminals electrical connected to anode or cathode terminal.

ϕD	L	α	$A \pm 0.2$	A1 (max.)	$B \pm 0.2$	C (max.)	F	K
6.3	5.8	-0.3/+0.7	6.6	7.1	6.6	7.8	0 to 0.15	0.35 +0.15/-0.2
6.3	7.7	-0.3/+0.7	6.6	7.1	6.6	7.8	0 to 0.15	0.35 +0.15/-0.2

ϕD	L	$I \pm 0.1$	$M \pm 0.1$	$P \pm 0.2$	$S \pm 0.1$	$T \pm 0.1$	$U \pm 0.1$	$W \pm 0.1$
6.3	5.8	2.5	0.35	2.2	3.2	1.1	0.7	0.65
6.3	7.7	2.5	0.35	2.2	3.2	1.1	0.7	0.65

PAD LAYOUT VP PACKAGE (VIBRATION-PROOF) Ø D6.3 ▀ All dimensions in mm



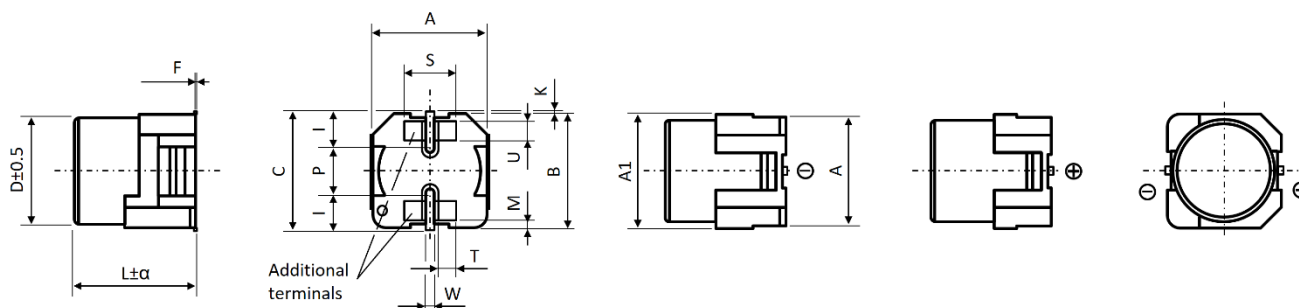
Bottom view

Recommended land patterns

Capacitor mounted on pads

ϕD	L	a	b	c	d	e	f	g	h
6.3	5.8	1.2	3.6	3.2	2.0	0.95	0.65	1.0	1.2
6.3	7.7	1.2	3.6	3.2	2.0	0.95	0.65	1.0	1.2

DIMENSIONS VP PACKAGE (VIBRATION-PROOF) Ø D8 and D10 ▪ All dimensions in mm

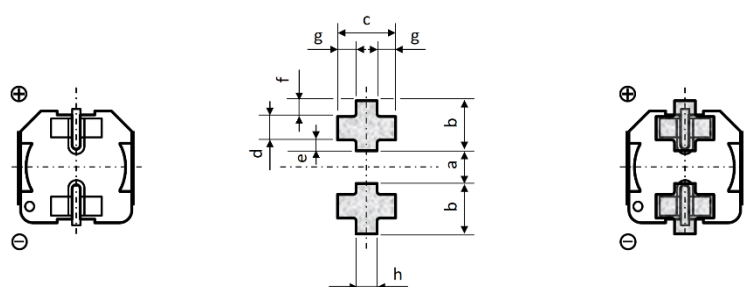


Note: Additional terminals electrical connected to anode or cathode terminal.

Ø D	L	α	A ± 0.2	A1 (max.)	B ± 0.2	C (max.)	F	K ± 0.2
8.0	10.5	-0.3/+0.7	8.3	8.8	8.3	10.0	0 to 0.15	0.7
8.0	11.7	-0.3/+0.7	8.3	8.8	8.3	10.0	0 to 0.15	0.7
10.0	10.5	-0.3/+0.7	10.3	10.8	10.3	12.0	0 to 0.15	0.7
10.0	12.4	-0.3/+0.7	10.3	10.8	10.3	12.0	0 to 0.15	0.7
10.0	16.5	-0.3/+0.7	10.3	10.8	10.3	12.0	0 to 0.15	0.7

Ø D	L	I ± 0.1	M ± 0.1	P ± 0.2	S ± 0.1	T ± 0.1	U ± 0.1	W ± 0.1
8.0	10.5	3.3	0.75	3.1	3.3	0.9	0.8	1.2
8.0	11.7	3.3	0.75	3.1	3.3	0.9	0.8	1.2
10.0	10.5	3.5	0.9	4.6	3.3	0.9	0.8	1.2
10.0	12.4	3.5	0.9	4.6	3.3	0.9	0.8	1.2
10.0	16.5	3.5	0.9	4.6	3.3	0.9	0.8	1.2

PAD LAYOUT VP PACKAGE (VIBRATION-PROOF) Ø D8 and D10 ▪ All dimensions in mm



Bottom view






Recommended land patterns

Capacitor mounted on pads

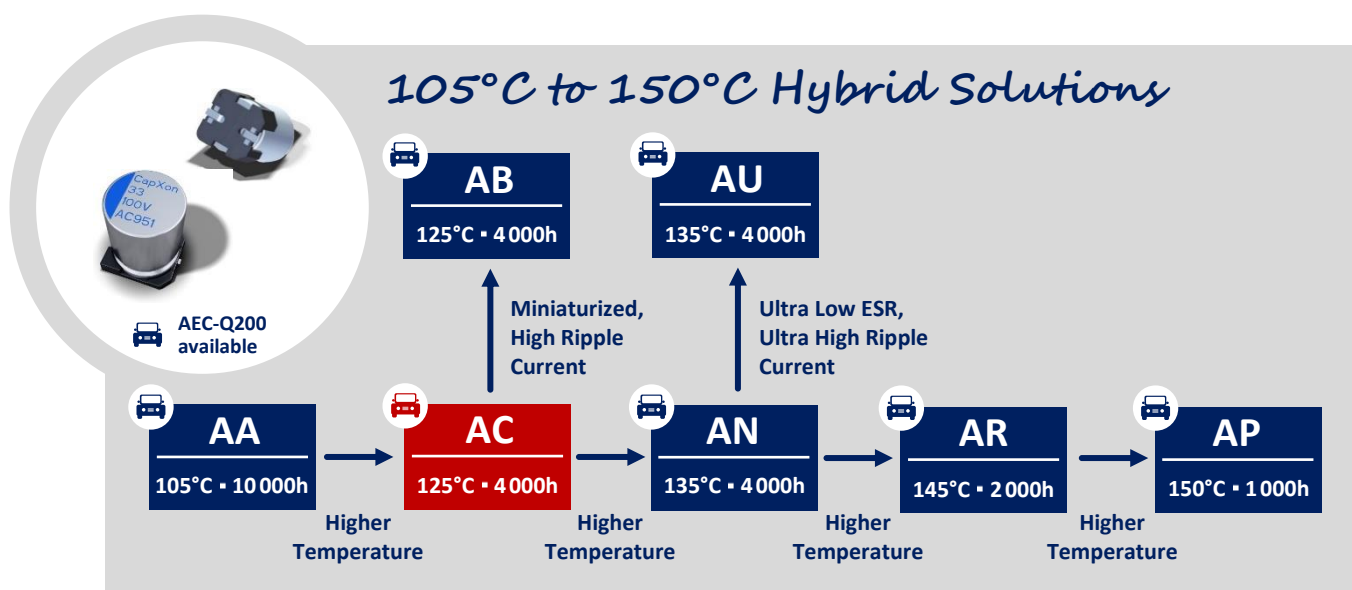
Ø D	L	a	b	c	d	e	f	g	h
8.0	10.5	2.7	4.0	4.7	1.3	1.0	1.7	1.1	2.5
8.0	11.7	2.7	4.0	4.7	1.3	1.0	1.7	1.1	2.5
10.0	10.5	3.9	4.4	4.7	1.3	1.2	1.9	1.1	2.5
10.0	12.4	3.9	4.4	4.7	1.3	1.2	1.9	1.1	2.5
10.0	16.5	3.9	4.4	4.7	1.3	1.2	1.9	1.1	2.5

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.

Except for the written expressed warranties, CapXon does not impliedly, by assumption or whatever else, warrant, undertake, promise any other warranty or guaranty for any CapXon product.

For further information, please visit our website www.capxongroup.com or contact CapXon directly.