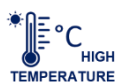


### AR SERIES • HIGH TEMPERATURE TYPE 145°C

#### KEY FEATURES



- HYBRID CONDUCTIVE POLYMER • SMD type
- Endurance: 145°C • 2 000 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 ~ +145°C
Rated Voltage Range	$V_R$	16 ~ 80V DC
Surge Voltage	$V_S$	( $V_R \leq 100V$ ): $V_S = 1.25 \cdot V_R$
Capacitance Range	$C_R$	22 ~ 560 $\mu$ F
Cap. Tolerance	$\Delta C$	$\pm 20\%$ (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 145°C ( $V_R$ & $I_R$ applied)	Test	2 000 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

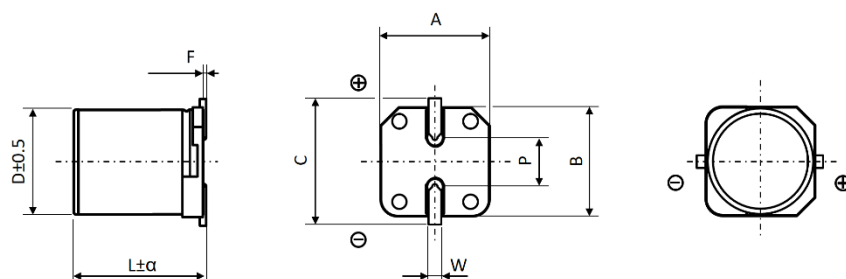
Part number shows blister tape on paper reel

$V_R$ (V)	Standard	Vibration-proof	$C_R$ ( $\mu F$ )	$\phi D$ (mm)	L (mm)	$I_{LEAK}$ ( $\mu A$ , 2min)	$\tan \delta$ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (m $\Omega$ )	$I_R$ • Max. Ripple Cur- rent +145°C • 100kHz (mA rms)	CapXon Part Number
16	•	•	270	8.0	10.5	43.2	16	27	700	AR271M016F105PTR □□
	•	•	330	8.0	10.5	52.8	16	25	770	AR331M016F105PTR □□
	•	•	470	10.0	10.5	75.2	16	20	900	AR471M016G105PTR □□
	•	•	560	10.0	12.4	89.6	16	16	1050	AR561M016G124PTR □□
25	•	•	220	8.0	10.5	55.0	14	27	700	AR221M025F105PTR □□
	•	•	270	8.0	11.7	67.5	14	25	770	AR271M025F117PTR □□
	•	•	330	10.0	10.5	82.5	14	20	900	AR331M025G105PTR □□
	•	•	470	10.0	12.4	117.5	14	16	1050	AR471M025G124PTR □□
35	•	•	100	8.0	10.5	35.0	12	27	700	AR101M035F105PTR □□
	•	•	150	8.0	10.5	52.5	12	27	700	AR151M035F105PTR □□
	•	•	180	8.0	11.7	63.0	12	25	770	AR181M035F117PTR □□
	•	•	270	10.0	10.5	94.5	12	20	900	AR271M035G105PTR □□
50	•	•	330	10.0	12.4	115.5	12	17	1020	AR331M035G124PTR □□
	•	•	68	8.0	10.5	34.0	10	30	600	AR680M050F105PTR □□
	•	•	82	8.0	11.7	41.0	10	28	660	AR820M050F117PTR □□
	•	•	56	10.0	10.5	28.0	10	28	800	AR560M050G105PTR □□
63	•	•	100	10.0	10.5	50.0	10	28	800	AR101M050G105PTR □□
	•	•	120	10.0	10.5	60.0	10	28	800	AR121M050G105PTR □□
	•	•	120	10.0	12.4	60.0	10	25	900	AR121M050G124PTR □□
	•	•	33	8.0	10.5	20.8	8	40	600	AR330M063F105PTR □□
80	•	•	47	8.0	10.5	29.6	8	40	600	AR470M063F105PTR □□
	•	•	47	8.0	11.7	29.6	8	38	650	AR470M063F117PTR □□
	•	•	56	10.0	10.5	35.3	8	30	800	AR560M063G105PTR □□
	•	•	68	10.0	10.5	42.8	8	30	800	AR680M063G105PTR □□
80	•	•	82	10.0	12.4	51.7	8	27	900	AR820M063G124PTR □□
	•	•	22	8.0	10.5	17.6	8	45	560	AR220M080F105PTR □□
	•	•	27	8.0	11.7	21.6	8	43	580	AR270M080F117PTR □□
	•	•	33	8.0	10.5	26.4	8	36	730	AR330M080G105PTR □□
80	•	•	47	10.0	10.5	37.6	8	36	730	AR470M080G105PTR □□
	•	•	56	10.0	12.4	44.8	8	34	800	AR560M080G124PTR □□
	•	•	68	10.0	12.4	54.4	8	34	800	AR680M080G124PTR □□

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

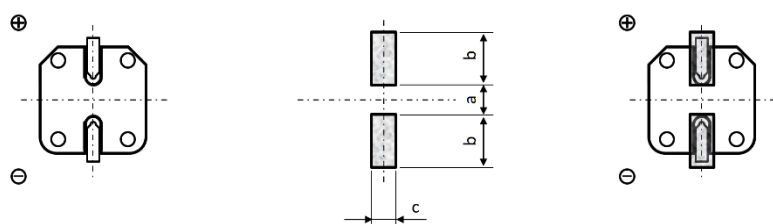
□□: Enter **X** for AEC-Q200  
 □□: Enter **XW** for AEC-Q200 and Vibration proof version

### DIMENSIONS STANDARD PACKAGE ▀ All dimensions in mm



∅ D	L	α	A ± 0.2	B ± 0.2	C ± 0.2	F	P ± 0.2	W
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

### PAD LAYOUT STANDARD PACKAGE ▀ All dimensions in mm



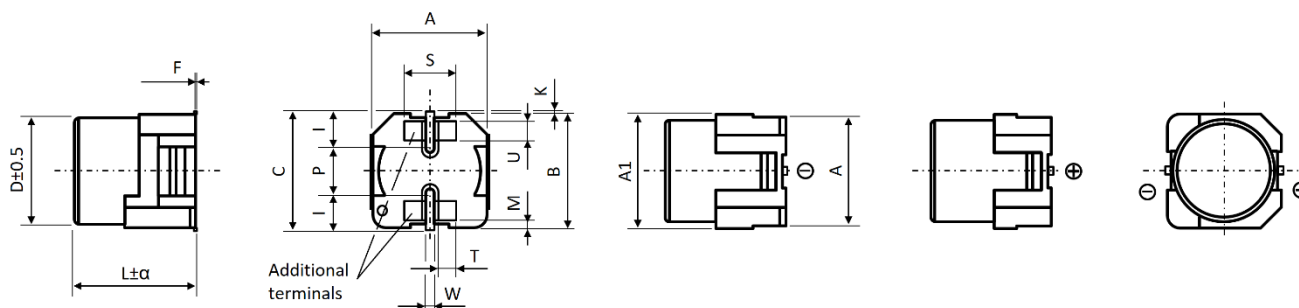
Bottom view

Recommended land patterns

Capacitor mounted on pads

∅ D	L	a	b	c
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

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

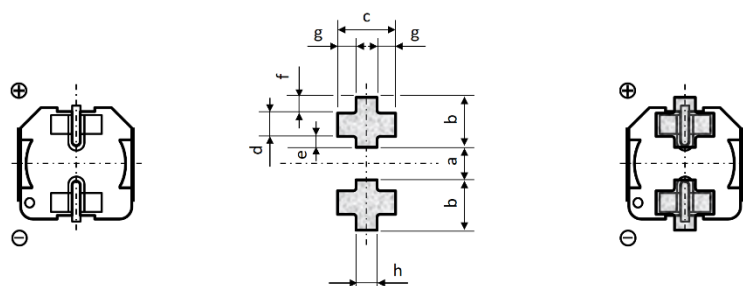


**Note:** Additional terminals electrical connected to anode or cathode terminal.

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

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

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



Bottom view






Recommended land patterns

Capacitor mounted on pads

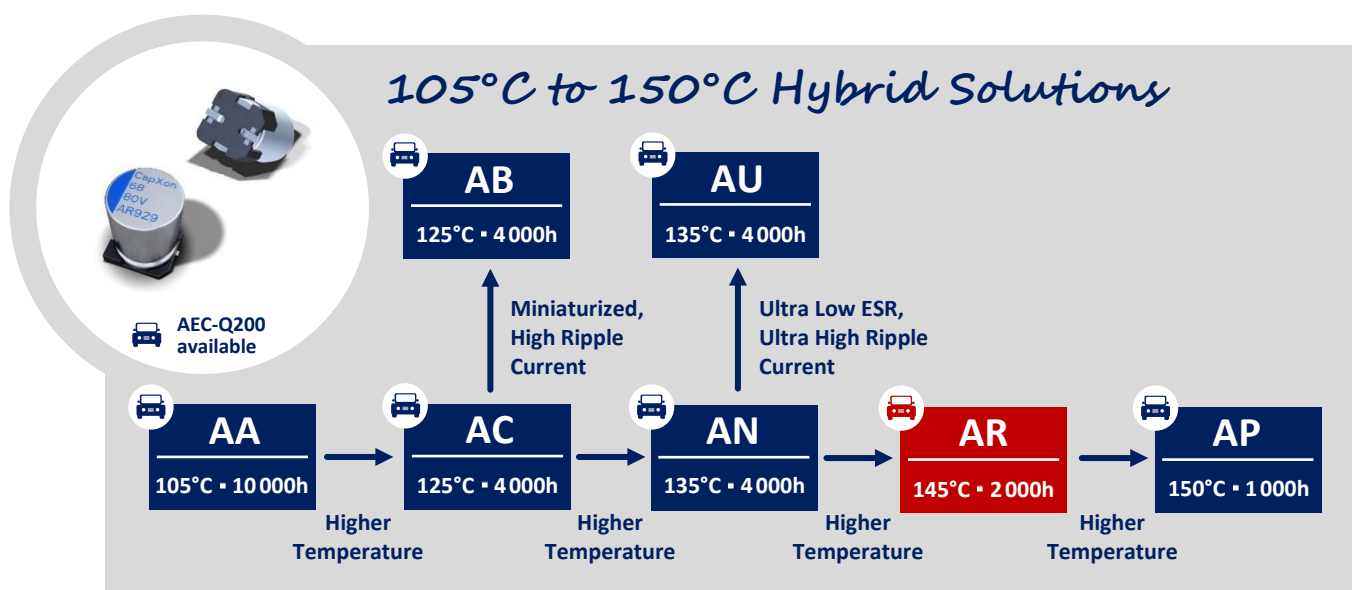
Ø D	L	a	b	c	d	e	f	g	h
8.0	10.5	2.7	4.0	4.7	1.3	1.0	1.7	1.1	2.5
8.0	11.7	2.7	4.0	4.7	1.3	1.0	1.7	1.1	2.5
10.0	10.5	3.9	4.4	4.7	1.3	1.2	1.9	1.1	2.5
10.0	12.4	3.9	4.4	4.7	1.3	1.2	1.9	1.1	2.5

### 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.

				
<a href="#">General Precautions &amp; Guidelines</a>	<a href="#">Packaging Information</a>	<a href="#">Vibration Test Profiles</a>	<a href="#">3D Models</a>	<a href="#">Reliability Tests</a>

### 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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