

### AP SERIES ■ HIGH TEMPERATURE TYPE 150°C

#### KEY FEATURES



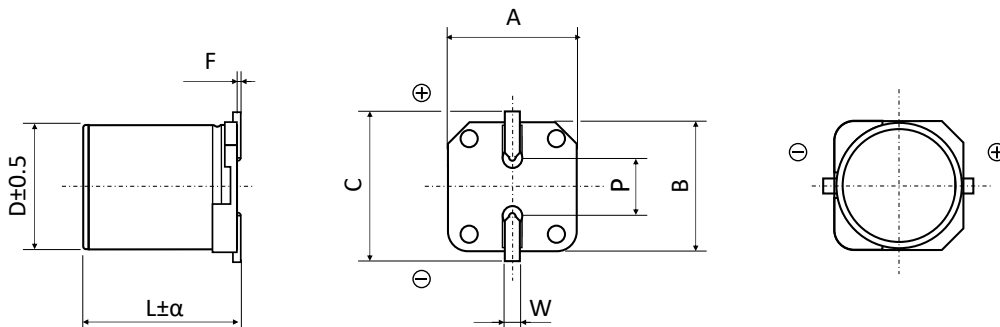
- HYBRID CONDUCTIVE POLYMER • SMD type
- Endurance: 150°C • 1 000 hours
- Low ESR and high ripple current
- Vibration Proof (VP) version (up to 30g) available
- AEC-Q200 version available



#### SPECIFICATIONS

Items		Performance Characteristics
Operating Temperature Range		-55 ~ +150°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
<b>Lifetime Test</b>		
Endurance 150°C ( $V_R$ & $I_R$ applied)	Test	<b>1 000 hours</b>
	$\Delta C/C_R$	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

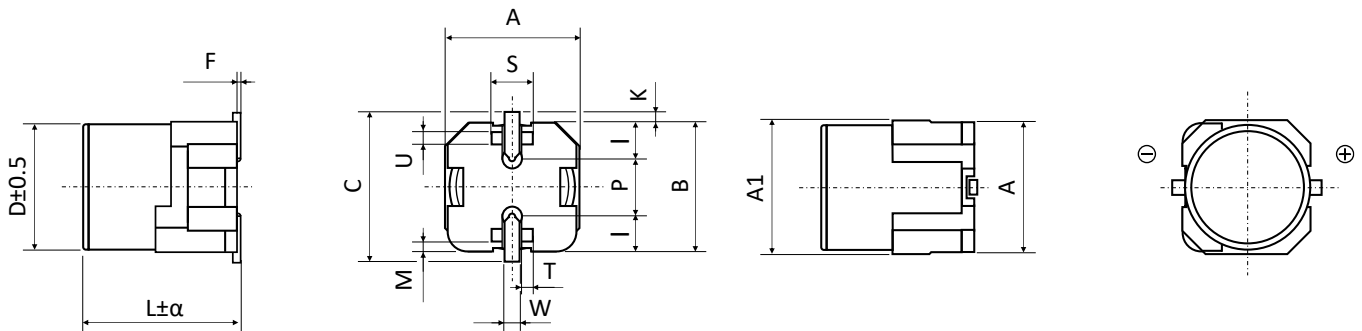
#### DIMENSIONS STANDARD PACKAGE ■ All dimensions in mm



**DIMENSIONS STANDARD PACKAGE** ▪ All dimensions in mm

$\phi D$	L	$\alpha$	$A \pm 0.2$	$B \pm 0.2$	$C \pm 0.2$	F	$P \pm 0.2$	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

**DIMENSIONS VP PACKAGE (VIBRATION-PROOF)  $\phi D8$  and  $D10$**  ▪ All dimensions in mm



**DIMENSIONS VP PACKAGE (VIBRATION-PROOF)  $\phi D8$  and  $D10$**  ▪ All dimensions in mm

$\phi D$	L	$\alpha$	$A \pm 0.2$	$A1$ (max.)	$B \pm 0.2$	$C$ (max.)	F	$K \pm 0.2$
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

$\phi D$	L	$P \pm 0.2$	$S \pm 0.1$	$I \pm 0.1$	$T \pm 0.1$	$U \pm 0.1$	$W \pm 0.1$	$M \pm 0.1$
8.0	10.5	3.1	3	3.4	1.4	0.7	1.2	0.7
8.0	11.7	3.1	3	3.4	1.4	0.7	1.2	0.7
10.0	10.5	4.6	3.3	3.5	1.5	0.8	1.2	0.9
10.0	12.4	4.6	3.3	3.5	1.5	0.8	1.2	0.9

## 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 +150°C • 100kHz (mA rms)	CapXon Part Number
16	•	•	270	8	10.5	43.2	16	27	700	AP271M016F105PTR □□
	•	•	330	8	10.5	52.8	16	25	770	AP331M016F105PTR □□
	•	•	470	10	10.5	75.2	16	20	900	AP471M016G105PTR □□
	•	•	560	10	12.4	89.6	16	16	1050	AP561M016G124PTR □□
25	•	•	220	8	10.5	55.0	14	27	700	AP221M025F105PTR □□
	•	•	270	8	11.7	67.5	14	25	770	AP271M025F117PTR □□
	•	•	330	10	10.5	82.5	14	20	900	AP331M025G105PTR □□
	•	•	470	10	12.4	117.5	14	16	1050	AP471M025G124PTR □□
35	•	•	100	8	10.5	35.0	12	27	700	AP101M035F105PTR □□
	•	•	150	8	10.5	52.5	12	27	700	AP151M035F105PTR □□
	•	•	180	8	11.7	63.0	12	25	770	AP181M035F117PTR □□
	•	•	270	10	10.5	94.5	12	20	900	AP271M035G105PTR □□
	•	•	330	10	12.4	115.5	12	17	1020	AP331M035G124PTR □□
50	•	•	56	10	10.5	28.0	10	28	800	AP560M050G105PTR □□
	•	•	68	8	10.5	34.0	10	30	600	AP680M050F105PTR □□
	•	•	82	8	11.7	41.0	10	28	660	AP820M050F117PTR □□
	•	•	100	10	10.5	50.0	10	28	800	AP101M050G105PTR □□
	•	•	120	10	10.5	60.0	10	28	800	AP121M050G105PTR □□
	•	•	120	10	12.4	60.0	10	25	900	AP121M050G124PTR □□
63	•	•	33	8	10.5	20.8	8	40	600	AP330M063F105PTR □□
	•	•	47	8	10.5	29.6	8	40	600	AP470M063F105PTR □□
	•	•	47	8	11.7	29.6	8	38	650	AP470M063F117PTR □□
	•	•	56	10	10.5	35.3	8	30	800	AP560M063G105PTR □□
	•	•	68	10	10.5	42.8	8	30	800	AP680M063G105PTR □□
	•	•	82	10	12.4	51.7	8	27	900	AP820M063G124PTR □□
80	•	•	22	8	10.5	17.6	8	45	560	AP220M080F105PTR □□
	•	•	27	8	11.7	21.6	8	43	580	AP270M080F117PTR □□
	•	•	33	8	10.5	26.4	8	36	730	AP330M080G105PTR □□
	•	•	47	10	10.5	37.6	8	36	730	AP470M080G105PTR □□
	•	•	56	10	12.4	44.8	8	34	800	AP560M080G124PTR □□
	•	•	68	10	12.4	54.4	8	34	800	AP680M080G124PTR □□

□□: 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

**MULTIPLIER  $K_f$  for RIPPLE CURRENT vs. FREQUENCY**

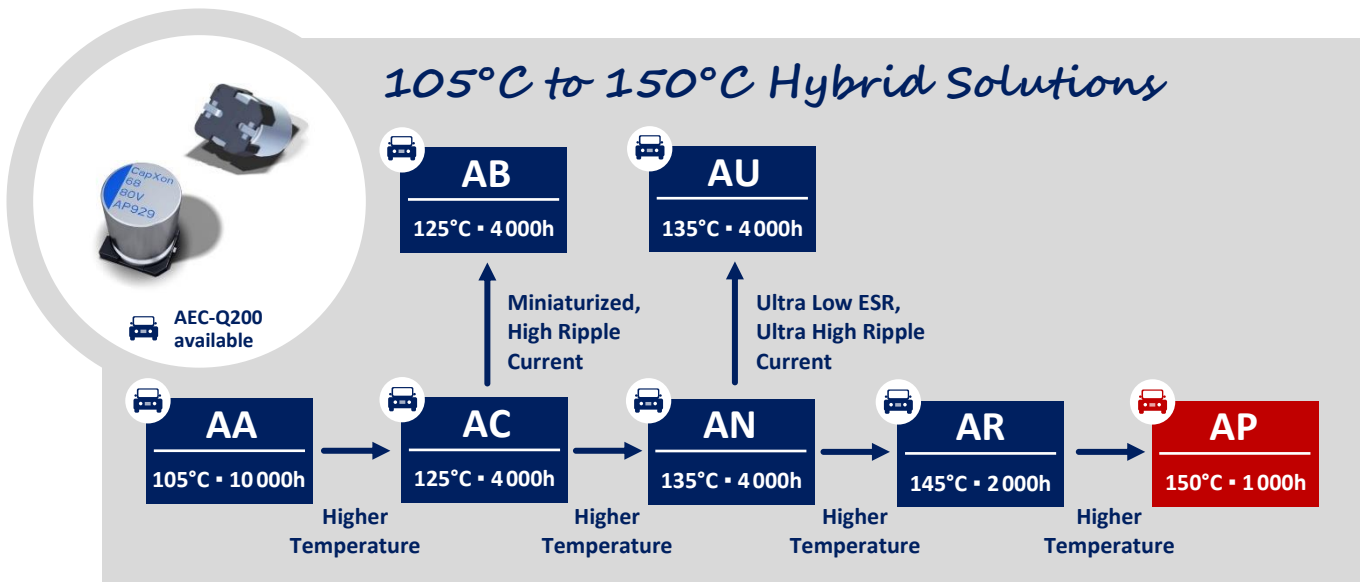
Frequency (Hz)	$100 \leq \text{Freq.} < 120$	$120 \leq \text{Freq.} < 200$	$200 \leq \text{Freq.} < 300$	$300 \leq \text{Freq.} < 500$
Coefficient $K_f$	0.10	0.10	0.10	0.15
Frequency (Hz)	$500 \leq \text{Freq.} < 1k$	$1k \leq \text{Freq.} < 2k$	$2k \leq \text{Freq.} < 3k$	$3k \leq \text{Freq.} < 5k$
Coefficient $K_f$	0.20	0.30	0.40	0.45
Frequency (Hz)	$5k \leq \text{Freq.} < 10k$	$10k \leq \text{Freq.} < 15k$	$15k \leq \text{Freq.} < 20k$	$20k \leq \text{Freq.} < 40k$
Coefficient $K_f$	0.50	0.60	0.65	0.75
Frequency (Hz)	$40k \leq \text{Freq.} < 50k$	$50k \leq \text{Freq.} < 100k$	$100k \leq \text{Freq.} < 500k$	$500k \leq \text{Freq.} < 1M$
Coefficient $K_f$	0.80	0.85	1.00	1.05

**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>

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### 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.

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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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