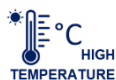


AK SERIES ■ LONG LIFE AT 135°C UP TO 3 000 HOURS

KEY FEATURES



- **HYBRID CONDUCTIVE POLYMER** ■ THT type
- Endurance: 135°C ■ 2 000 to 3 000 hours
- Low ESR and high ripple current
- Superior electrical stability over application lifetime
- AEC-Q200 version available

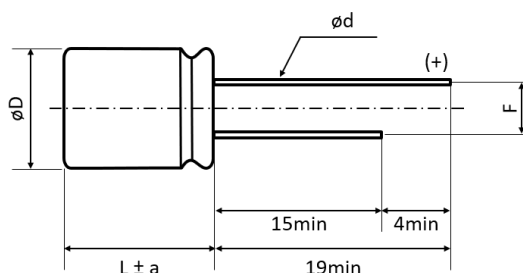


SPECIFICATIONS

Items		Performance Characteristics
Operating Temperature Range		-55 ~ +135°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	8.2 ~ 560 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 135°C (V_R & I_R applied)	Test	3 000 hours $\geq \varnothing 8$
		2 000 hours $\leq \varnothing 6.3$
	$\Delta C/C_R$	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 ■ All dimensions in mm



$\varnothing D$	L	$\varnothing D \pm 0.5$	a	F ± 0.5	$\varnothing d \pm 0.05$
6.3	8	6.3	1	2.5	0.6
8	9	8	1.5	3.5	0.6
8	11.5	8	1.5	3.5	0.6
10	10	10	1.5	5	0.6
10	12.5	10	1.5	5	0.8

STANDARD RATINGS

V _R (V)	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 Current +135°C • 100kHz (mA rms)	CapXon Part Number
16	120	6.3	8	19.2	16	32	1440	AK121M016E080PTC
	270	8	9	43.2	16	23	1970	AK271M016F090PTD
	330	8	11.5	52.8	16	20	2340	AK331M016F115PTD
	470	10	10	75.2	16	18	2620	AK471M016G100PTA
	560	10	12.5	89.6	16	14	3030	AK561M016G125PTA
25	68	6.3	8	17.0	16	35	1380	AK680M025E080PTC
	150	8	9	37.5	16	25	1880	AK151M025F090PTD
	220	8	11.5	55.0	16	22	2230	AK221M025F115PTD
	270	10	10	67.5	16	19	2500	AK271M025G100PTA
	330	10	12.5	82.5	16	14	2890	AK331M025G125PTA
35	47	6.3	8	16.5	16	45	1280	AK470M035E080PTC
	100	8	9	35.0	16	28	1780	AK101M035F090PTD
	150	8	11.5	52.5	16	25	2100	AK151M035F115PTD
	150	10	10	52.5	16	20	2440	AK151M035G100PTA
	220	10	12.5	77.0	16	15	2800	AK221M035G125PTA
40	27	6.3	8	10.8	16	48	1230	AK270M040E080PTC
	56	8	9	22.4	16	30	1710	AK560M040F090PTD
	82	8	11.5	32.8	16	27	2000	AK820M040F115PTD
	100	10	10	40.0	16	21	2360	AK101M040G100PTA
	120	10	10	48.0	16	20	2400	AK121M040G100PTA
	180	10	12.5	72.0	16	18	2550	AK181M040G125PTA
	15	6.3	8	7.5	16	80	960	AK150M050E080PTC
50	33	8	9	16.5	16	35	1330	AK330M050F090PTD
	47	8	11.5	23.5	16	30	1520	AK470M050F115PTD
	56	10	10	28.0	16	30	1850	AK560M050G100PTA
	82	10	12.5	41.0	16	25	2120	AK820M050G125PTA
	10	6.3	8	6.3	16	100	840	AK100M063E080PTC
63	22	8	9	13.9	16	40	1240	AK220M063F090PTD
	27	8	11.5	17.0	16	35	1400	AK270M063F115PTD
	33	10	10	20.8	16	35	1680	AK330M063G100PTA
	47	10	10	29.6	16	35	1680	AK470M063G100PTA
	56	10	12.5	35.3	16	30	1920	AK560M063G125PTA
	8.2	8	9	6.6	16	90	840	AK82M080F090PTD
80	15	8	11.5	12.0	16	70	1120	AK150M080F115PTD
	12	10	10	9.6	16	70	1280	AK120M080G100PTA
	15	10	10	12.0	16	70	1280	AK150M080G100PTA
	18	10	12.5	14.4	16	60	1460	AK180M080G125PTA
	8.2	8	9	8.2	16	100	800	AK82M100F090PTD
100	10	8	11.5	10.0	16	80	1040	AK100M100F115PTD
	10	10	10	10.0	16	80	1160	AK100M100G100PTA
	12	10	10	12.0	16	80	1160	AK120M100G100PTA
	15	10	12.5	15.0	16	70	1320	AK150M100G125PTA

: Leave **blank** for Standard type

: Enter **X** for AEC-Q200 type

Part number shows taped version with straight leads and Ammo Pack packaging.





See "PACKAGING INFORMATION" for further lead treatment options.

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

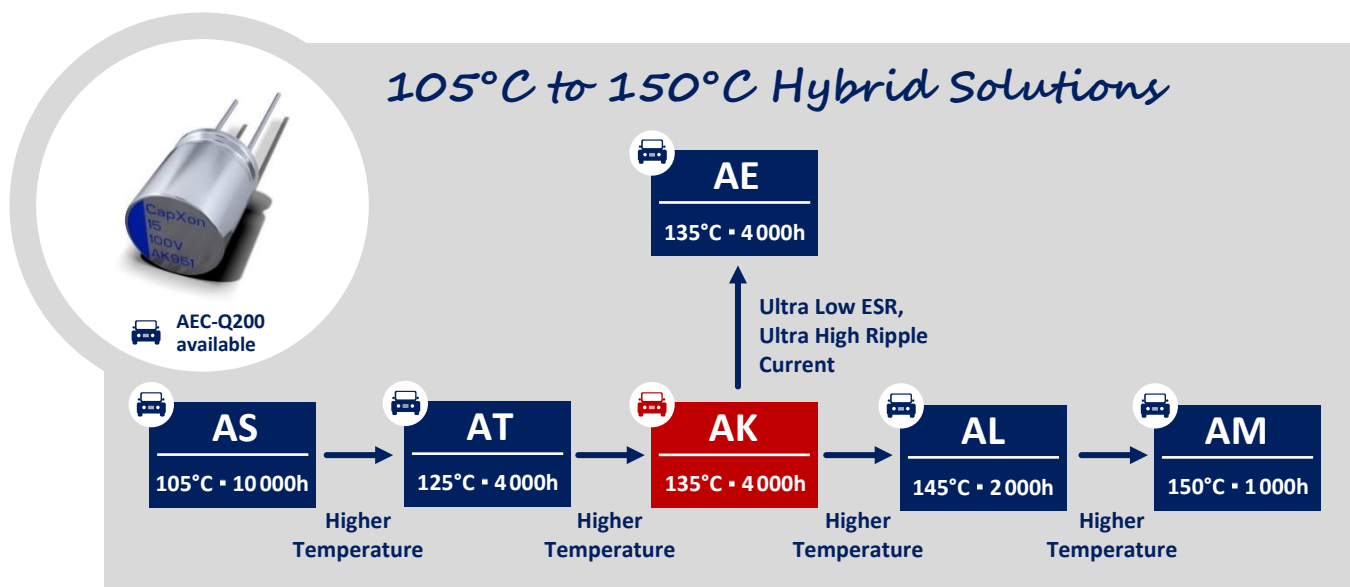
Frequency (Hz)	$100 \leq \text{Freq.} < 120$	$120 \leq \text{Freq.} < 200$	$200 \leq \text{Freq.} < 300$	$300 \leq \text{Freq.} < 500$
Coefficient K_f	0.15	0.15	0.20	0.25
Frequency (Hz)	$500 \leq \text{Freq.} < 1k$	$1k \leq \text{Freq.} < 2k$	$2k \leq \text{Freq.} < 3k$	$3k \leq \text{Freq.} < 5k$
Coefficient K_f	0.30	0.40	0.45	0.55
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	0.60	0.70	0.75	0.80
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	0.85	0.90	1.00	1.00

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	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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