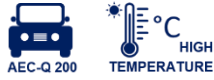


AT SERIES ■ LONG LIFE AT 125°C UP TO 4 000 HOURS

KEY FEATURES



- HYBRID CONDUCTIVE POLYMER • THT type
- Endurance: 125°C • 2 000 up to 4 000 hours
- Low ESR and high ripple current
- Superior electrical stability over application lifetime
- AEC-Q200 version available

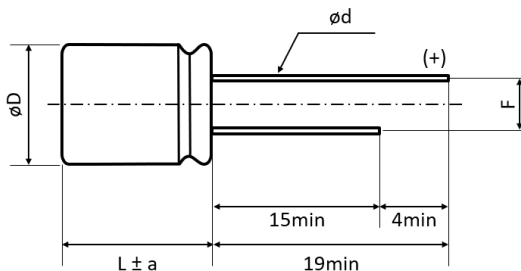


SPECIFICATIONS

Items		Performance Characteristics
Operating Temperature Range		-55 ~ +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	8.2 ~ 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	$\geq \phi D 8$
		2 000 hours	$\leq \phi D 6.3$
	$\Delta C/C_R$	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



ϕD	L	$\phi D \pm 0.5$	a	F ± 0.5	$\phi d \pm 0.05$
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
10	18	10	2	5	0.8

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ D (mm)	L (mm)	I_{LEAK} (μ A, 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
16	120	6.3	8	19.2	16	32	1440	AT121M016E080PTC
	270	8	9	43.2	16	23	1970	AT271M016F090PTD
	330	8	11.5	52.8	16	20	2340	AT331M016F115PTD
	470	10	10	75.2	16	18	2620	AT471M016G100PTA
	560	10	12.5	89.6	16	14	3030	AT561M016G125PTA
	1500	10	18	240.0	16	12	4000	AT152M016G180PTA
25	68	6.3	8	17.0	16	35	1380	AT680M025E080PTC
	150	8	9	37.5	16	25	1880	AT151M025F090PTD
	220	8	11.5	55.0	16	22	2230	AT221M025F115PTD
	270	10	10	67.5	16	19	2500	AT271M025G100PTA
	330	10	12.5	82.5	16	14	2890	AT331M025G125PTA
	1000	10	18	250.0	16	12	4000	AT102M025G180PTA
35	47	6.3	8	16.5	16	45	1280	AT470M035E080PTC
	100	8	9	35.0	16	28	1780	AT101M035F090PTD
	150	8	11.5	52.5	16	25	2100	AT151M035F115PTD
	150	10	10	52.5	16	20	2440	AT151M035G100PTA
	220	10	12.5	77.0	16	15	2800	AT221M035G125PTA
	680	10	18	238.0	16	14	3700	AT681M035G180PTA
40	27	6.3	8	10.8	16	48	1230	AT270M040E080PTC
	56	8	9	22.4	16	30	1710	AT560M040F090PTD
	82	8	11.5	32.8	16	27	2000	AT820M040F115PTD
	100	10	10	40.0	16	21	2360	AT101M040G100PTA
	120	10	10	48.0	16	20	2400	AT121M040G100PTA
	180	10	12.5	72.0	16	18	2550	AT181M040G125PTA
50	15	6.3	8	7.5	16	80	960	AT150M050E080PTC
	33	8	9	16.5	16	35	1330	AT330M050F090PTD
	47	8	11.5	23.5	16	30	1520	AT470M050F115PTD
	56	10	10	28.0	16	30	1850	AT560M050G100PTA
	82	10	12.5	41.0	16	25	2120	AT820M050G125PTA
	220	10	18	110.0	16	15	3500	AT221M050G180PTA
63	10	6.3	8	6.3	16	100	840	AT100M063E080PTC
	22	8	9	13.9	16	40	1240	AT220M063F090PTD
	27	8	11.5	17	16	35	1400	AT270M063F115PTD
	33	10	10	20.8	16	35	1680	AT330M063G100PTA
	47	10	10	29.6	16	35	1680	AT470M063G100PTA
	56	10	12.5	35.3	16	30	1920	AT560M063G125PTA
	150	10	18	94.5	16	18	3200	AT151M063G180PTA
80	8.2	8	9	6.6	16	90	840	AT8R2M080F090PTD
	15	8	11.5	12	16	70	1120	AT150M080F115PTD
	12	10	10	9.6	16	70	1280	AT120M080G100PTA
	15	10	10	12	16	70	1280	AT150M080G100PTA
	18	10	12.5	14.4	16	60	1460	AT180M080G125PTA

see description at end of standard ratings

Part number shows taped version with straight leads and Ammo Pack packaging.
See "PACKAGING INFORMATION" for further lead treatment options.

STANDARD RATINGS

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
100	8.2	8	9	8.2	16	100	800	AT8R2M100F090PTD
	10	8	11.5	10	16	80	1040	AT100M100F115PTD
	10	10	10	10	16	80	1160	AT100M100G100PTA
	12	10	10	12	16	80	1160	AT120M100G100PTA
	15	10	12.5	15	16	70	1320	AT150M100G125PTA
	47	10	12.5	15	16	70	1320	AT470M100G125PTA

: 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

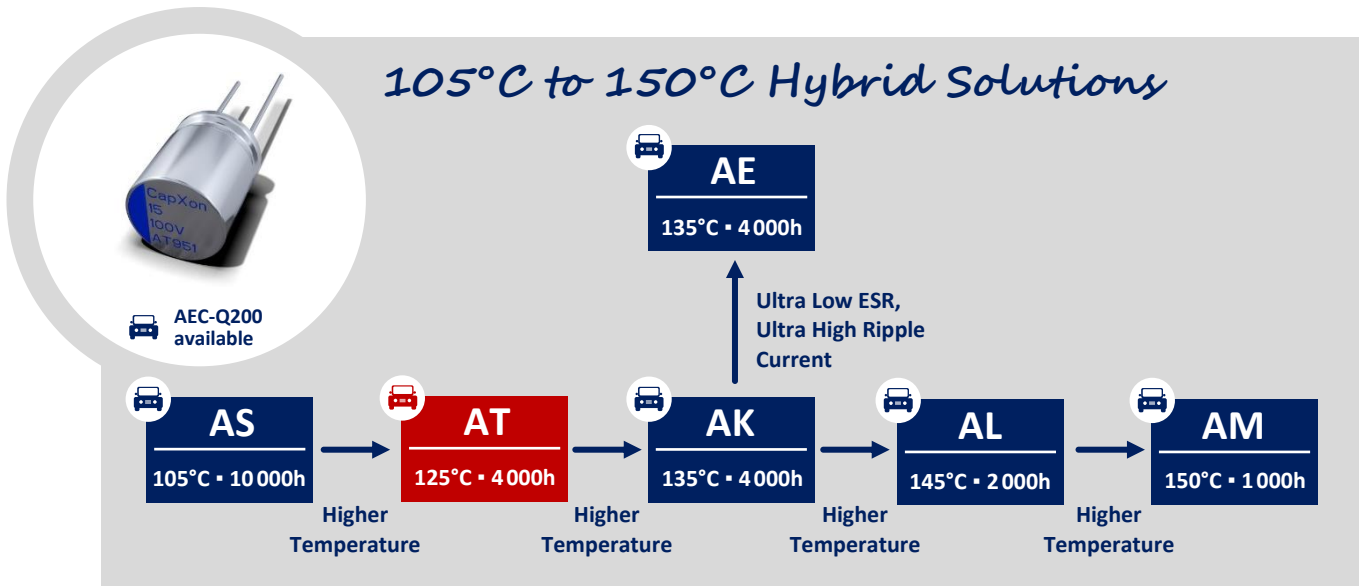
Frequency (Hz)	100 ≤ Freq. < 120	120 ≤ Freq. < 200	200 ≤ Freq. < 300	300 ≤ Freq. < 500
Coefficient K_f	0.10	0.10	0.10	0.15
Frequency (Hz)	500 ≤ Freq. < 1k	1k ≤ Freq. < 2k	2k ≤ Freq. < 3k	3k ≤ Freq. < 5k
Coefficient K_f	0.20	0.30	0.40	0.45
Frequency (Hz)	5k ≤ Freq. < 10k	10k ≤ Freq. < 15k	15k ≤ Freq. < 20k	20k ≤ Freq. < 40k
Coefficient K_f	0.50	0.60	0.65	0.70
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

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