

XA SERIES ■ ULTRA FLAT MULTILAYER TYPE

KEY FEATURES



NEW PRODUCT SERIES

Preliminary Data



- MLPC - MULTILAYER CONDUCTIVE POLYMER ■ SMD type
- Endurance: 105°C ■ 2 000 hours
- Ultra-low ESR and highest ripple current
- No voltage derating
- No dry-out effect guarantees extremely long life

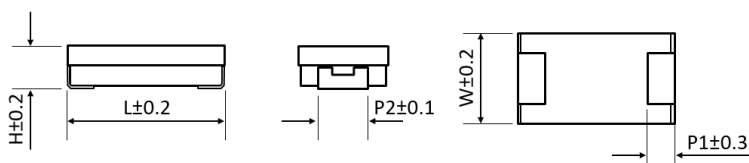


SPECIFICATIONS

Items		Performance Characteristics
Operating Temperature Range		-55 ~ +105°C
Rated Voltage Range	V_R	2 ~ 25V DC
Surge Voltage	V_S	$V_S = 1.15 \cdot V_R$
Capacitance Range	C_R	10 ~ 470 μ F
Cap. Tolerance	ΔC	$\pm 20\%$ (120Hz ■ 20°C)
Leakage Current (20°C ■ V_R applied)	I_{LEAK}	$\leq 0.1 \cdot C_R \cdot V_R$ (μ A) [≤ 6.3 VDC]; $\leq 0.3 \cdot C_R \cdot V_R$ (μ A) [> 6.3 VDC] 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 105°C (V_R applied)	Test	2 000 hours	
	$\Delta C/C_R$	Within $\pm 20\%$ of the initial value	
	$\tan\delta$	< 2 times of the initial limit	
	ESR	Less than 200% of the specified value	
	I_{Leak}	< 3 times of the initial limit	≤ 6.3 V DC
	Within the initial limit	> 6.3 V DC	
Moisture Resistance stored at 60°C (RH 90 ~ 95%)	Test	500 hours	
	$\Delta C/C_R$	Within +40 to -20% of the initial value	
	$\tan\delta$	< 2 times of the initial limit	
	ESR	Less than 200% of the specified value	
	I_{Leak}	< 3 times of the initial limit	≤ 6.3 V DC
	Within the initial limit	> 6.3 V DC	

DIMENSIONS ■ All dimensions in mm



L	W	H	P1	P2
7.3	4.3	1.9	1.3	2.4

STANDARD RATINGS
NEW PRODUCT SERIES

Part number shows blister tape on plastic reel

Preliminary Data

V_R (V)	C_R (μF)	L (mm)	W (mm)	H (mm)	I_{LEAK} (μA , 2min)	$\tan\delta$ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (m Ω)	Max. I _r +45°C • 100kHz (mA rms)	CapXon Part Number
2	180	7.3	4.3	1.9	36	6	12	5600	XA181M0027019P120
							9	6300	XA181M0027019P090
	220						12	5600	XA221M0027019P120
							9	6300	XA221M0027019P090
	270						9	6300	XA271M0027019P090
							6	7500	XA271M0027019P060
	330						9	6300	XA331M0027019P090
							6	7500	XA331M0027019P060
390	9	6300	XA391M0027019P090						
	6	7500	XA391M0027019P060						
470	9	6300	XA471M0027019P090						
	6	7500	XA471M0027019P060						
2.5	150	7.3	4.3	1.9	38	6	12	5600	XA151M2R57019P120
							9	6300	XA151M2R57019P090
	180						12	5600	XA181M2R57019P120
							9	6300	XA181M2R57019P090
	220						9	6300	XA221M2R57019P090
							6	7500	XA221M2R57019P060
	270						9	6300	XA271M2R57019P090
							6	7500	XA271M2R57019P060
	330						9	6300	XA331M2R57019P090
							6	7500	XA331M2R57019P060
390	9	6300	XA391M2R57019P090						
	6	7500	XA391M2R57019P060						
470	9	6300	XA471M2R57019P090						
	6	7500	XA471M2R57019P060						
4	82	7.3	4.3	1.9	33	6	15	5100	XA820M0047019P150
							12	5600	XA820M0047019P120
	100						15	5100	XA101M0047019P150
							12	5600	XA101M0047019P120
	120						12	5600	XA121M0047019P120
							9	6300	XA121M0047019P090
	150						12	5600	XA151M0047019P120
							9	6300	XA151M0047019P090
	180						12	5600	XA181M0047019P120
							9	6300	XA181M0047019P090
220	12	5600	XA221M0047019P120						
	9	6300	XA221M0047019P090						

STANDARD RATINGS
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Part number shows blister tape on plastic reel

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V_R (V)	C_R (μF)	L (mm)	W (mm)	H (mm)	I_{LEAK} (μA , 2min)	$\tan\delta$ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (m Ω)	Max. I_R +45°C • 100kHz (mA rms)	CapXon Part Number
6.3	68	7.3	4.3	1.9	43	6	15	5100	XA680M6R37019P150
							12	5600	XA680M6R37019P120
	100						15	5100	XA101M6R37019P150
							12	5600	XA101M6R37019P120
	120						12	5600	XA121M6R37019P120
							9	6300	XA121M6R37019P090
	150						12	5600	XA151M6R37019P120
							9	6300	XA151M6R37019P090
8	47	7.3	4.3	1.9	113	6	40	3200	XA470M0087019P400
	68						40	3200	XA680M0087019P400
	82						40	3200	XA820M0087019P400
	100						40	3200	XA101M0087019P400
	120						40	3200	XA121M0087019P400
							40	3200	XA121M0087019P400
10	47	7.3	4.3	1.9	141	6	40	3200	XA470M0107019P400
	68						40	3200	XA680M0107019P400
	82						40	3200	XA680M0107019P400
	100						40	3200	XA101M0107019P400
							40	3200	XA101M0107019P400
16	10	7.3	4.3	1.9	48	6	60	2600	XA100M0167019P600
	15						40	3200	XA150M0167019P400
	22						40	3200	XA220M0167019P400
	33						40	3200	XA330M0167019P400
	47						40	3200	XA470M0167019P400
	56						40	3200	XA560M0167019P400
	68						40	3200	XA680M0167019P400
							40	3200	XA680M0167019P400
20	10	7.3	4.3	1.9	60	6	40	3200	XA100M0207019P400
	15						40	3200	XA150M0207019P400
	22						40	3200	XA220M0207019P400
	33						40	3200	XA330M0207019P400
	47						40	3200	XA470M0207019P400
25	10	7.3	4.3	1.9	75	6	40	3200	XA100M0257019P400
	15						40	3200	XA150M0257019P400
	22						40	3200	XA220M0257019P400
							40	3200	XA220M0257019P400
	33						40	3200	XA330M0257019P400

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

Frequency (Hz)	$120 \leq \text{Freq.} < 1k$	$1k \leq \text{Freq.} < 10k$	$10k \leq \text{Freq.} < 100k$	$100k \leq \text{Freq.} < 300k$
Coefficient K_f	0.05	0.3	0.7	1

MULTIPLIER K_I for RIPPLE CURRENT vs. SURFACE TEMPERATURE T_s

Temperature T_s	$T_s < 45^\circ\text{C}$	$45^\circ\text{C} \leq T_s < 85^\circ\text{C}$	$85^\circ\text{C} \leq T_s \leq 105^\circ\text{C}$
Coefficient $K_I \leq 6.3\text{V}$	1	0.7	0.25
Coefficient $K_I > 6.3\text{V}$	1	0.8	0.5

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	3D Models

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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