

XA SERIES ▪ FLAT, 1.9MM HEIGHT MULTILAYER TYPE

KEY FEATURES



- **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	$V_S = 1.25 \cdot V_R$ (2 ~ 16VDC); $V_S = 1.15 \cdot V_R$ (20 ~ 25VDC)
Capacitance Range	C_R	10 ~ 470μF
Cap. Tolerance	ΔC	±20% (120Hz ▪ 20°C)
Leakage Current (20°C ▪ V_R applied)	I_{LEAK}	$\leq 0.1 \cdot C_R \cdot V_R$ (μA) [≤ 6.3 VDC]; $\leq 0.3 \cdot C_R \cdot V_R$ (μA) [> 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	
	ΔC/C _R	Within ±20% of the initial value	
	tanδ	< 2 times of the initial limit	
	ESR	Less than 200% of the specified value	
	I _{Leak}	< 3 times of the initial limit	≤ 6.3 VDC
		Within the initial limit	> 6.3 VDC
Moisture Resistance stored at 60°C (RH 90 ~ 95%)	Test	500 hours	
	ΔC/C _R	Within +70 to -20% of the initial value	
	tanδ	< 2 times of the initial limit	
	ESR	Less than 200% of the specified value	
	I _{Leak}	< 3 times of the initial limit	≤ 6.3 VDC
		Within the initial limit	> 6.3 VDC

MULTIPLIER K_I for RIPPLE CURRENT vs. SURFACE TEMPERATURE T_S

Temperature T_S		$T_S \leq 45^\circ\text{C}$	$45^\circ\text{C} \leq T_S < 85^\circ\text{C}$	$85^\circ\text{C} \leq T_S \leq 105^\circ\text{C}$
K_I	$V_R: 2\text{V} \sim 6.3\text{V}$	1	0.7	0.25
K_I	$V_R: 8\text{V} \sim 25\text{V}$	1	0.8	0.5

STANDARD RATINGS

Part number shows blister tape on plastic reel

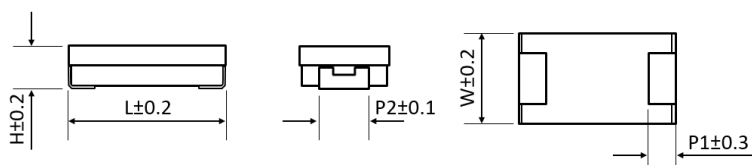
V _R (V)	C _R (μF)	L (mm)	W (mm)	H (mm)	I _{LEAK} (μA, 2min)	tanδ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (mΩ)	Max. I _R +45°C • 100kHz (mA rms)	CapXon Part Number
2	180	7.3	4.3	1.9	36	6	12	5600	XA181M0027019P120
							9	6300	XA181M0027019P090
	220						12	5600	XA221M0027019P120
							9	6300	XA221M0027019P090
	270						9	6300	XA271M0027019P090
							6	7500	XA271M0027019P060
	330						9	6300	XA331M0027019P090
							6	7500	XA331M0027019P060
	390						9	6300	XA391M0027019P090
							6	7500	XA391M0027019P060
2.5	470	7.3	4.3	1.9	94	6	9	6300	XA471M0027019P090
							6	7500	XA471M0027019P060
	150						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
4	330	7.3	4.3	1.9	83	6	9	6300	XA331M2R57019P090
							6	7500	XA331M2R57019P060
	390						9	6300	XA391M2R57019P090
							6	7500	XA391M2R57019P060
	470						9	6300	XA471M2R57019P090
							6	7500	XA471M2R57019P060
	82						15	5100	XA820M0047019P150
							12	5600	XA820M0047019P120
	100						15	5100	XA101M0047019P150
							12	5600	XA101M0047019P120
6.3	120	7.3	4.3	1.9	48	6	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
	68						15	5100	XA680M6R37019P150
							12	5600	XA680M6R37019P120
6.3	100	7.3	4.3	1.9	63	6	15	5100	XA101M6R37019P150
							12	5600	XA101M6R37019P120
	120						12	5600	XA121M6R37019P120
							9	6300	XA121M6R37019P090
	150						12	5600	XA151M6R37019P120
							9	6300	XA151M6R37019P090

STANDARD RATINGS

Part number shows blister tape on plastic reel

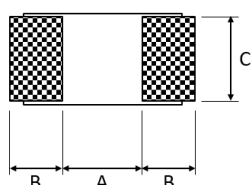
V _R (V)	C _R (μF)	L (mm)	W (mm)	H (mm)	I _{LEAK} (μA, 2min)	tanδ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (mΩ)	Max. I _R +45°C • 100kHz (mA rms)	CapXon Part Number
8	47	7.3	4.3	1.9	113	6	40	3200	XA470M0087019P400
	68				163		40	3200	XA680M0087019P400
	82				197		40	3200	XA820M0087019P400
	100				240		40	3200	XA101M0087019P400
	120				288		40	3200	XA121M0087019P400
10	47	7.3	4.3	1.9	141	6	40	3200	XA470M0107019P400
	68				204		40	3200	XA680M0107019P400
	82				246		40	3200	XA680M0107019P400
	100				300		40	3200	XA101M0107019P400
16	10	7.3	4.3	1.9	48	6	60	2600	XA100M0167019P600
	15				72		40	3200	XA150M0167019P400
	22				105		40	3200	XA220M0167019P400
	33				158		40	3200	XA330M0167019P400
	47				225		40	3200	XA470M0167019P400
	56				268		40	3200	XA560M0167019P400
	68				326		40	3200	XA680M0167019P400
							40	3200	XA680M0167019P400
20	10	7.3	4.3	1.9	60	6	40	3200	XA100M0207019P400
	15				90		40	3200	XA150M0207019P400
	22				132		40	3200	XA220M0207019P400
	33				198		40	3200	XA330M0207019P400
	47				282		40	3200	XA470M0207019P400
25	10	7.3	4.3	1.9	75	6	40	3200	XA100M0257019P400
	15				113		40	3200	XA150M0257019P400
	22				165		40	3200	XA220M0257019P400
	33				248		40	3200	XA330M0257019P400

DIMENSIONS ▪ All dimensions in mm



L	W	H	P1	P2
7.3	4.3	1.9	1.3	2.4





PAD LAYOUT ▪ All dimensions in mm



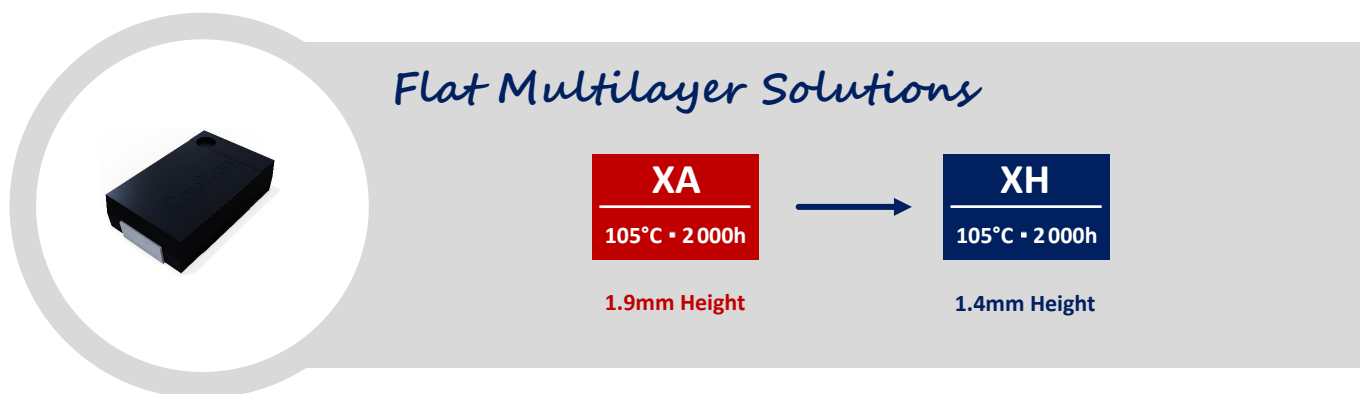
A	B	C
3.8	2.5	4

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.

Except for the written expressed warranties, CapXon does not impliedly, by assumption or whatever else, warrant, undertake, promise any other warranty or guaranty for any CapXon product.

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