

KV SERIES ▪ LOW LEAKAGE 85°C TYPE

KEY FEATURES



LOW LEAKAGE

- ALUMINUM ELECTROLYTIC CAPACITOR ▪ SMD type
- Endurance: 85°C ▪ 1 000 hours
- Low leakage current, $I_{LEAK} \leq 0.002 \cdot C_R \cdot V_R$ or $0.4 \mu A$
- Small dimensions
- Ideal for high density mounting



SPECIFICATIONS

Items		Performance Characteristics						
Operating Temperature Range		-40 ~ +85°C						
Rated Voltage Range	V _R	6.3 ~ 50V DC						
Surge Voltage	V _S	V _S = 1.15·V _R						
Capacitance Range	C _R	1 ~ 330μF						
Cap. Tolerance	ΔC	±20% (120Hz ▪ 20°C)						
Leakage Current (20°C ▪ V _R applied)	I _{LEAK}	≤ 0.002·C _R ·V _R or 0.4μA, whichever is greater ▪ After 2 minutes [I _{LEAK} (μA) ; C _R (μF) ; V _R (V)]						
Dissipation Factor % (20°C ▪ 120Hz)	tanδ	V _R (V DC)	6.3	10	16	25	35	50
		tanδ (%)	26	22	18	16	14	12
Low Temperature Characteristics at 120Hz	Z ratio max.	V _R (V DC)	6.3	10	16	25	35	50
		Z-25°C/Z+20°C	4	3	2	2	2	2
		Z-40°C/Z+20°C	8	6	4	3	3	3
Lifetime Test								
Endurance 85°C (V _R applied)	Test	1 000 hours						
	ΔC/C _R	≤ ±25% of initial measured value						
	tanδ	≤ 200% of initial specified value						
	I _{Leak}	≤ the initial specified value						
Shelf Life 85°C (V _R = 0)	Test	1 000 hours						
	ΔC/C _R	≤ ±25% of initial measured value						
	tanδ	≤ 200% of initial specified value						
	I _{Leak}	≤ the initial specified value						
		Before measurement: Restore capacitor to 20°C, apply V _R for 30 min according JIS-C-5101-4						
Resistance to Soldering Heat	The capacitors shall be kept on a hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the characteristic requirements listed below							
	ΔC/C _R	Within ±10% of initial value						
	tanδ	Less than specified value						
	I _{Leak}	Less than specified value						

STANDARD RATINGS

Part number shows blister tape on paper reel

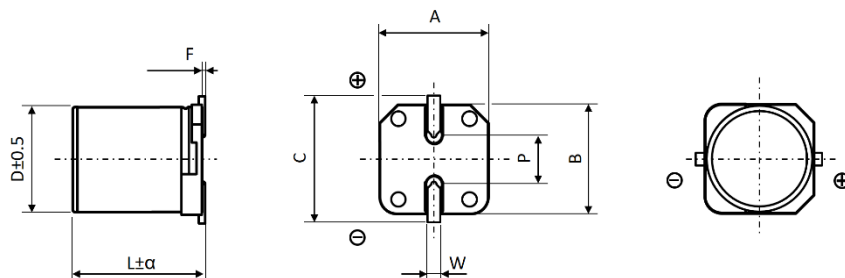
V _R (V)	C _R (μF)	ø D (mm)	L (mm)	I _R • Max. Ripple Current +85°C • 120Hz (mA rms)	CapXon Part Number
6.3	10	4.0	5.5	15	KV100M6R3B055ETR
	22	4.0	5.5	28	KV220M6R3B055ETR
	33	4.0	5.5	37	KV330M6R3B055ETR
	47	4.0	5.5	45	KV470M6R3B055ETR
	100	5.0	5.5	70	KV101M6R3C055ETR
	220	6.3	7.7	102	KV221M6R3E077ETR
	220	8.0	6.5	110	KV221M6R3F065ETR
	330	6.3	7.7	155	KV331M6R3E077ETR
	330	8.0	6.5	170	KV331M6R3F065ETR
10	10	4.0	5.5	23	KV100M010B055ETR
	22	4.0	5.5	33	KV220M010B055ETR
	33	5.0	5.5	41	KV330M010C055ETR
	47	6.3	5.5	52	KV470M010E055ETR
	100	6.3	7.7	75	KV101M010E077ETR
	100	8.0	6.5	80	KV101M010F065ETR
	220	6.3	7.7	125	KV221M010E077ETR
	220	8.0	6.5	135	KV221M010F065ETR
16	4.7	4.0	5.5	10	KV4R7M016B055ETR
	10	4.0	5.5	23	KV100M016B055ETR
	22	5.0	5.5	37	KV220M016C055ETR
	33	6.3	5.5	49	KV330M016E055ETR
	47	6.3	5.5	58	KV470M016E055ETR
	100	6.3	7.7	85	KV101M016E077ETR
	100	8.0	6.5	92	KV101M016F065ETR
25	3.3	4.0	5.5	10	KV3R3M025B055ETR
	4.7	4.0	5.5	16	KV4R7M025B055ETR
	10	4.0	5.5	27	KV100M025B055ETR
	22	5.0	5.5	42	KV220M025C055ETR
	33	6.3	5.5	52	KV330M025E055ETR
	47	6.3	7.7	65	KV470M025E077ETR
	47	8.0	6.5	70	KV470M025F065ETR
	100	6.3	7.7	102	KV101M025E077ETR
	100	8.0	6.5	110	KV101M025F065ETR
35	2.2	4.0	5.5	8.4	KV2R2M035B055ETR
	3.3	4.0	5.5	15	KV3R3M035B055ETR
	4.7	4.0	5.5	18	KV4R7M035B055ETR
	10	6.3	5.5	29	KV100M035E055ETR
	22	6.3	5.5	46	KV220M035E055ETR
	33	6.3	7.7	58	KV330M035E077ETR
	33	8.0	6.5	62	KV330M035F065ETR
	47	6.3	7.7	75	KV470M035E077ETR
	47	8.0	6.5	80	KV470M035F065ETR

STANDARD RATINGS

Part number shows blister tape on paper reel

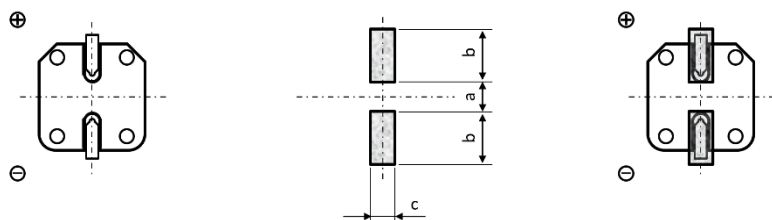
V_R (V)	C_R (μF)	ϕD (mm)	L (mm)	I_R - Max. Ripple Current +85°C - 120Hz (mA rms)	CapXon Part Number
50	1	4.0	5.5	8.4	KV010M050B055ETR
	2.2	4.0	5.5	13	KV2R2M050B055ETR
	3.3	4.0	5.5	17	KV3R3M050B055ETR
	4.7	6.3	5.5	20	KV4R7M050E055ETR
	10	6.3	5.5	33	KV100M050E055ETR
	22	6.3	7.7	48	KV220M050E077ETR
	22	8.0	6.5	52	KV220M050F065ETR
	33	6.3	7.7	66	KV330M050E077ETR
	33	8.0	6.5	71	KV330M050F065ETR

DIMENSIONS STANDARD PACKAGE - All dimensions in mm



ϕD	L	α	$A \pm 0.2$	$B \pm 0.2$	$C \pm 0.2$	F	$P \pm 0.2$	W
4.0	5.5	Max	4.3	4.3	4.9	0.3 max.	1.0	0.5 to 0.8
5.0	5.5	Max	5.3	5.3	5.9	0.3 max.	1.4	0.5 to 0.8
6.3	5.5	0.2	6.6	6.6	7.2	0.3 max.	2.2	0.5 to 0.8
6.3	7.7	Max	6.6	6.6	7.2	0.3 max.	2.2	0.5 to 0.8
8.0	6.5	Max	8.3	8.3	9.0	0.3 max.	2.3	0.5 to 0.8

PAD LAYOUT STANDARD PACKAGE - All dimensions in mm



Bottom view

Recommended land patterns

Capacitor mounted on pads




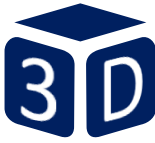

ϕD	L	a	b	c
4.0	5.5	1.0	2.6	1.6
5.0	5.5	1.4	3.0	1.6
6.3	5.5	2.1	3.5	1.6
6.3	7.7	2.1	3.5	1.6
8.0	6.5	2.1	4.5	1.6

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

C_R (μ F) / Frequency (Hz)	50/60	100/120	500	1k	$\geq 10k$
$1 \leq C_R \leq 100$	0.8	1	1.2	1.3	1.5
$100 < C_R \leq 330$	0.8	1	1.1	1.15	1.2

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	Vibration Test Profiles	3D Models	Reliability Tests

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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