KS SERIES ▪ OVERVOLTAGE VENT 105°C TYPE

KEY FEATURES

OVERVOLTAGE VENT

- **ALUMINUM ELECTROLYTIC CAPACITOR** ▪ THT type
- Endurance: 105°C ▪ 2 000 hours
- High ripple current
- Defined vent operation in overvoltage situation
- High voltage version

RoHS & REACH COMPLIANT

SPECIFICATIONS

Items		Performance Characteristics		
Operating Temperature Range		-25 ~ +105°C		
Rated Voltage Range	V_R	200 ~ 400V DC		
Surge Voltage	V_S	Defined vent operation in overvoltage situation; $V_S = 1.50 \cdot V_R$		
Capacitance Range	C_R	4.7 ~ 470µF		
Cap. Tolerance	ΔC	±20% (120Hz ▪ 20°C)		
Leakage Current (20°C ▪ V_R applied)	I_{LEAK}	≤ $0.01C_R \cdot V_R$ or 3µA ▪ After 1 minute [I_{LEAK} (µA) ; C_R (µF) ; V_R (V)]		
Dissipation Factor % (20°C ▪ 120Hz)	tanδ	V_R (V DC)	200	400
		tanδ (%)	15	15
Low Temperature Characteristics at 120Hz	Z ratio max.	V_R (V DC)	200	400
		Z-25°C/Z+20°C	3	6

Lifetime Test		
Endurance 105°C (V_R & I_R applied)	Test	**2 000 hours**
	△C/C_R	≤ ±20% of initial measured value
	tanδ	≤ 200% of initial specified value
	I_{Leak}	≤ the initial specified value
Shelf Life 105°C (V_R = 0)	Test	**1 000 hours**
	△C/C_R	≤ ±20% 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	

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

V_R (V)	C_R (µF) / Frequency (Hz)	50/60	100/120	400	1k	≥ 10k
200	22 ~ 470	0.85	1	1.1	1.25	1.5
400	4.7 ~ 68	0.85	1	1.05	1.2	1.4
	82 ~ 150	0.85	1	1.03	1.15	1.35

STANDARD RATINGS

Part number shows bulk version with straight leads

V_R (V)	C_R (µF)	ø D (mm)	L (mm)	I_R ▪ Max. Ripple Current +105°C ▪ 120Hz (mA rms)	CapXon Part Number
200	22	10	20	120	KS220M200G200A
	33	10	25	160	KS330M200G250A
	33	13	20	160	KS330M200I200A
	47	10	30	195	KS470M200G300A
	47	13	20	195	KS470M200I200A
	56	13	25	210	KS560M200I250A
	68	13	25	270	KS680M200I250A
	68	16	20	270	KS680M200J200A
	82	13	30	310	KS820M200I300A
	82	16	20	320	KS820M200J200A
	82	16	25	360	KS820M200J250A
	100	16	25	400	KS101M200J250A
	100	18	20	400	KS101M200K200A
	120	16	25	460	KS121M200J250A
	120	16	31.5	500	KS121M200J315A
	120	18	25	500	KS121M200K250A
	150	16	31.5	560	KS151M200J315A
	150	16	35.5	590	KS151M200J355A
	150	18	25	560	KS151M200K250A
	180	16	35.5	600	KS181M200J355A
	180	18	31.5	650	KS181M200K315A
	220	18	31.5	700	KS221M200K315A
	220	18	35.5	740	KS221M200K355A
	330	18	35.5	780	KS331M200K355A
	330	18	40	840	KS331M200K400A
	390	18	40	860	KS391M200K400A
	390	18	45	920	KS391M200K450A
	470	18	45	1120	KS471M200K450A
400	4.7	10	12.5	60	KS4R7M400G125A
	10	10	16	100	KS100M400G160A
	10	10	20	125	KS100M400G200A
	22	13	20	135	KS220M400I200A
	22	13	25	150	KS220M400I250A
	22	16	20	150	KS220M400J200A
	33	13	25	180	KS330M400I250A
	33	16	20	210	KS330M400J200A
	47	16	31.5	300	KS470M400J315A
	47	16	35.5	320	KS470M400J355A
	47	18	25	300	KS470M400K250A
	47	18	31.5	320	KS470M400K315A
	56	16	31.5	360	KS560M400J315A
	56	18	25	350	KS560M400K250A
	56	18	31.5	370	KS560M400K315A
	68	16	31.5	365	KS680M400J315A

See "PACKAGING INFORMATION" to taped or formed products.

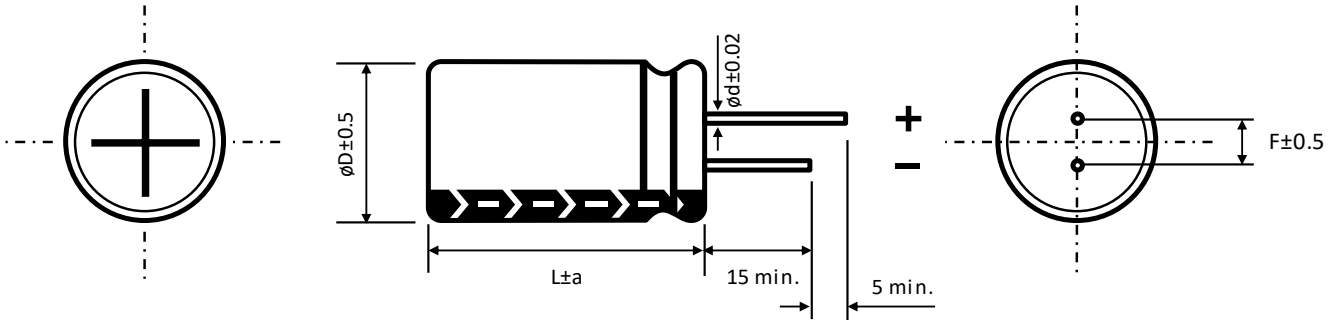
STANDARD RATINGS

Part number shows bulk version with straight leads

V_R (V)	C_R (µF)	ø D (mm)	L (mm)	I_R ▪ Max. Ripple Current +105°C ▪ 120Hz (mA rms)	CapXon Part Number
400	68	16	35.5	380	KS680M400J355A
	68	18	31.5	375	KS680M400K315A
	82	16	35.5	410	KS820M400J355A
	82	18	31.5	410	KS820M400K315A
	82	18	35.5	450	KS820M400K355A
	100	16	35.5	470	KS101M400J355A
	100	18	31.5	470	KS101M400K315A
	100	18	35.5	490	KS101M400K355A
	120	18	31.5	520	KS121M400K315A
	120	18	35.5	540	KS121M400K355A
	120	18	40	560	KS121M400K400A
	150	18	35.5	770	KS151M400K355A
	150	18	40	790	KS151M400K400A

See "PACKAGING INFORMATION" to taped or formed products.

DIMENSIONS ▪ All dimensions in mm



ø D	10	13	16	18
F	5	5	7.5	7.5
ø d	0.6		0.8	

a	ø D < 16	ø D = 16		ø D = 18	
	1.5	L = 25 to 35.5	L < 25 and L ≥ 40	L = 25 to 31.5	L < 25 and L ≥ 35.5
		1.5	2	1.5	2

DEFINED OVERVOLTAGE VENT OPERATION

Ordinary Aluminum Electrolytic Capacitors with rated voltages of $V_R > 315V$ have a surge voltage of $V_S = 1.10 \cdot V_R$. Surge voltage is the maximum voltage which may applied to the capacitor for a short time. In maximum 5 times with a duration of one minute each per hour, according JIS C 5101-4.

It applies to $V_R = 200V$ then $V_S = 220V$ and to $V_R = 400V$ then $V_S = 440V$.

The leakage current of the capacitor increases exponentially when the rated voltage is exceeded and increases the pressure inside the component. In the worst case, the capacitor explodes.

Due to its internal structure, the KS series can cope with surge voltages with 1.5 times the rated voltage and definitely opens its safety vent. An explosion of the component is impossible.

PRECAUTIONS, GUIDELINES AND PACKAGING INFORMATON

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