



# **MKV AC, MKV DC capacitors**

## **LSI Snubbing and Clamping**

**Ordering code:** B25856  
**Date:** September 2005

### Features

- High dielectric strength
- High peak-current capability
- Extremely low inductance

### Construction

- Self-healing
- Plastic dielectric
- Oil-impregnated tubular windings (no PCB)
- Metal-sprayed end faces ensure reliable contacting
- Fully insulated case
- Axial version

### Terminals

- Internal thread M6 × 8 and M8 × 10
- Axial

### Mounting

- On the terminals

### Individual data sheets

Individual data sheets contain detailed specification incl. thermal data. Upon request, these data sheets are available for each capacitor type.



**Technical data**

Standards		IEC 1071-1/2 EN 61071-1/2 VDE 0560 part 120 and 121
Dielectric dissipation factor	$\tan \delta_0$	$2 \times 10^{-4}$
Capacitance tolerance		$\pm 10\%$
Max. repetitive rate of voltage rise	$(dv/dt)_{\max}$	$\frac{\hat{I}}{C}$
Max. non-repetitive rate of voltage rise	$(dv/dt)_s$	$\frac{I_s}{C}$
Climatic data:		
Min. operating temperature	$T_{\min}$	$-25\text{ }^\circ\text{C}$
Max. operating temperature	$T_{\max}$	$+85\text{ }^\circ\text{C}$
Average relative humidity		$\leq 95\%$
Failure quota	$\alpha_{\text{FQ}(\text{co})}$	300 failures per $10^9$ component hours
Load duration	$t_{\text{LD}(\text{co})}$	100 000 h
Storage temperature limit	$T_{\text{stg}}$	$\leq 98\text{ mm diameter: } -55/+85\text{ }^\circ\text{C}$ $\geq 103\text{ mm diameter: } -30/+85\text{ }^\circ\text{C}$
IEC climatic category (IEC 68-1 and 2)		25/085/56
Test A, cold		$-25\text{ }^\circ\text{C}$
Test B, dry heat		$+85\text{ }^\circ\text{C}$
Test Ca, damp heat, steady state		56 days/ $40\text{ }^\circ\text{C}/93\text{ } \%$ rel. humidity
Values after test Ca:		
Capacitance change	$\Delta C/C$	$\leq 1\%$
Insulation resistance	$R_{\text{ins}}$	$C_R \leq 1\text{ }\mu\text{F: } \geq 10000\text{ M}\Omega$
Self-discharge time constant $\tau =$	$R_{\text{ins}} \times C$	$C_R > 1\text{ }\mu\text{F: } \geq 10000\text{ s}$
Dissipation factor change	$\Delta \tan \delta$	$\leq 1 \times 10^{-4}$
Test data:		
Voltage test between terminals		
DC test voltage	$V_{\text{TT}}$	$1.5 \times V_R, 10\text{ s}$ ( $V_R = \text{DC}$ ) $1.75 \times V_R, 10\text{ s}$ ( $V_R = \text{AC}$ )
AC test voltage (rms value)	$V_{\text{TT}}$	$1.25 \times V_R, 50\text{ Hz}, 10\text{ s}$ ( $V_R = \text{AC}$ )
Insulation resistance	$R_{\text{ins}}$	$C_R \leq 1\text{ }\mu\text{F: } \geq 10000\text{ M}\Omega$
Self-discharge time constant	$\tau = R_{\text{ins}} \times C$	$C_R > 1\text{ }\mu\text{F: } \geq 10000\text{ s}$
Dissipation factor (50 Hz)	$\tan \delta$	$\leq 3 \times 10^{-4}$

**Characteristics and ordering codes**

$C_R^{1)}$	$I_{max}$	$\hat{i}$	$I_s$	$R_S$ 20 °C	$L_{self}$	Dimensions $d \times l$	Fig.	Appr. weight	Ordering code
$\mu F$	A	A	A	m $\Omega$	nH	mm		g	
$V_{RDC} = AC 1700 V$ $\hat{v} = 2000 V$ $V_{TT} = AC 1800 V, 10 s$ $V_R = AC 1400 V$ $v_s = 2900 V$									
0.2	30	200	500	3.1	<20	40 × 49	1	130	B25856K0204K003
0.47	80	470	1200	1.0	<20	68 × 49	1	300	B25856J0474K003
1	60	1400	3500	1.6	<20	53 × 59	1	200	B25856K0105K003
1.5	80	1400	3500	1.1	<20	68 × 68	2	500	B25856K0155K003
2	70	2000	5000	1.5	<20	68 × 79	2	550	B25856K0205K003
4	70	2400	6000	1.8	<20	73 × 100	2	700	B25856K0405K003
7.5	80	3000	7500	1.0	<20	93 × 100	2	1000	B25856K0755K003
15	80	3000	7500	2.0	<20	93 × 168	2	1600	B25856K0156K003
$V_{RDC} = AC 2000 V$ $\hat{v} = 2400 V$ $V_{TT} = AC 2200 V, 10 s$ $V_R = AC 1700 V$ $v_s = 3500 V$									
0.2	30	350	900	6.0	<20	40 × 59	1	150	B25856K4204K003
0.5	50	600	1500	1.1	<20	68 × 49	1	300	B25856K4504K013
1	50	1200	3000	2.4	<20	53 × 70	1	250	B25856K4105K003
2.5	80	3000	7500	1.0	<20	83 × 79	2	700	B25856K4255K003
7.5	80	4200	10500	1.4	<20	93 × 126	2	1250	B25856K4755K003
$V_{RDC} = AC 2500 V$ $\hat{v} = 3000 V$ $V_{TT} = AC 2700 V, 10 s$ $V_R = AC 2100 V$ $v_s = 4300 V$									
0.2	30	500	1200	6.1	<20	40 × 70	1	160	B25856K1204K003
1.5	80	3600	9000	0.9	<20	83 × 79	2	700	B25856K1155K003
2.5	80	3500	8800	1.3	<20	83 × 100	2	850	B25856K1255K003
5	80	5000	12500	1.5	<20	93 × 142	2	1400	B25856K1505K003
7.5	80	5000	13000	1.8	<20	98 × 173	2	1800	B25856K1755K003
10	80	6800	17000	1.4	<20	108 × 173	2	2200	B25856K1106K003

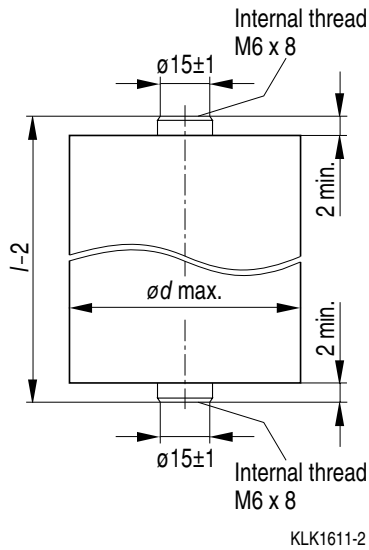
1) Other capacitance values upon request

**Characteristics and ordering codes**

$C_R^{1)}$	$I_{max}$	$\hat{i}$	$I_s$	$R_S$ 20 °C	$L_{self}$	Dimensions $d \times l$	Fig.	Appr. weight	Ordering code
$\mu F$	A	A	A	m $\Omega$	nH	mm		g	
<b><math>V_{RDC} = AC 3000 V</math></b>									
<b><math>V_R = AC 2500 V</math></b>									
<b><math>\hat{v} = 3600 V</math></b>									
<b><math>v_s = 5200 V</math></b>									
<b><math>V_{TT} = AC 3200 V, 10 s</math></b>									
0.5	70	2200	5500	1.9	<20	68 × 79	2	550	B25856K7504K013
1	80	3000	7500	1.1	<20	83 × 79	2	700	B25856K7105K003
1.5	80	4800	12000	0.7	<20	93 × 79	2	800	B25856K7155K013
2	80	3600	9000	1.3	<20	88 × 100	2	900	B25856K7205K003
2.5	80	4500	11000	1.0	<20	98 × 100	2	1100	B25856K7255K003
3	80	3600	9000	1.9	<10	88 × 142	2	1100	B25856J7305J003
3.5	80	4200	10500	1.7	<20	93 × 142	2	1400	B25856K7355K003
4	80	4800	12000	1.5	<20	98 × 142	2	1500	B25856K7405K003
5	80	6000	15000	1.2	<20	108 × 142	2	1800	B25856K7505K003
<b><math>V_{RDC} = AC 3300 V</math></b>									
<b><math>V_R = AC 2800 V</math></b>									
<b><math>\hat{v} = 4000 V</math></b>									
<b><math>v_s = 5800 V</math></b>									
<b><math>V_{TT} = AC 3500 V, 10 s</math></b>									
0.1	20	350	900	8.0	<20	40 × 70	1	160	B25856K3104K003
0.5	70	1800	4500	1.7	<20	73 × 79	2	600	B25856K3504K003
2.5	80	3500	8800	2.0	<20	88 × 142	2	1300	B25856K3255K003
<b><math>V_{RDC} = AC 4000 V</math></b>									
<b><math>V_R = AC 3400 V</math></b>									
<b><math>\hat{v} = 4800 V</math></b>									
<b><math>v_s = 7000 V</math></b>									
<b><math>V_{TT} = AC 4300 V, 10 s</math></b>									
0.2	50	1200	3000	2.6	<20	53 × 70	1	250	B25856K2204K003
0.5	80	3000	7500	1.1	<20	83 × 79	2	700	B25856K2504K003
1	80	3500	8800	1.3	<20	88 × 105	2	1000	B25856K2105K003
2	80	5000	12500	1.3	<20	98 × 126	2	1350	B25856K2205K003
2.5	80	3800	9400	2.3	<20	88 × 168	2	1500	B25856K2255K003
3	80	4500	11000	2.0	<20	98 × 168	2	1700	B25856K2305K003
4	80	6000	15000	1.5	<20	108 × 168	2	2100	B25856K2405K003

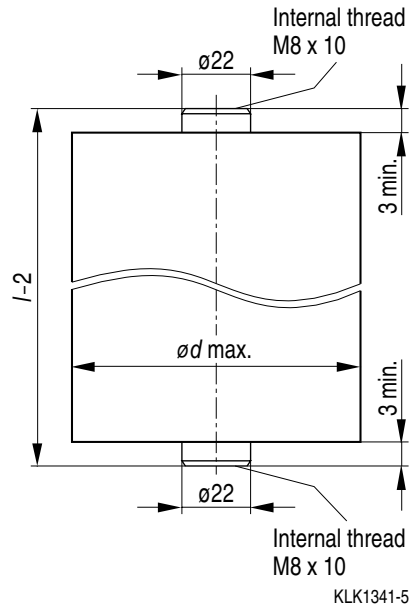
1) Other capacitance values upon request

Dimensional drawing 1



$\varnothing d_{max} = 40 \dots 68 \text{ mm}$ :  
 Internal thread = M6 x 8  
 Max. torque = 7 Nm

Dimensional drawing 2



$\varnothing d_{max} = 68 \dots 108 \text{ mm}$ :  
 Internal thread = M8 x 10  
 Max. torque = 7 Nm