



## Film Capacitors

### Metallized Polypropylene Film Capacitors (MKP)

**Series/Type:** B32656S  
**Date:** August 2004

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**Snubbing (wound)**
**Typical applications**

- IGBT
- Snubbing

**Climatic**

- Max. operating temperature: 100 °C
- Climatic category (IEC 60068-1): 55/100/56

**Construction**

- Dielectric: polypropylene (PP)
- Wound capacitor technology with internal series connection
- Plastic case (UL 94 V-0)
- Epoxy resin sealing (UL 94 V-0)

**Features**

- High pulse strength and high contact reliability
- Very low inductance

**Terminals**

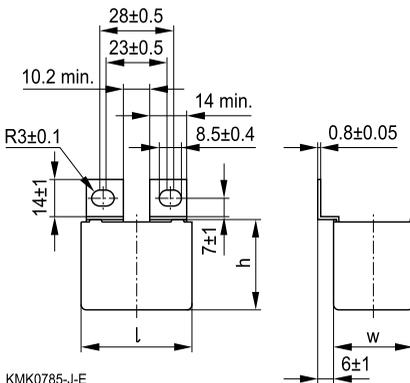
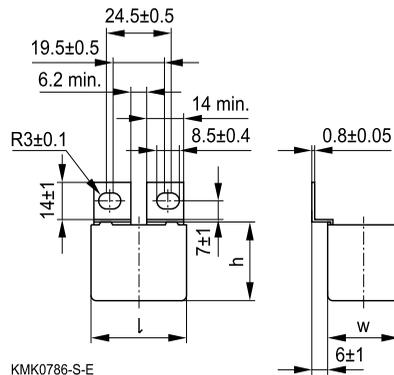
- Strap terminals, tinned copper (max. torque 10 Nm)

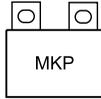
**Marking**

Manufacturer's logo, ordering code, style (MKP)  
 rated capacitance (coded), cap. tolerance (code letter),  
 rated DC voltage, date of manufacture (coded)

**Delivery mode**

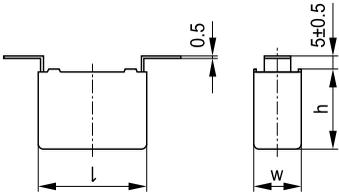
Bulk

**Dimensional drawings**
**T1 (code no. 561)**

**T2 (code no. 562)**


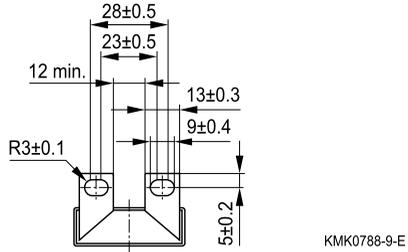
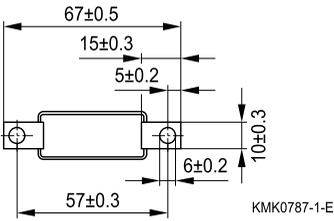
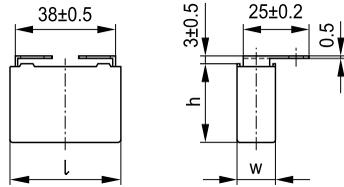


Dimensional drawings (continued)

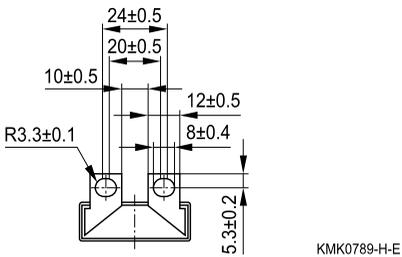
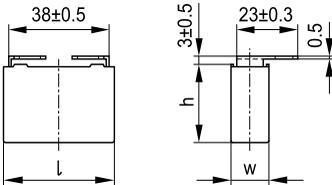
T3 (code no. 563)



T4 (code no. 564)



T5 (code no. 565)



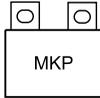


**B32656S**

**Snubbing (wound)**

**Overview of available types**

Type	B32656S				
$V_R$ (VDC)	850	1000	1250	1600	2000
$V_{rms}$ (VAC)	450	480	500	750	800
$C_R$ (nF)					
47					
68					
100					
120					
150					
220					
270					
330					
390					
470					
560					
680					
820					
1000					
1200					
1500					
1800					
2200					


**Electrical specifications, ordering codes and packing units**

$V_R$	$V_{rms}$ $f \leq 1\text{kHz}$ VDC	$C_R$ nF	Max. dimensions $w \times h \times l$ mm	$I_{rms}$ 100 kHz A	ESR 100 kHz m $\Omega$	Ordering code (composition see below)	Ter- minal	pcs./ unit
850	450	220	12.0 × 22.5 × 42.0	5	10.0	B32656S8224+563	T3	56
		220	12.0 × 22.5 × 42.0	5	10.0	B32656S8224+564	T4	96
		270	12.0 × 22.5 × 42.0	6	9.0	B32656S8274+563	T3	56
		270	12.0 × 22.5 × 42.0	6	9.0	B32656S8274+564	T4	96
		330	12.0 × 22.5 × 42.0	6	9.0	B32656S8334+563	T3	56
		330	12.0 × 22.5 × 42.0	6	9.0	B32656S8334+564	T4	96
		390	12.0 × 22.5 × 42.0	7	8.0	B32656S8394+563	T3	56
		390	12.0 × 22.5 × 42.0	7	8.0	B32656S8394+564	T4	96
		470	12.0 × 22.5 × 42.0	8	8.0	B32656S8474+563	T3	56
		470	12.0 × 22.5 × 42.0	8	8.0	B32656S8474+564	T4	96
		560	14.0 × 25.0 × 42.0	8	7.0	B32656S8564+563	T3	48
		560	14.0 × 25.0 × 42.0	8	7.0	B32656S8564+564	T4	72
		560	14.0 × 25.0 × 42.0	8	7.0	B32656S8564+565	T5	72
		680	16.0 × 28.5 × 42.0	9	6.0	B32656S8684+563	T3	40
		680	16.0 × 28.5 × 42.0	9	6.0	B32656S8684+564	T4	48
		680	16.0 × 28.5 × 42.0	9	6.0	B32656S8684+565	T5	48
		820	16.0 × 28.5 × 42.0	10	6.0	B32656S8824+563	T3	40
		820	16.0 × 28.5 × 42.0	10	6.0	B32656S8824+564	T4	48
		820	16.0 × 28.5 × 42.0	10	6.0	B32656S8824+565	T5	48
		1000	18.0 × 32.5 × 42.0	11	6.0	B32656S8105+563	T3	36
		1000	18.0 × 32.5 × 42.0	11	6.0	B32656S8105+564	T4	32
		1000	18.0 × 32.5 × 42.0	11	6.0	B32656S8105+565	T5	32
		1200	18.0 × 32.5 × 42.0	11	5.0	B32656S8125+563	T3	36
		1200	18.0 × 32.5 × 42.0	11	5.0	B32656S8125+564	T4	32
		1200	18.0 × 32.5 × 42.0	11	5.0	B32656S8125+565	T5	32
		1500	31.0 × 26.5 × 43.6	13	5.0	B32656S8155+561	T1	32
		1500	31.0 × 26.5 × 43.6	13	5.0	B32656S8155+562	T2	32
		1500	31.0 × 26.5 × 43.6	13	5.0	B32656S8155+563	T3	18
		1800	28.0 × 37.0 × 42.0	15	4.5	B32656S8185+561	T1	27
		1800	28.0 × 37.0 × 42.0	15	4.5	B32656S8185+562	T2	27
		1800	28.0 × 37.0 × 42.0	15	4.5	B32656S8185+563	T3	18

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

J = ±5%


**B32656S**
**Snubbing (wound)**
**Electrical specifications, ordering codes and packing units**

$V_R$	$V_{rms}$ $f \leq 1\text{kHz}$	$C_R$	Max. dimensions $w \times h \times l$ mm	$I_{rms}$ 100 kHz A	ESR 100 kHz $m\Omega$	Ordering code (composition see below)	Ter- minal	pcs./ unit
VDC	VAC	nF						
850	450	2200	30.0 × 45.0 × 42.0	17	3.5	B32656S8225+561	T1	12
		2200	30.0 × 45.0 × 42.0	17	3.5	B32656S8225+562	T2	12
		2200	30.0 × 45.0 × 42.0	17	3.5	B32656S8225+563	T3	18

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

J =  $\pm 5\%$


**Electrical specifications, ordering codes and packing units**

$V_R$	$V_{rms}$ $f \leq 1 \text{ kHz}$	$C_R$	Max. dimensions $w \times h \times l$ mm	$I_{rms}$ 100 kHz A	ESR 100 kHz $m\Omega$	Ordering code (composition see below)	Ter- minal	pcs./ unit
VDC	VAC	nF						
1000	480	220	12.0 × 22.5 × 42.0	6	10.0	B32656S0224+563	T3	56
		220	12.0 × 22.5 × 42.0	6	10.0	B32656S0224+564	T4	96
		270	12.0 × 22.5 × 42.0	7	9.0	B32656S0274+563	T3	56
		270	12.0 × 22.5 × 42.0	7	9.0	B32656S0274+564	T4	96
		330	14.0 × 25.0 × 42.0	7	9.0	B32656S0334+563	T3	48
		330	14.0 × 25.0 × 42.0	7	9.0	B32656S0334+564	T4	72
		330	14.0 × 25.0 × 42.0	7	9.0	B32656S0334+565	T5	72
		390	14.0 × 25.0 × 42.0	8	8.0	B32656S0394+563	T3	48
		390	14.0 × 25.0 × 42.0	8	8.0	B32656S0394+564	T4	72
		390	14.0 × 25.0 × 42.0	8	8.0	B32656S0394+565	T5	72
		470	14.0 × 25.0 × 42.0	9	8.0	B32656S0474+563	T3	40
		470	14.0 × 25.0 × 42.0	9	8.0	B32656S0474+564	T4	48
		470	14.0 × 25.0 × 42.0	9	8.0	B32656S0474+565	T5	48
		560	16.0 × 28.5 × 42.0	9	7.0	B32656S0564+563	T3	40
		560	16.0 × 28.5 × 42.0	9	7.0	B32656S0564+564	T4	48
		560	16.0 × 28.5 × 42.0	9	7.0	B32656S0564+565	T5	48
		680	16.0 × 28.5 × 42.0	10	6.0	B32656S0684+563	T3	36
		680	16.0 × 28.5 × 42.0	10	6.0	B32656S0684+564	T4	32
		680	16.0 × 28.5 × 42.0	10	6.0	B32656S0684+565	T5	32
		820	18.0 × 32.5 × 42.0	11	6.0	B32656S0824+563	T3	36
		820	18.0 × 32.5 × 42.0	11	6.0	B32656S0824+564	T4	32
		820	18.0 × 32.5 × 42.0	11	6.0	B32656S0824+565	T5	32
		1000	20.0 × 39.5 × 42.0	12	6.0	B32656S0105+561	T1	24
		1000	20.0 × 39.5 × 42.0	12	6.0	B32656S0105+562	T2	24
		1000	20.0 × 39.5 × 42.0	12	6.0	B32656S0105+563	T3	26
		1000	20.0 × 39.5 × 42.0	12	6.0	B32656S0105+564	T4	24
		1000	20.0 × 39.5 × 42.0	12	6.0	B32656S0105+565	T5	24
		1200	20.0 × 39.5 × 42.0	13	5.0	B32656S0125+561	T1	24
		1200	20.0 × 39.5 × 42.0	13	5.0	B32656S0125+562	T2	24
		1200	20.0 × 39.5 × 42.0	13	5.0	B32656S0125+563	T3	26
		1200	20.0 × 39.5 × 42.0	13	5.0	B32656S0125+564	T4	24

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

J = ±5%


**B32656S**
**Snubbing (wound)**
**Electrical specifications, ordering codes and packing units**

$V_R$	$V_{rms}$ $f \leq 1\text{kHz}$ VAC	$C_R$ nF	Max. dimensions $w \times h \times l$ mm	$I_{rms}$ 100 kHz A	ESR 100 kHz $m\Omega$	Ordering code (composition see below)	Ter- minal	pcs./ unit
1000	480	1200	20.0 × 39.5 × 42.0	13	5.0	B32656S0125+565	T5	24
		1500	30.0 × 45.0 × 42.0	15	5.0	B32656S0155+561	T1	12
		1500	30.0 × 45.0 × 42.0	15	5.0	B32656S0155+562	T2	12
		1500	30.0 × 45.0 × 42.0	15	5.0	B32656S0155+563	T3	18
		1800	30.0 × 45.0 × 42.0	16	4.5	B32656S0185+561	T1	12
		1800	30.0 × 45.0 × 42.0	16	4.5	B32656S0185+562	T2	12
		1800	30.0 × 45.0 × 42.0	16	4.5	B32656S0185+563	T3	18

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

J = ±5%


**Electrical specifications, ordering codes and packing units**

$V_R$	$V_{rms}$ $f \leq 1\text{kHz}$	$C_R$	Max. dimensions $w \times h \times l$ mm	$I_{rms}$ 100 kHz A	ESR 100 kHz m $\Omega$	Ordering code (composition see below)	Ter- minal	pcs./ unit
VDC	VAC	nF						
1250	500	120	12.0 × 22.5 × 42.0	5	15.0	B32656S7124+563	T3	56
		120	12.0 × 22.5 × 42.0	5	15.0	B32656S7124+564	T4	96
		150	12.0 × 22.5 × 42.0	6	15.0	B32656S7154+563	T3	56
		150	12.0 × 22.5 × 42.0	6	15.0	B32656S7154+564	T4	96
		220	14.0 × 25.0 × 42.0	8	10.0	B32656S7224+563	T3	48
		220	14.0 × 25.0 × 42.0	8	10.0	B32656S7224+564	T4	72
		220	14.0 × 25.0 × 42.0	8	10.0	B32656S7224+565	T5	72
		270	14.0 × 25.0 × 42.0	8	9.0	B32656S7274+563	T3	48
		270	14.0 × 25.0 × 42.0	8	9.0	B32656S7274+564	T4	72
		270	14.0 × 25.0 × 42.0	8	9.0	B32656S7274+565	T5	72
		330	16.0 × 28.5 × 42.0	8	9.0	B32656S7334+563	T3	40
		330	16.0 × 28.5 × 42.0	8	9.0	B32656S7334+564	T4	48
		330	16.0 × 28.5 × 42.0	8	9.0	B32656S7334+565	T5	48
		390	18.0 × 32.5 × 42.0	9	8.0	B32656S7394+563	T3	36
		390	18.0 × 32.5 × 42.0	9	8.0	B32656S7394+564	T4	32
		390	18.0 × 32.5 × 42.0	9	8.0	B32656S7394+565	T5	32
		470	18.0 × 32.5 × 42.0	9	8.0	B32656S7474+563	T3	36
		470	18.0 × 32.5 × 42.0	9	8.0	B32656S7474+564	T4	32
		470	18.0 × 32.5 × 42.0	9	8.0	B32656S7474+565	T5	32
		560	20.0 × 39.5 × 42.0	10	7.0	B32656S7564+561	T1	24
		560	20.0 × 39.5 × 42.0	10	7.0	B32656S7564+562	T2	24
		560	20.0 × 39.5 × 42.0	10	7.0	B32656S7564+563	T3	26
		560	20.0 × 39.5 × 42.0	10	7.0	B32656S7564+564	T4	24
		560	20.0 × 39.5 × 42.0	10	7.0	B32656S7564+565	T5	24
		680	20.0 × 39.5 × 42.0	10	6.0	B32656S7684+561	T1	24
		680	20.0 × 39.5 × 42.0	10	6.0	B32656S7684+562	T2	24
		680	20.0 × 39.5 × 42.0	10	6.0	B32656S7684+563	T3	26
		680	20.0 × 39.5 × 42.0	10	6.0	B32656S7684+564	T4	24
		680	20.0 × 39.5 × 42.0	10	6.0	B32656S7684+565	T5	24
		820	28.0 × 37.0 × 42.0	11	6.0	B32656S7824+561	T1	27
		820	28.0 × 37.0 × 42.0	11	6.0	B32656S7824+562	T2	27

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

J = ±5%


**B32656S**
**Snubbing (wound)**
**Electrical specifications, ordering codes and packing units**

$V_R$	$V_{rms}$ $f \leq 1\text{kHz}$ VDC VAC	$C_R$ nF	Max. dimensions $w \times h \times l$ mm	$I_{rms}$ 100 kHz A	ESR 100 kHz $m\Omega$	Ordering code (composition see below)	Ter- minal	pcs./ unit
1250	500	820	28.0 × 37.0 × 42.0	11	6.0	B32656S7824+563	T3	18
		1000	28.0 × 37.0 × 42.0	13	6.0	B32656S7105+561	T1	27
		1000	28.0 × 37.0 × 42.0	13	6.0	B32656S7105+562	T2	27
		1000	28.0 × 37.0 × 42.0	13	6.0	B32656S7105+563	T3	18
		1200	30.0 × 45.0 × 42.0	14	5.0	B32656S7125+561	T1	12
		1200	30.0 × 45.0 × 42.0	14	5.0	B32656S7125+562	T2	12
		1200	30.0 × 45.0 × 42.0	14	5.0	B32656S7125+563	T3	18

Further E series and intermediate capacitance values on request.

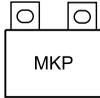
**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

J = ±5%


**Electrical specifications, ordering codes and packing units**

$V_R$	$V_{rms}$ $f \leq 1 \text{ kHz}$	$C_R$	Max. dimensions $w \times h \times l$ mm	$I_{rms}$ 100 kHz A	ESR 100 kHz $m\Omega$	Ordering code (composition see below)	Ter- minal	pcs./ unit
VDC	VAC	nF						
1600	750	68	12.0 × 22.5 × 42.0	5	25.0	B32656S1683+563	T3	56
		68	12.0 × 22.5 × 42.0	5	25.0	B32656S1683+564	T4	96
		100	12.0 × 22.5 × 42.0	6	20.0	B32656S1104+563	T3	56
		100	12.0 × 22.5 × 42.0	6	20.0	B32656S1104+564	T4	96
		120	14.0 × 25.0 × 42.0	6	15.0	B32656S1124+563	T3	48
		120	14.0 × 25.0 × 42.0	6	15.0	B32656S1124+564	T4	72
		120	14.0 × 25.0 × 42.0	6	15.0	B32656S1124+565	T5	72
		150	14.0 × 25.0 × 42.0	7	15.0	B32656S1154+563	T3	48
		150	14.0 × 25.0 × 42.0	7	15.0	B32656S1154+564	T4	72
		150	14.0 × 25.0 × 42.0	7	15.0	B32656S1154+565	T5	72
		220	16.0 × 28.5 × 42.0	9	10.0	B32656S1224+563	T3	40
		220	16.0 × 28.5 × 42.0	9	10.0	B32656S1224+564	T4	48
		220	16.0 × 28.5 × 42.0	9	10.0	B32656S1224+565	T5	48
		270	18.0 × 32.5 × 42.0	10	9.0	B32656S1274+563	T3	36
		270	18.0 × 32.5 × 42.0	10	9.0	B32656S1274+564	T4	32
		270	18.0 × 32.5 × 42.0	10	9.0	B32656S1274+565	T5	32
		330	20.0 × 39.5 × 42.0	10	9.0	B32656S1334+561	T1	24
		330	20.0 × 39.5 × 42.0	10	9.0	B32656S1334+562	T2	24
		330	20.0 × 39.5 × 42.0	10	9.0	B32656S1334+563	T3	26
		330	20.0 × 39.5 × 42.0	10	9.0	B32656S1334+564	T4	24
		330	20.0 × 39.5 × 42.0	10	9.0	B32656S1334+565	T5	24
		390	28.0 × 37.0 × 42.0	11	8.0	B32656S1394+561	T1	27
		390	28.0 × 37.0 × 42.0	11	8.0	B32656S1394+562	T2	27
		390	28.0 × 37.0 × 42.0	11	8.0	B32656S1394+563	T3	18
		470	28.0 × 37.0 × 42.0	12	8.0	B32656S1474+561	T1	27
		470	28.0 × 37.0 × 42.0	12	8.0	B32656S1474+562	T2	27
		470	28.0 × 37.0 × 42.0	12	8.0	B32656S1474+563	T3	18
		560	30.0 × 45.0 × 42.0	13	7.0	B32656S1564+561	T1	12
		560	30.0 × 45.0 × 42.0	13	7.0	B32656S1564+562	T2	12
		560	30.0 × 45.0 × 42.0	13	7.0	B32656S1564+563	T3	18
		680	30.0 × 45.0 × 42.0	14	6.0	B32656S1684K561	T1	12

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

J = ±5%


**B32656S**
**Snubbing (wound)**
**Electrical specifications, ordering codes and packing units**

$V_R$	$V_{rms}$ $f \leq 1\text{kHz}$	$C_R$	Max. dimensions $w \times h \times l$ mm	$I_{rms}$ 100 kHz A	ESR 100 kHz $m\Omega$	Ordering code (composition see below)	Ter- minal	pcs./ unit
VDC	VAC	nF						
1600	750	680	30.0 × 45.0 × 42.0	14	6.0	B32656S1684K562	T2	12
		680	30.0 × 45.0 × 42.0	14	6.0	B32656S1684K563	T3	18

Further E series and intermediate capacitance values on request.

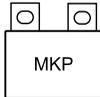
**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

J = ±5%


**Electrical specifications, ordering codes and packing units**

$V_R$	$V_{rms}$ $f \leq 1 \text{ kHz}$	$C_R$	Max. dimensions $w \times h \times l$ mm	$I_{rms}$ 100 kHz A	ESR 100 kHz m $\Omega$	Ordering code (composition see below)	Ter- minal	pcs./ unit
VDC	VAC	nF						
2000	800	47	12.0 × 22.5 × 42.0	5	35.0	B32656S2473+563	T3	56
		47	12.0 × 22.5 × 42.0	5	35.0	B32656S2473+564	T4	96
		68	14.0 × 25.0 × 42.0	6	25.0	B32656S2683+563	T3	48
		68	14.0 × 25.0 × 42.0	6	25.0	B32656S2683+564	T4	72
		68	14.0 × 25.0 × 42.0	6	25.0	B32656S2683+565	T5	72
		100	14.0 × 25.0 × 42.0	7	20.0	B32656S2104+563	T3	48
		100	14.0 × 25.0 × 42.0	7	20.0	B32656S2104+564	T4	72
		100	14.0 × 25.0 × 42.0	7	20.0	B32656S2104+565	T5	72
		120	16.0 × 28.5 × 42.0	7	15.0	B32656S2124+563	T3	40
		120	16.0 × 28.5 × 42.0	7	15.0	B32656S2124+564	T4	48
		120	16.0 × 28.5 × 42.0	7	15.0	B32656S2124+565	T5	48
		150	18.0 × 32.5 × 42.0	8	15.0	B32656S2154+563	T3	40
		150	18.0 × 32.5 × 42.0	8	15.0	B32656S2154+564	T4	48
		150	18.0 × 32.5 × 42.0	8	15.0	B32656S2154+565	T5	48
		220	20.0 × 39.5 × 42.0	10	10.0	B32656S2224+561	T1	24
		220	20.0 × 39.5 × 42.0	10	10.0	B32656S2224+562	T2	24
		220	20.0 × 39.5 × 42.0	10	10.0	B32656S2224+563	T3	26
		220	20.0 × 39.5 × 42.0	10	10.0	B32656S2224+564	T4	24
		220	20.0 × 39.5 × 42.0	10	10.0	B32656S2224+565	T5	24
		270	28.0 × 37.0 × 42.0	11	9.0	B32656S2274+561	T1	27
		270	28.0 × 37.0 × 42.0	11	9.0	B32656S2274+562	T2	27
		270	28.0 × 37.0 × 42.0	11	9.0	B32656S2274+563	T3	18
		330	28.0 × 37.0 × 42.0	12	9.0	B32656S2334+561	T1	27
		330	28.0 × 37.0 × 42.0	12	9.0	B32656S2334+562	T2	27
		330	28.0 × 37.0 × 42.0	12	9.0	B32656S2334+563	T3	18
		390	30.0 × 45.0 × 42.0	13	8.0	B32656S2394+561	T1	12
		390	30.0 × 45.0 × 42.0	13	8.0	B32656S2394+562	T2	12
		390	30.0 × 45.0 × 42.0	13	8.0	B32656S2394+563	T3	18
		470	30.0 × 45.0 × 42.0	15	8.0	B32656S2474+561	T1	12
		470	30.0 × 45.0 × 42.0	15	8.0	B32656S2474+562	T2	12
		470	30.0 × 45.0 × 42.0	15	8.0	B32656S2474+563	T3	18

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

J = ±5%


**B32656S**
**Snubbing (wound)**
**Technical data**

Operating temperature range	Max. operating temperature $T_{op,max}$		+100 °C	
	Upper category temperature $T_{max}$		+100 °C	
	Lower category temperature $T_{min}$		-55 °C	
	Rated temperature $T_R$		+85 °C	
Dissipation factor $\tan \delta$ (in $10^{-3}$ ) at 20 °C (upper limit values)	at	$C_R \leq 0.1 \mu F$	$0.1 \mu F < C_R \leq 1 \mu F$	$C_R > 1 \mu F$
	1 kHz	—	0.5	0.5
	10 kHz	—	0.8	1.5
	100 kHz	5.0	—	—
Insulation resistance $R_{ins}$ or time constant $\tau = C_R \cdot R_{ins}$ at 20 °C, rel. humidity $\leq 65\%$ (minimum as-delivered values)	$C_R \leq 0.33 \mu F$		$C_R > 0.33 \mu F$	
	100 G $\Omega$		30000 s	
DC test voltage	$1.6 \cdot V_R, 2 s$			
Category voltage $V_C$ (continuous operation with $V_{DC}$ or $V_{AC}$ at $f \leq 1 kHz$ )	$T_A$ (°C)	DC voltage derating		AC voltage derating
	$T_A \leq 85$ $85 < T_A \leq 100$	$V_C = V_R$ $V_C = V_R \cdot (165 - T_A) / 80$		$V_{C,rms} = V_{rms}$ $V_{C,rms} = V_{rms} \cdot (165 - T_A) / 80$
Operating voltage $V_{op}$ for short operating periods ( $V_{DC}$ or $V_{AC}$ at $f \leq 1 kHz$ )	$T_A$ (°C)	DC voltage (max. hours)		AC voltage (max. hours)
	$T_A \leq 85$ $85 < T_A \leq 100$	$V_{op} = 1.25 \cdot V_C$ (2000 h) $V_{op} = 1.25 \cdot V_C$ (1000 h)		$V_{op} = 1.0 \cdot V_{C,rms}$ (2000 h) $V_{op} = 1.0 \cdot V_{C,rms}$ (1000 h)
Damp heat test Limit values after damp heat test	56 days/40 °C/93% relative humidity			
	Capacitance change $ \Delta C/C $		$\leq 3\%$	
	Dissipation factor change $\Delta \tan \delta$		$\leq 0.5 \cdot 10^{-3}$ (at 1 kHz) $\leq 1.0 \cdot 10^{-3}$ (at 10 kHz)	
	Insulation resistance $R_{ins}$ or time constant $\tau = C_R \cdot R_{ins}$		$\geq 50\%$ of minimum as-delivered values	
Reliability: Failure rate $\lambda$ Service life $t_{SL}$	1 fit ( $\leq 1 \cdot 10^{-9}/h$ ) at $0.5 \cdot V_R, 40$ °C 200 000 h at $1.0 \cdot V_R, 40$ °C For conversion to other operating conditions and temperatures, refer to chapter "Quality assurance", page .			
Failure criteria: Total failure Failure due to variation of parameters	Short circuit or open circuit			
	Capacitance change $ \Delta C/C $		$> 10\%$	
	Dissipation factor $\tan \delta$		$> 4 \cdot$ upper limit value	
	Insulation resistance $R_{ins}$ or time constant $\tau = C_R \cdot R_{ins}$		$< 1500 M\Omega$ ( $C_R \leq 0.33 \mu F$ ) $< 500 s$ ( $C_R > 0.33 \mu F$ )	



**Pulse handling capability**

"dV/dt" represents the maximum permissible voltage change per unit of time for non-sinusoidal voltages, expressed in V/μs.

"k<sub>0</sub>" represents the maximum permissible pulse characteristic of the waveform applied to the capacitor, expressed in V<sup>2</sup>/μs.

*Note:*

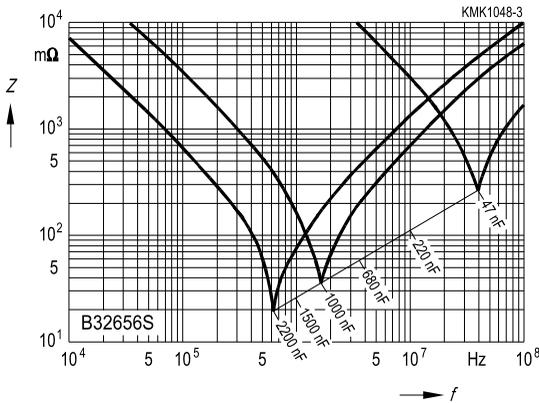
*The values of dV/dt and k<sub>0</sub> provided below must not be exceeded in order to avoid damaging the capacitor.*

**dV/dt and k<sub>0</sub> values**

V <sub>R</sub> (VDC)	V <sub>rms</sub> (VAC)	dV/dt in V/μs	k <sub>0</sub> in V <sup>2</sup> /μs
850	450	400	680 000
1000	480	450	900 000
1250	500	500	1 250 000
1600	750	600	1 920 000
2000	800	700	2 800 000

**Impedance Z versus frequency f**

(typical values)





**B32656S**

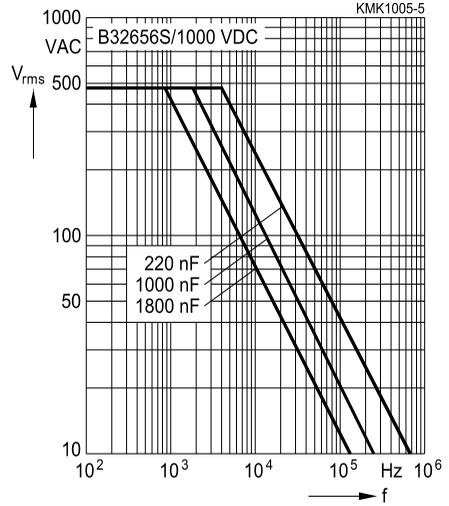
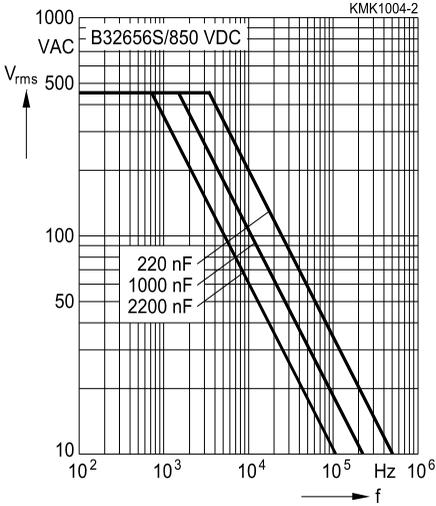
**Snubbing (wound)**

**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 90^\circ C$ )**

For  $T_A > 90^\circ C$ , please refer to "General technical information", section 3.2.3.

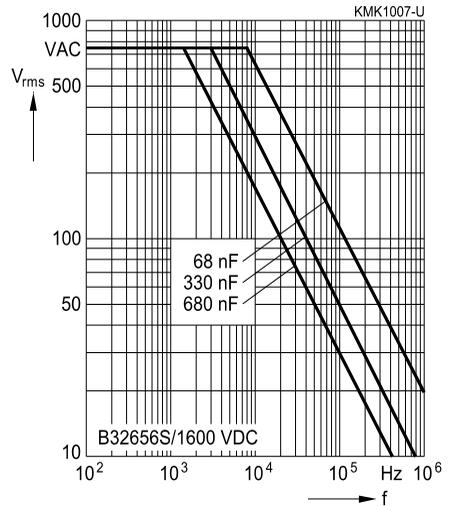
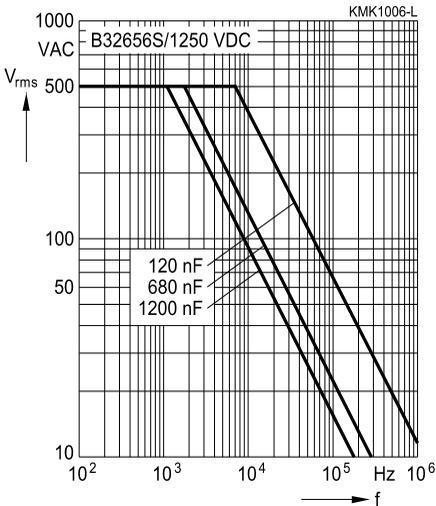
**850 VDC/450 VAC**

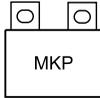
**1000 VDC/480 VAC**



**1250 VDC/500 VAC**

**1600 VDC/750 VAC**





**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 90^\circ\text{C}$ )**

For  $T_A > 90^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

2000 VDC/800 VAC

