Capacitors for Power Electronics

Series/Type: **B25839**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B25839C6684M000		2002-12-06	2002-06-30	
B25839K6474M000		2002-12-06	2002-06-30	
B25839C6474M000		2002-12-06	2002-06-30	
B25839K6334M000		2002-12-06	2002-06-30	
B25839C6334M000		2002-12-06	2002-06-30	
B25839K6224M000		2002-12-06	2002-06-30	
B25839C6224M000		2002-12-06	2002-06-30	
B25839K6104M000		2002-12-06	2002-06-30	
B25839C6104M000		2002-12-06	2002-06-30	

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.

Overvoltage proof
High rate of voltage rise permitted
Also suitable for general-purpose applications

Construction

- Self-healing
- Plastic dielectric
- Oil-impregnated tubular windings (no PCB)
- Metal-sprayed end faces ensure reliable contacting
- Cylindrical aluminum case with insulating sleeve

Terminals

- Central axial leads

Individual data sheets

Individual capacitors of this series are specified in detail
(incl. thermal data) on pages 210 … 213.
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	$\tan \delta_0$	$2 \cdot 10^{-4}$
Max. repetitive rate of voltage rise	$(du/dt)_{max}$	$\frac{\hat{i}}{C}$
Max. non-repetitive rate of voltage rise	$(du/dt)_s$	$\frac{I_s}{C}$
Climatic data:		
Min. operating temperature	Θ_{min}	– 25 °C
Max. operating temperature	Θ_{max}	+ 85 °C
Average relative humidity		≤ 95 % (B 25 839-K) ≤ 75 % (B 25 839-C)
Failure quota	$\alpha_{FQ(co)}$	100 failures per 10^9 component hours (B 25 839-K) 1000 failures per 10^9 component hours (B 25 839-C)
Load duration	$t_{LD(co)}$	100 000 h
Storage temperature limit	Θ_{stg}	– 55/+ 85 °C
IEC climatic category (IEC 68-1 and 2)		25/085/56
Test A, cold		– 25 °C
Test B, dry heat		+ 85 °C
Test Ca, damp heat, steady state		56 days/40 °C/93 % rel. humidity
Values after test Ca:		
Capacitance change	$\Delta C/C$	≤ 1 %
		B 25 839-K / B 25 839-C
Insulation resistance	R_{is}	≥ 10000 MΩ / ≥ 1000 MΩ
Dissipation factor change	$\Delta \tan \delta$	$\leq 1 \cdot 10^{-4}$ / $\leq 3 \cdot 10^{-4}$
Test data:		
AC test voltage between terminals	U_{TT}	1,25 · U_N, 50 Hz, 10 s (or DC 1,75 · U_N, 10 s)
		B 25 839-K / B 25 839-C
Insulation resistance	R_{is}	≥ 10000 MΩ / ≥ 3000 MΩ
Dissipation factor (50 Hz)	$\tan \delta$	$\leq 3 \cdot 10^{-4}$

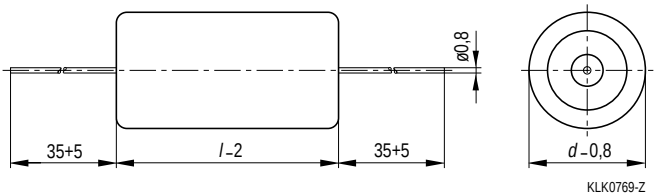
Characteristics and ordering codes

C_N[1)]	I_{max}	$\hat{i}$	I_s	R_S 20 °C	L_{self}	Dimensions $d \times l$	Appr. weight	Ordering code	Pg.
µF	A	A	A	mΩ	nH	mm	g		
U_N = AC 700 V		$\hat{u}$ = 880 V				u_s = 1200 V		U_{TT} = AC 880 V, 10 s	
0,10	6	55	140	30,0	30	16,8 × 32	10	B25839-C6104-M000	
0,10	6	55	140	28,0	30	16,0 × 32	10	B25839-K6104-M000	
0,22	6	65	170	38,0	40	16,8 × 44	20	B25839-C6224-M000	
0,22	6	120	310	15,0	30	20,5 × 32	20	B25839-K6224-M000	
0,33	10	100	250	28,0	40	20,8 × 44	20	B25839-C6334-M000	
0,33	10	130	330	16,0	30	25,0 × 38	30	B25839-K6334-M000	
0,47	10	140	350	22,0	40	20,8 × 44	20	B25839-C6474-M000	
0,47	10	190	470	13,0	40	25,0 × 38	30	B25839-K6474-M000	210
0,68	10	95	240	54,0	60	20,8 × 75	30	B25839-C6684-M000	
1,00	10	150	380	39,0	60	20,8 × 75	30	B25839-C6105-K000	212

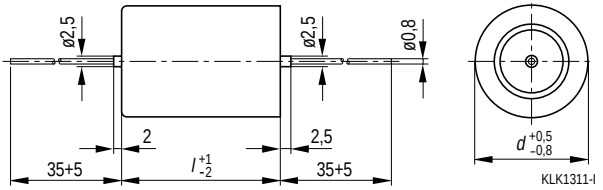
1) Capacitance tolerances: For C_N < 1,0 µF ± 20 %, for C_N ≥ 1,0 µF ± 10 %

Dimensional drawings

B 25 839-C



B 25 839-K

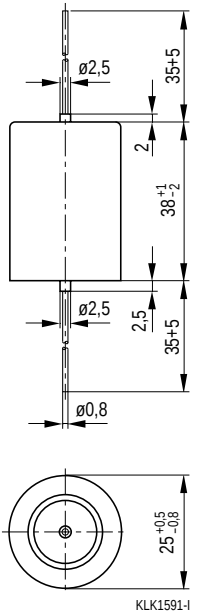


Dimensions in mm

Type	*d*	*l*	Creepage distance	Clearance
B 25 839-C	16,8	32	4,5	4,5
	16,8	44	4,5	4,5
	20,8	44	6,5	6,5
	20,8	75	6,5	6,5
B 25 839-K	16,0	32	4	4
	20,5	32	6	6
	25,0	38	6	6

0,47 µF / 700 Vac

Ordering code: B25839-K6474-M000



Characteristics

C_N, tol.	0,47 µF ± 10 %
U_N	AC 700 V
I_{max}	10 A
L_{self}	40 nH
tan δ_0	$2 \cdot 10^{-4}$
R_S	13 mΩ

Maximum ratings

$\hat{u}$	880 V
u_s	1200 V
$\hat{\imath}$	190 A
I_s	470 A
$(du/dt)_{max}$	400 V/µs
$(du/dt)_s$	1000 V/µs

Test data

U_{TT}	AC 880 V, 10 s
R_{is}	≥ 10000 MΩ
tan δ (50 Hz)	$\leq 3 \cdot 10^{-4}$

Climatic data

Θ_{min}	– 25 °C
Θ_{max}	+ 85 °C
Humidity	Average relative humidity ≤ 95 %
$\alpha_{FQ(co)}$	$100/10^9$ h
$t_{LD(co)}$	100000 h
Θ_{stg}	– 55 to + 85 °C

IEC climatic category: 25/085/56

(IEC 68-1 and 2)

Θ_{test}	+ 40 °C
Rel. humidity	93 %
t_{test}	56 days
$\Delta C/C$	≤ 1 %
Δ tan δ	$\leq 1 \cdot 10^{-4}$
R_{is}	≥ 10000 MΩ

Design data

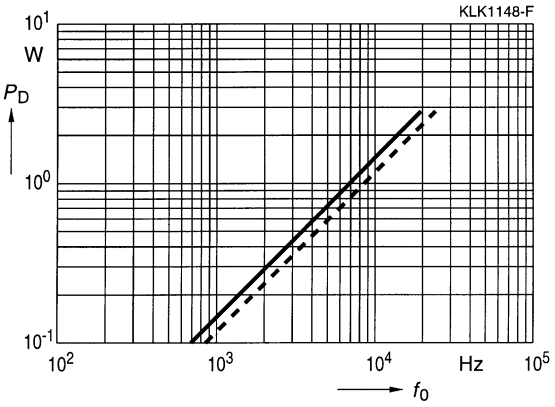
Dimensions ∅ × *l*	25 mm × 38 mm
Approx. weight	30 g
Impregnation	Oil
Terminals	Leads
Creepage distance	6 mm
Clearance	6 mm

Thermal data

B25839-K6474-M000

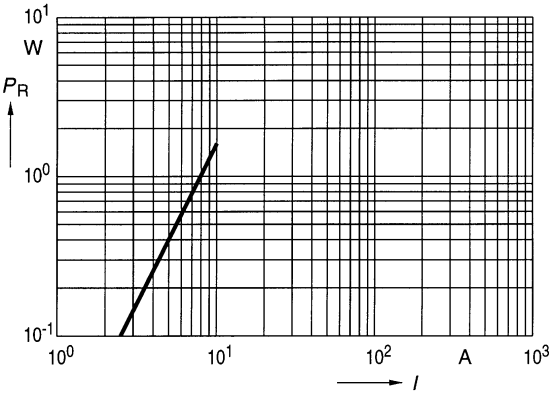
Dielectric power dissipation P_D versus repetition frequency f_0

$\hat{u}_{ac}$ = 700 V ————————
$\hat{u}_{ac}$ = 630 V ----------



Ohmic power dissipation P_R versus rms current value I

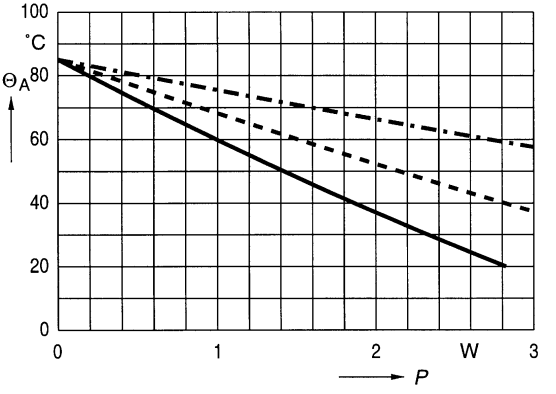
R_S (85 °C) = 16 mΩ



Permissible ambient temperature Θ_A versus total power dissipation P

(Upright mounting position)

Natural cooling ————————
Forced cooling 2 m/s ----------
Permissible capacitor temperature -·-·-·-·-·-·-



1 µF / 700 Vac

Ordering code: B25839-C6105-K000

Characteristics

C_N, tol.	1 µF ± 10 %
U_N	AC 700 V
I_{max}	10 A
L_{self}	60 nH
tan δ_0	$2 \cdot 10^{-4}$
R_S	39 mΩ

Maximum ratings

$\hat{u}$	880 V
u_s	1200 V
$\hat{\imath}$	150 A
I_s	380 A
$(du/dt)_{max}$	150 V/µs
$(du/dt)_s$	380 V/µs

Test data

U_{TT}	AC 880 V, 10 s
R_{is}	≥ 3000 MΩ
tan δ (50 Hz)	$\leq 3 \cdot 10^{-4}$

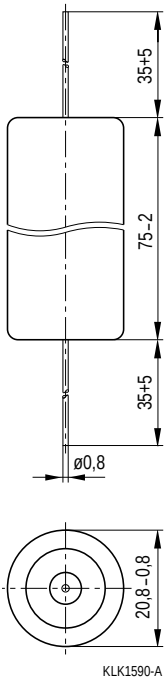
Climatic data

Θ_{min}	– 25 °C
Θ_{max}	+ 85 °C
Humidity	Average relative humidity ≤ 75 %
$\alpha_{FQ(co)}$	$1000/10^9$ h
$t_{LD(co)}$	100000 h
Θ_{stg}	– 55 to + 85 °C

IEC climatic category: 25/085/56

(IEC 68-1 and 2)

Θ_{test}	+ 40 °C
Rel. humidity	93 %
t_{test}	56 days
$\Delta C/C$	≤ 1 %
Δ tan δ	$\leq 3 \cdot 10^{-4}$
R_{is}	≥ 1000 MΩ

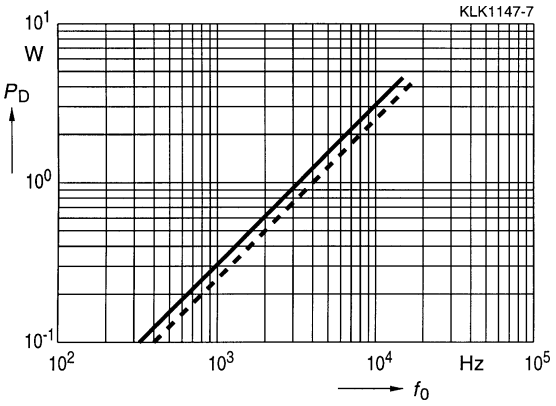


Design data

Dimensions ∅ × l	20,8 mm × 75 mm
Approx. weight	30 g
Impregnation	Oil
Terminals	Leads
Creepage distance	6,5 mm
Clearance	6,5 mm

Thermal data

B25839-C6105-K000



Dielectric power dissipation P_D versus repetition frequency f_0

$\hat{u}_{ac}$ = 700 V ——————
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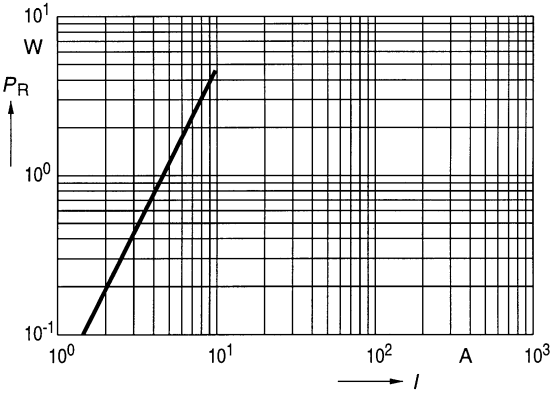
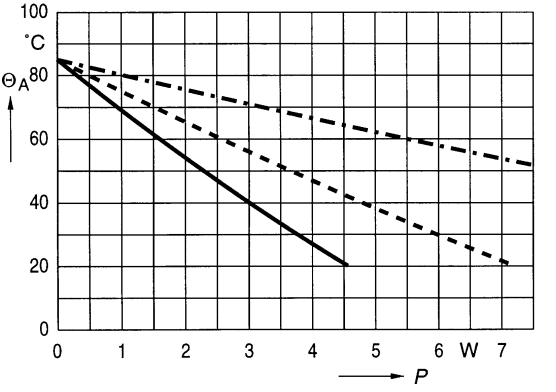


Ohmic power dissipation P_R versus rms current value I

R_S (85 °C) = 48 mΩ



Permissible ambient temperature Θ_A versus total power dissipation P

(Upright mounting position)

Natural cooling ——————
Forced cooling 2 m/s ----------
Permissible capacitor temperature -·-·-·-·-·-·-