

Compact design
Long-term stability and reliability
For commutation in the low-frequency range

Construction

- Self-healing
- Plastic dielectric
- Oil-impregnated tubular windings (no PCB)
- Metal-sprayed end faces ensure reliable contacting
- Cylindrical aluminum case
- Ceramic or plastic lead-throughs
- Mounting bolts M8 or M12

Terminals

- Tab connectors 6,3 mm
- Dual tab connectors 6,3 mm

Mounting parts

- If the vibration stress is $\leq 5 g$ and the capacitors are ≤ 60 mm in diameter, the bolt is used for mounting.
- In case of a vibration stress $> 5 g$ as well as for larger-sized capacitors refer to chapter "Mounting parts".

Grounding

- Mounting bolts for grounding in accordance with VDE 0100
- Grounding identification in accordance with DIN 40 011

Overpressure disconnecter (mechanical)

When the overpressure disconnecter responds, the capacitor extends by up to 8 mm in the length. So leave sufficient space above the terminals when mounting the capacitor.

Individual data sheets

Individual capacitors of this series are specified in detail (incl. thermal data) [on pages 118 ... 127](#). 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		≤ 75 %	
Failure quota	$\alpha_{FQ(co)}$	1000 failures per 10^9 component hours	
Load duration	$t_{LD(co)}$	30 000 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 %	
		C_N	Dual tab connector 6,3 Tab connector 6,3
Insulation resistance	R_{is}	≤ 1 μF	≥ 3000 MΩ
Self-discharge time constant $\tau =$	$R_{is} \cdot C$	> 1 μF	≥ 3000 s
Dissipation factor change	$\Delta \tan \delta$	≤ $3 \cdot 10^{-4}$	
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)	
between terminals and case	U_{TC}	2 · U_i + 1000 V, 50 Hz, 10 s	
Insulation resistance	R_{is}	≤ 1 μF: ≥ 3000 MΩ	
Self-discharge time constant $\tau =$	$R_{is} \cdot C$	> 1 μF: ≥ 3000 s	
Dissipation factor	$\tan \delta$	≤ $3 \cdot 10^{-4}$	

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General AC Applications

Available ratings

U_N (V)	AC	640	930	
C_N (μ F)				
1,0				
1,5				
1,6				
2,0				
2,2				
2,5				
3,0				
3,3				
4,0				
4,7				
5,0				
5,5				
6,0				
6,8				
7,0				
8,0				
10				
12				
14				
15				
16				
18				
20				
22				
25				
30				
33				
40				
47				
50				

 Data book range

 Upon request

Characteristics and ordering codes

$C_N^{1)}$	I_{max}	\hat{i}	I_s	R_S 20 °C	L_{self}	Dimensions $d \times l$	Fig.	Appr. weight	Ordering code	Pg.
μF	A	A	A	m Ω	nH	mm		g		
$U_N = AC 640 V$			$U_l = AC 570 V$			$\hat{u} = 800 V$		$U_{TT} = AC 800 V, 10 s$		
						$u_s = 1100 V$		$U_{TC} = AC 2200 V, 10 s$		
1,0	10	40	100	24,0	50	25 × 48	3	30	B25832-F4105-K001	118
1,5	10	25	60	54,0	90	25 × 80	3	50	B25832-F4155-K001	
1,6	16	60	160	16,0	50	30 × 48	4	50	B25832-F4165-K001	
2,0	16	80	200	13,0	50	30 × 48	4	50	B25832-F4205-K001	
2,2	10	35	90	39,0	90	25 × 80	3	50	B25832-F4225-K001	
2,5	16	100	250	12,0	50	35 × 48	5	60	B25832-F4255-K001	
3,0	10	50	120	30,0	90	25 × 80	3	50	B25832-F4305-K001	
3,0	16	120	300	11,0	50	35 × 48	5	60	B25832-F4305-K011	
3,3	10	50	130	28,0	90	25 × 80	3	50	B25832-F4335-K001	
4,0	16	60	160	24,0	90	30 × 80	4	70	B25832-F4405-K001	
4,7	16	75	190	21,0	90	30 × 80	4	70	B25832-F4475-K001	
5,0	16	80	200	20,0	90	30 × 80	4	70	B25832-F4505-K001	
6,0	18	240	600	5,6	70	45 × 57	1	110	B25832-C4605-K009	120
6,8	16	110	270	17,0	90	35 × 80	5	100	B25832-F4685-K001	
7,0	16	110	280	16,0	90	35 × 80	5	100	B25832-F4705-K001	
8,0	18	130	320	12,0	90	40 × 86	1	130	B25832-C4805-K009	
10	18	160	400	10,0	90	40 × 86	1	130	B25832-C4106-K009	
12	18	190	480	9,4	90	45 × 86	1	160	B25832-C4126-K009	
14	18	220	560	8,6	90	50 × 86	1	200	B25832-C4146-K009	
15	18	240	600	8,1	90	50 × 86	1	200	B25832-C4156-K009	
16	18	260	640	7,8	90	50 × 86	1	200	B25832-C4166-K009	
20	18	320	800	7,0	90	55 × 86	1	250	B25832-C4206-K009	
22	18	350	880	6,7	90	60 × 86	1	300	B25832-C4226-K009	
25	18	400	1000	6,2	90	60 × 86	1	300	B25832-C4256-K009	
30	18	480	1200	6,8	140	50 × 156	1	370	B25832-C4306-K009	
33	18	530	1300	6,6	140	50 × 156	1	370	B25832-C4336-K009	
40	18	640	1600	6,2	140	55 × 156	1	450	B25832-C4406-K009	
47	18	750	1900	6,1	140	60 × 156	1	550	B25832-C4476-K009	122
50	18	800	2000	5,9	140	60 × 156	1	550	B25832-C4506-K009	

1) Capacitance tolerance $\pm 10 \%$

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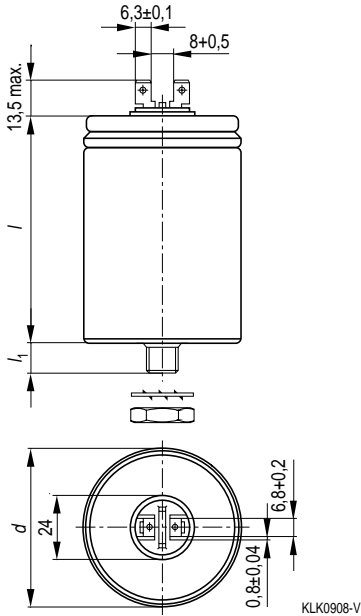
General AC Applications

Characteristics and ordering codes

$C_N^{1)}$	I_{\max}	\hat{i}	I_s	R_S 20 °C	L_{self}	Dimensions $d \times l$	Fig.	Appr. weight	Ordering code	Pg.
μF	A	A	A	m Ω	nH	mm		g		
$U_N = \text{AC } 930 \text{ V}$			$U_l = \text{AC } 850 \text{ V}$			$\hat{u} = 1200 \text{ V}$		$U_{\text{TT}} = \text{AC } 1200 \text{ V}, 10 \text{ s}$		
						$u_s = 1600 \text{ V}$		$U_{\text{TC}} = \text{AC } 2700 \text{ V}, 10 \text{ s}$		
1,5	10	45	110	33,0	90	30 × 80	4	70	B25832-F6155-K001	124
2,0	10	60	150	26,0	90	30 × 80	4	70	B25832-F6205-K001	
2,5	16	75	190	22,0	90	35 × 80	5	100	B25832-F6255-K001	
3,0	18	90	230	17,0	90	40 × 86	1	130	B25832-C6305-K009	126
4,0	18	120	300	14,0	90	40 × 86	1	130	B25832-C6405-K009	
5,0	18	150	380	12,0	90	45 × 86	1	160	B25832-C6505-K009	
5,5	18	170	410	11,0	90	45 × 86	1	160	B25832-C6555-K009	
6,0	18	180	450	10,0	90	50 × 86	1	200	B25832-C6605-K009	
7,0	18	210	530	9,2	90	50 × 86	1	200	B25832-C6705-K009	
8,0	18	240	600	8,5	90	55 × 86	1	250	B25832-C6805-K009	
10	18	300	750	7,5	90	60 × 86	1	300	B25832-C6106-K009	
12	18	360	900	6,7	90	60 × 86	1	300	B25832-C6126-K009	
15	18	450	1100	7,0	110	79,2 × 104	2	600	B25832-C6156-K009	
18	18	540	1400	6,5	110	79,2 × 104	2	600	B25832-C6186-K009	
20	18	600	1500	6,3	110	89,3 × 104	2	800	B25832-C6206-K009	
22	18	660	1700	6,2	110	89,3 × 104	2	800	B25832-C6226-K009	

1) Capacitance tolerance $\pm 10 \%$

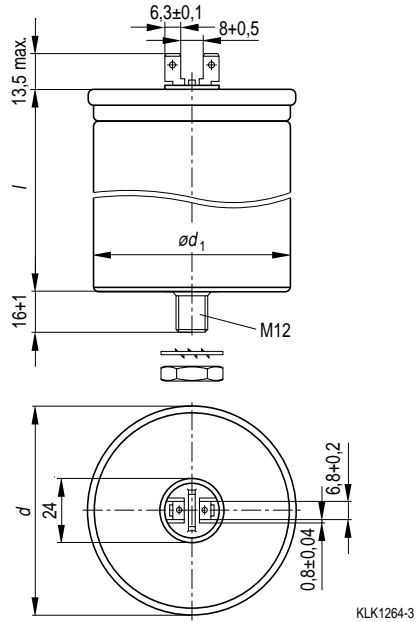
Dimensional drawing 1
 Dual tab connectors 6,3 mm



Dimensions in mm

$d^{+0,5}_{-0,2}$	l^{+1}_2	$l_1+1^*)$	Creepage distance	Clearance
40	86	8	7	5
45	57	8		
45	86	8		
50	86	12		
50	156	12		
55	86	12		
55	156	12		
60	86	12		
60	156	12		

Dimensional drawing 2
 Dual tab connectors 6,3 mm



Dimensions in mm

$d-1,2$	$l-4$	$\varnothing d_1-0,4$	Creepage distance	Clearance
79,2	104	75,2	7	5
89,3	104	85,2		

*) 8 mm = threaded bolt M8
 12 mm = threaded bolt M12

Mounting parts (included in delivery)

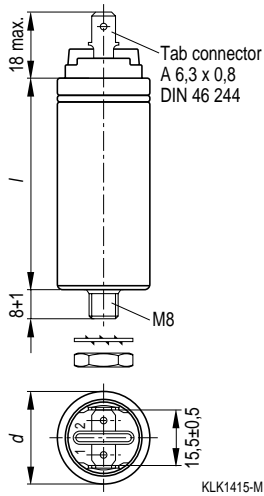
Threaded bolt	Max. torque	Toothed washer	Hex nut
M8	4 Nm	J 8,2 DIN 6797	M 8 ISO 4035
M12	10 Nm	J 12,5 DIN 6797	M12 ISO 4035

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General AC Applications

Dimensional drawing 3

Tab connectors 6,3 mm

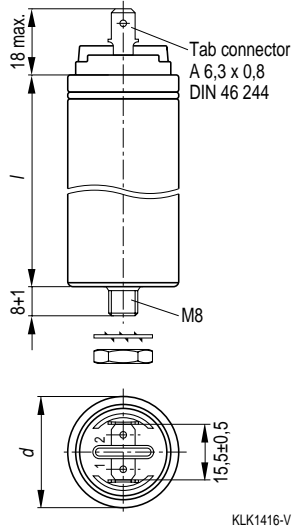


Dimensions in mm

$d^{+0,5}_{-0,2}$	$l \pm 2$	Creepage distance	Clearance
25	48	9	7
25	80		

Dimensional drawing 4

Tab connectors 6,3 mm



Dimensions in mm

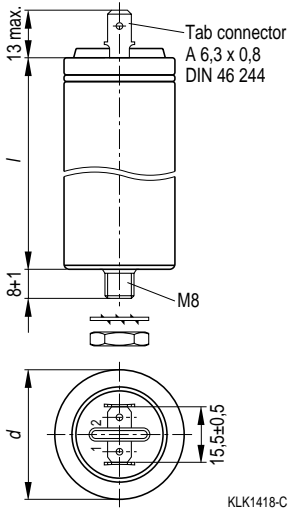
$d^{+0,5}_{-0,2}$	$l \pm 2$	Creepage distance	Clearance
30	48	9	7
30	80		

Mounting parts (included in delivery)

Threaded bolt	Max. torque	Toothed washer	Hex nut
M8	4 Nm	J 8,2 DIN 6797	M8 ISO 4035

Dimensional drawing 5

Tab connectors 6,3 mm



Dimensions in mm

$d^{+0,5}_{-0,2}$	$l \pm 2$	Creepage distance	Clearance
35	48	6	6
35	80		

Mounting parts (included in delivery)

Threaded bolt	Max. torque	Toothed washer	Hex nut
M8	4 Nm	J 8,2 DIN 6797	M8 ISO 4035

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General AC Applications

1 μF / 640 Vac

Ordering code: B25832-F4105-K001

Characteristics

C_N , tol.	1 $\mu\text{F} \pm 10\%$
U_N	AC 640 V
U_i	AC 570 V
I_{max}	10 A
L_{self}	50 nH
$\tan \delta_0$	$2 \cdot 10^{-4}$
R_S	24 m Ω

Maximum ratings

\hat{u}	800 V
u_s	1100 V
\hat{i}	40 A
I_s	100 A
$(du/dt)_{\text{max}}$	40 V/ μs
$(du/dt)_s$	100 V/ μs

Test data

U_{TT}	AC 800 V, 10 s
U_{TC}	AC 2200 V, 10 s
R_{is}	$\geq 3000 \text{ M}\Omega$
$\tan \delta$ (50 Hz)	$\leq 3 \cdot 10^{-4}$

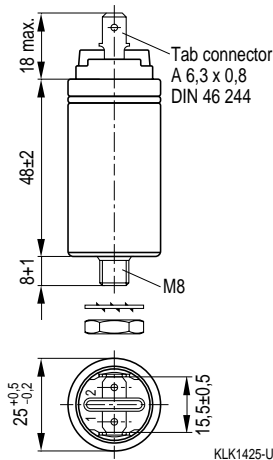
Climatic data

Θ_{min}	- 25 °C
Θ_{max}	+ 85 °C
Humidity	Average relative humidity $\leq 75\%$
$\alpha_{FQ(\text{co})}$	1000/10 ⁹ h
$t_{LD(\text{co})}$	30000 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
$\Delta C/C$	$\leq 1\%$
$\Delta \tan \delta$	$\leq 3 \cdot 10^{-4}$
R_{is}	$\geq 1000 \text{ M}\Omega$



Design data

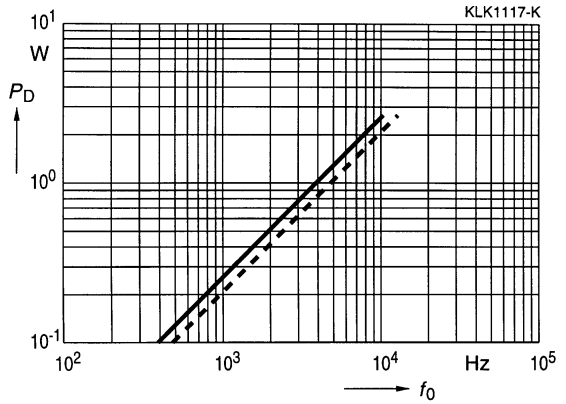
Dimensions $\varnothing \times l$	25 mm \times 48 mm
Approx. weight	30 g
Impregnation	Oil
Fixing	Threaded bolt M8
Mounting hole	9,5 mm
Max. torque	4 Nm
Terminals	Tab connector 6,3 mm
Terminal cross section	1 mm ²
Creepage distance	9 mm
Clearance	7 mm
Overpressure disconnector	

Thermal data

B25832-F4105-K001

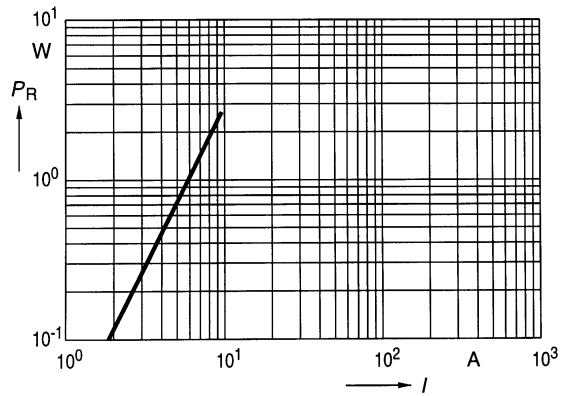
Dielectric power dissipation P_D
versus repetition frequency f_0

$\hat{u}_{ac} = 640 \text{ V}$ —————
 $\hat{u}_{ac} = 576 \text{ V}$ - - - - -



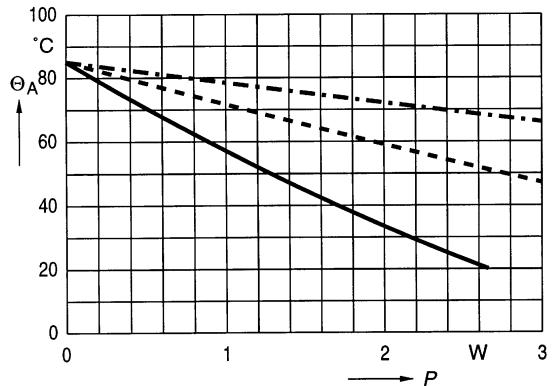
Ohmic power dissipation P_R
versus rms current value I

$R_S (85 \text{ }^\circ\text{C}) = 29 \text{ m}\Omega$



Permissible ambient temperature Θ_A
versus total power dissipation P
(Upright mounting position)

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



B 25 832

General AC Applications

6,8 μF / 640 Vac

Ordering code: B25832-F4685-K001

Characteristics

C_N , tol.	6,8 μF \pm 10 %
U_N	AC 640 V
U_i	AC 570 V
I_{max}	16 A
L_{self}	90 nH
$\tan \delta_0$	$2 \cdot 10^{-4}$
R_S	17 m Ω

Maximum ratings

\hat{u}	800 V
u_s	1100 V
\hat{i}	110 A
I_s	270 A
$(du/dt)_{\text{max}}$	16 V/ μs
$(du/dt)_s$	40 V/ μs

Test data

U_{TT}	AC 800 V, 10 s
U_{TC}	AC 2200 V, 10 s
$R_{is} \cdot C$	≥ 3000 s
$\tan \delta$ (50 Hz)	$\leq 3 \cdot 10^{-4}$

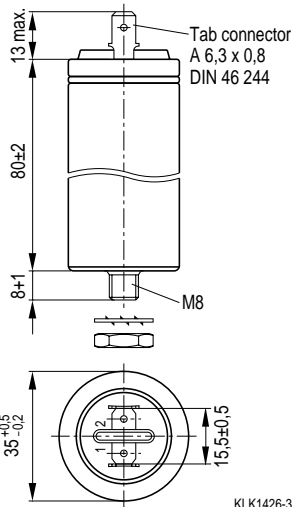
Climatic data

Θ_{min}	- 25 $^{\circ}\text{C}$
Θ_{max}	+ 85 $^{\circ}\text{C}$
Humidity	Average relative humidity ≤ 75 %
$\alpha_{\text{FQ}}(\text{co})$	$1000/10^9$ h
$t_{\text{LD}}(\text{co})$	30000 h
Θ_{stg}	- 55 to + 85 $^{\circ}\text{C}$

IEC climatic category: 25/085/56

(IEC 68-1 and 2)

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



Design data

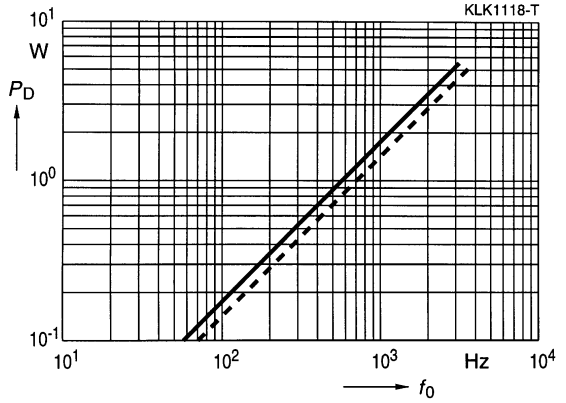
Dimensions $\varnothing \times l$	35 mm \times 80 mm
Approx. weight	100 g
Impregnation	Oil
Fixing	Threaded bolt M8
Mounting hole	9,5 mm
Max. torque	4 Nm
Terminals	Tab connector 6,3 mm
Terminal cross section	1 mm ²
Creepage distance	6 mm
Clearance	6 mm
Overpressure disconnector	

Thermal data

B25832-F4685-K001

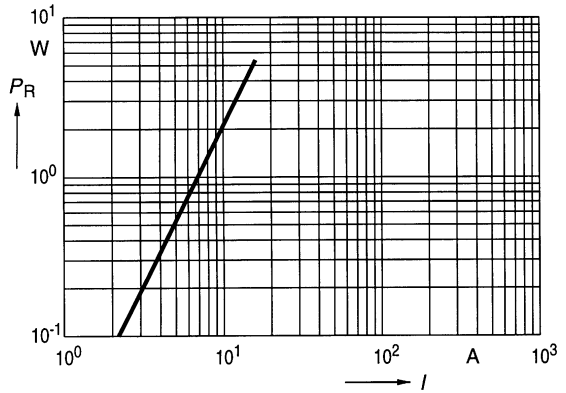
Dielectric power dissipation P_D
 versus repetition frequency f_0

$\hat{u}_{ac} = 640 \text{ V}$ —————
 $\hat{u}_{ac} = 576 \text{ V}$ - - - - -



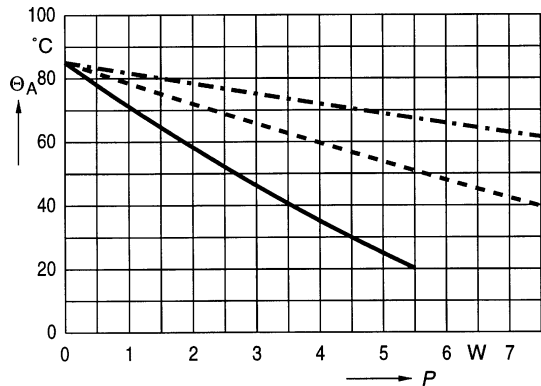
Ohmic power dissipation P_R
 versus rms current value I

$R_S (85 \text{ }^\circ\text{C}) = 21 \text{ m}\Omega$



Permissible ambient temperature Θ_A
 versus total power dissipation P
 (Upright mounting position)

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



B 25 832

General AC Applications

47 μ F / 640 Vac

Ordering code: B25832-C4476-K009

Characteristics

C_N , tol.	47 μ F \pm 10 %
U_N	AC 640 V
U_i	AC 570 V
I_{max}	18 A
L_{self}	140 nH
$\tan \delta_0$	$2 \cdot 10^{-4}$
R_S	6,1 m Ω

Maximum ratings

\hat{u}	800 V
u_s	1100 V
\hat{i}	750 A
I_s	1900 A
$(du/dt)_{max}$	16 V/ μ s
$(du/dt)_s$	40 V/ μ s

Test data

U_{TT}	AC 800 V, 10 s
U_{TC}	AC 2200 V, 10 s
$R_{is} \cdot C$	≥ 3000 s
$\tan \delta$ (50 Hz)	$\leq 3 \cdot 10^{-4}$

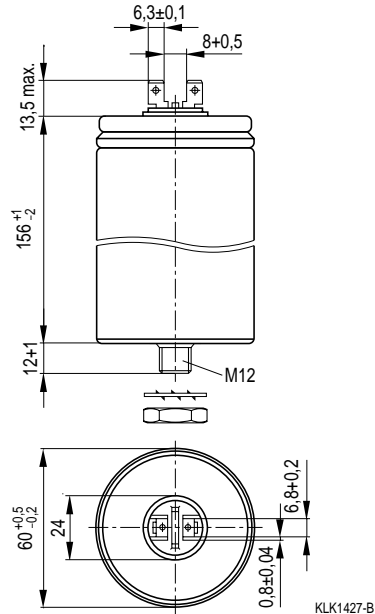
Climatic data

Θ_{min}	- 25 $^{\circ}$ C
Θ_{max}	+ 85 $^{\circ}$ C
Humidity	Average relative humidity \leq 75 %
$\alpha_{FQ}(co)$	$1000/10^9$ h
$t_{LD}(co)$	30000 h
Θ_{stg}	- 55 to + 85 $^{\circ}$ C

IEC climatic category: 25/085/56

(IEC 68-1 and 2)

Θ_{test}	+ 40 $^{\circ}$ C
Rel. humidity	93 %
t_{test}	56 days
$\Delta C/C$	≤ 1 %
$\Delta \tan \delta$	$\leq 3 \cdot 10^{-4}$
$R_{is} \cdot C$	≥ 3000 s



Design data

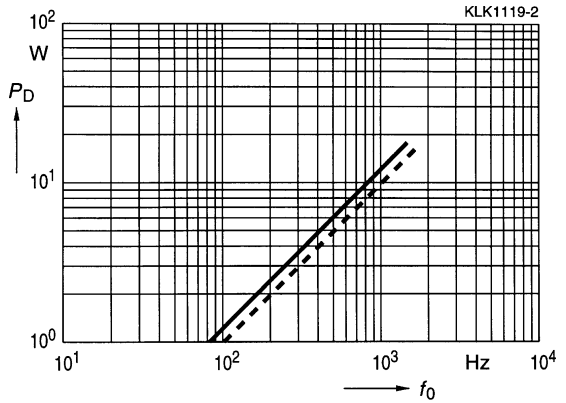
Dimensions $\varnothing \times l$	60 mm \times 156 mm
Approx. weight	550 g
Impregnation	Oil
Fixing	Threaded bolt M12
Mounting hole	14 mm
Max. torque	10 Nm
Terminals	Dual tab connector 6,3 mm
Terminal cross section	1,5 mm 2
Creepage distance	7 mm
Clearance	5 mm
Overpressure disconnector	

Thermal data

B25832-C4476-K009

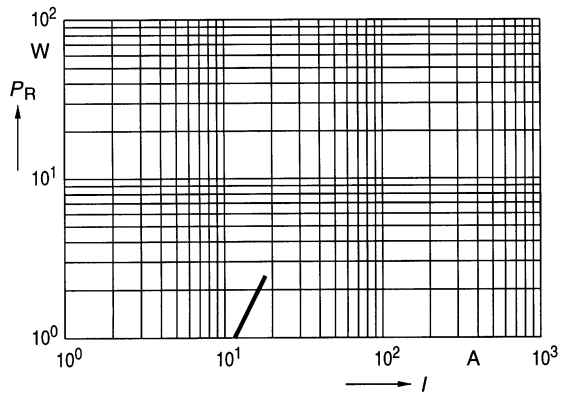
Dielectric power dissipation P_D
 versus repetition frequency f_0

$\hat{u}_{ac} = 640 \text{ V}$ —————
 $\hat{u}_{ac} = 576 \text{ V}$ - - - - -



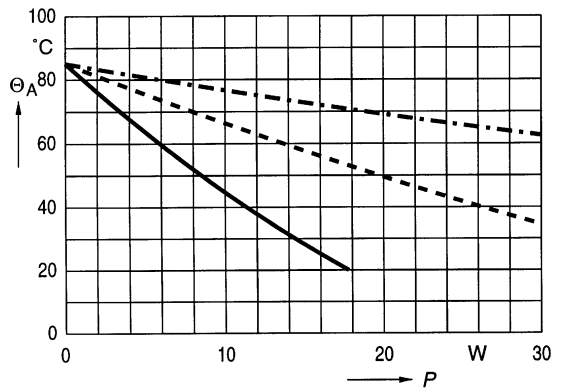
Ohmic power dissipation P_R
 versus rms current value I

$R_S (85^\circ\text{C}) = 7,5 \text{ m}\Omega$



Permissible ambient temperature Θ_A
 versus total power dissipation P
 (Upright mounting position)

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



B 25 832

General AC Applications

2 μF / 930 Vac

Ordering code: B25832-F6205-K001

Characteristics

C_N , tol.	2 $\mu\text{F} \pm 10\%$
U_N	AC 930 V
U_i	AC 850 V
I_{max}	10 A
L_{self}	90 nH
$\tan \delta_0$	$2 \cdot 10^{-4}$
R_S	26 m Ω

Maximum ratings

\hat{u}	1200 V
u_s	1600 V
\hat{i}	60 A
I_s	150 A
$(du/dt)_{\text{max}}$	30 V/ μs
$(du/dt)_s$	75 V/ μs

Test data

U_{TT}	AC 1200 V, 10 s
U_{TC}	AC 2700 V, 10 s
$R_{is} \cdot C$	≥ 3000 s
$\tan \delta$ (50 Hz)	$\leq 3 \cdot 10^{-4}$

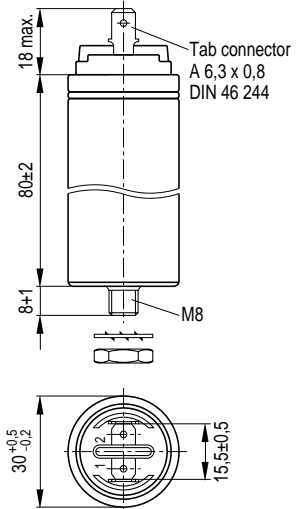
Climatic data

Θ_{min}	- 25 °C
Θ_{max}	+ 85 °C
Humidity	Average relative humidity $\leq 75\%$
$\alpha_{\text{FQ}}(\text{co})$	1000/10 ⁹ h
$t_{\text{LD}}(\text{co})$	30000 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
$\Delta C/C$	$\leq 1\%$
$\Delta \tan \delta$	$\leq 3 \cdot 10^{-4}$
$R_{is} \cdot C$	≥ 1000 s



Design data

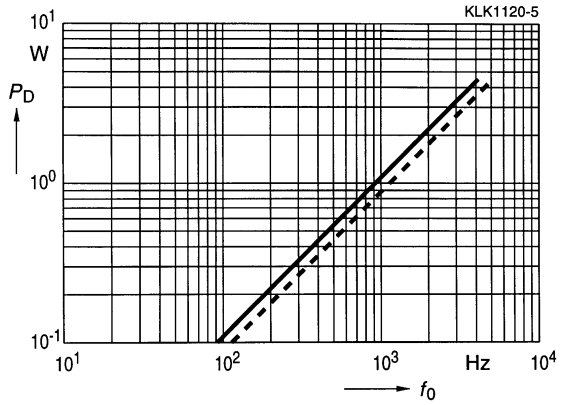
Dimensions $\varnothing \times l$	30 mm \times 80 mm
Approx. weight	70 g
Impregnation	Oil
Fixing	Threaded bolt M8
Mounting hole	9,5 mm
Max. torque	4 Nm
Terminals	Tab connector 6,3 mm
Terminal cross section	1 mm ²
Creepage distance	9 mm
Clearance	7 mm
Overpressure disconnector	

Thermal data

B25832-F6205-K001

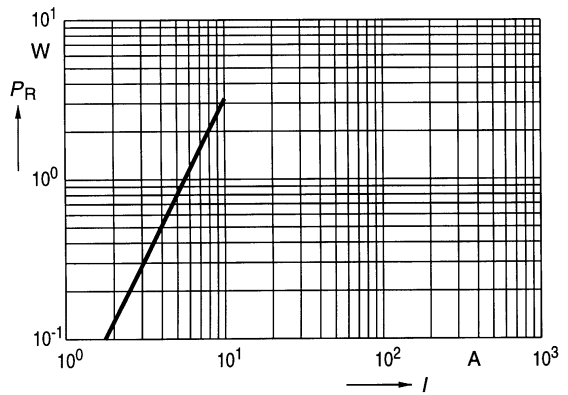
Dielectric power dissipation P_D
versus repetition frequency f_0

$\hat{u}_{ac} = 930 \text{ V}$ —————
 $\hat{u}_{ac} = 837 \text{ V}$ - - - - -



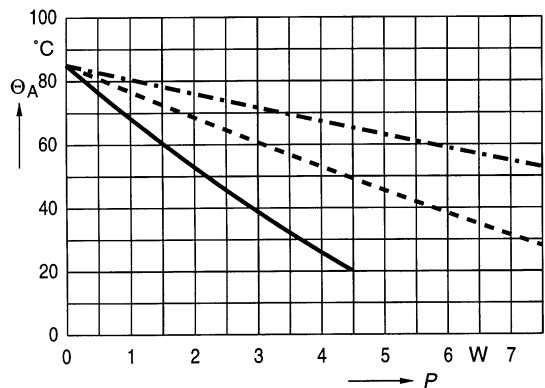
Ohmic power dissipation P_R
versus rms current value I

$R_S (85^\circ\text{C}) = 32 \text{ m}\Omega$



Permissible ambient temperature Θ_A
versus total power dissipation P
(Upright mounting position)

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



B 25 832

General AC Applications

22 μ F / 930 Vac

Ordering code: B25832-C6226-K009

Characteristics

C_N , tol.	22 μ F \pm 10 %
U_N	AC 930 V
U_i	AC 850 V
I_{max}	18 A
L_{self}	110 nH
$\tan \delta_0$	$2 \cdot 10^{-4}$
R_S	6,2 m Ω

Maximum ratings

\hat{u}	1200 V
u_s	1600 V
\hat{i}	660 A
I_s	1700 A
$(du/dt)_{max}$	30 V/ μ s
$(du/dt)_s$	75 V/ μ s

Test data

U_{TT}	AC 1200 V, 10 s
U_{TC}	AC 2700 V, 10 s
$R_{is} \cdot C$	≥ 3000 s
$\tan \delta$ (50 Hz)	$\leq 3 \cdot 10^{-4}$

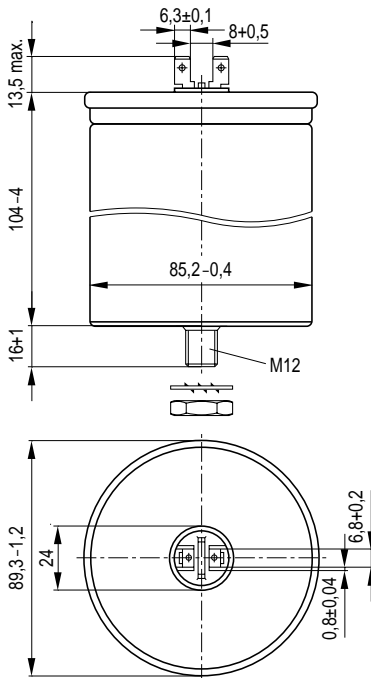
Climatic data

Θ_{min}	- 25 $^{\circ}$ C
Θ_{max}	+ 85 $^{\circ}$ C
Humidity	Average relative humidity \leq 75 %
$\alpha_{FQ}(co)$	1000/10 ⁹ h
$t_{LD}(co)$	30000 h
Θ_{stg}	- 55 to + 85 $^{\circ}$ C

IEC climatic category: 25/085/56

(IEC 68-1 and 2)

Θ_{test}	+ 40 $^{\circ}$ C
Rel. humidity	93 %
t_{test}	56 days
$\Delta C/C$	\leq 1 %
$\Delta \tan \delta$	$\leq 3 \cdot 10^{-4}$
$R_{is} \cdot C$	≥ 3000 s



KLK1429-S

Design data

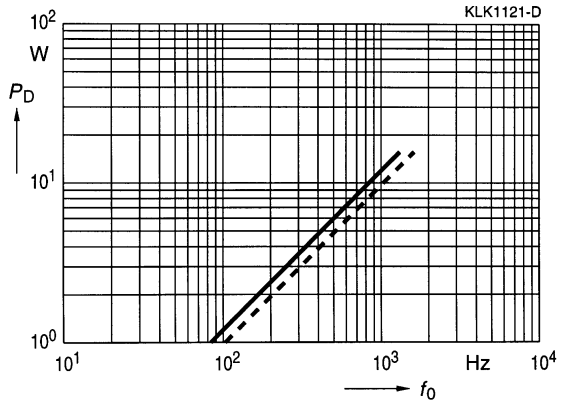
Dimensions $\varnothing \times l$	89,3 mm \times 104 mm
Approx. weight	800 g
Impregnation	Oil
Fixing	Threaded bolt M12
Mounting hole	14 mm
Max. torque	10 Nm
Terminals	Dual tab connector 6,3 mm
Terminal cross section	1,5 mm ²
Creepage distance	7 mm
Clearance	5 mm
Overpressure disconnector	

Thermal data

B25832-C6226-K009

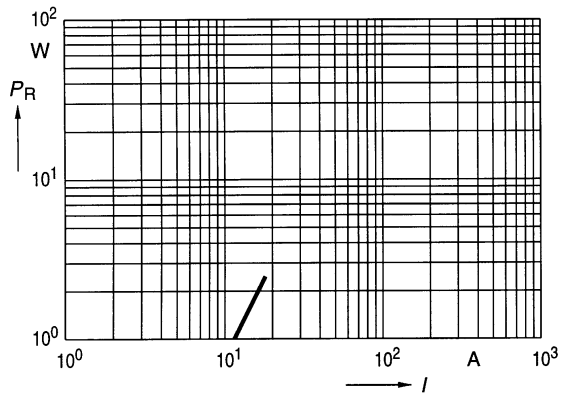
Dielectric power dissipation P_D
 versus repetition frequency f_0

$\hat{u}_{ac} = 930 \text{ V}$ —————
 $\hat{u}_{ac} = 837 \text{ V}$ - - - - -



Ohmic power dissipation P_R
 versus rms current value I

$R_S (85 \text{ }^\circ\text{C}) = 7,6 \text{ m}\Omega$



Permissible ambient temperature Θ_A
 versus total power dissipation P
 (Upright mounting position)

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

