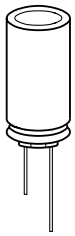
General-pupose grade capacitors



KAL0707-F

Applications

- General-purpose applications in the entertainment industry
- Semi-professional to professional application range
- Timer circuits

Features

- Low leakage current
- Miniaturized dimensions

Construction

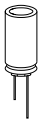
- Radial leads
- Charge-discharge proof, polar
- Aluminum case with insulating sleeve
- Minus pole marking on the insulation sleeve
- Stand off rubber seal
- Case with safety vent from diameter 6,3 mm

Delivery mode

Special terminal configurations and packing:

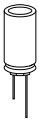
- Bulk
- Taped, Ammo pack
- Cut

Refer to page 503 for further details and ordering example.



Specifications and characteristics in brief

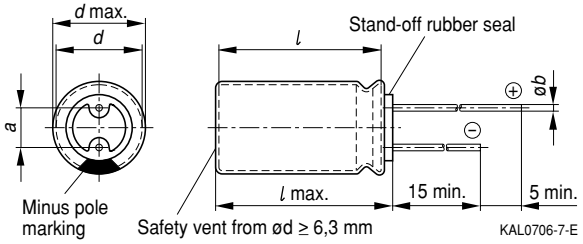
Rated voltage U_R	10 … 63 VDC	
Surge voltage U_S	1,15 · U_R	
Rated capacitance C_R	0,1 … 100 µF	
Capacitance tolerance	± 20 % ≙ M	
Useful life		Requirements:
85 °C; U_R; $I_{\sim R}$	> 2 000 h	$\Delta C/C$ ≤ ± 45 % of initial value
40 °C; U_R; $I_{\sim R}$	> 100 000 h	tan δ ≤ 3 times initial specified limit
		I_L ≤ initial specified limit
		Failure percentage: ≤ 1 %
		Failure rate: ≤ 40 fit (≤ 40 · 10^{-9}/h)
		(for definiton “fit”, refer to chapter *“Quality”*, page 62)
Voltage endurance test		Post test requirements:
85 °C; U_R	2 000 h	ΔC/C ≤ ± 20 % of initial value
		tan δ ≤ 2 times initial specified limit
		I_L ≤ initial specified limit
Vibration resistance	To IEC 60068-2-6, test Fc: displacement amplitude 0,75 mm, frequency range 10 … 2000 Hz, acceleration max.10 *g*, duration 3 × 2 h	
IEC climatic category	To IEC 60068-1: 40/085/56 (– 40 °C/+ 85 °C/56 days damp heat test)	
Sectional specification	IEC 60384-4	



B41825

Low Leakage Current – 85 °C

Dimensional drawing



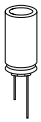
Dimensions and weights

Dimensions (mm)				Approx. weight
$d \times l$	$d_{max} \times l_{max}$	$a \pm 0{,}5$	b	g
5 × 11	5,5 × 12	2,0	0,50 ± 0,05	0,5
6,3 × 11	6,8 × 12	2,5	0,50 ± 0,05	0,7
8 × 11	8,5 × 12	3,5	0,60 ± 0,05	1,0

Overview of available types

U_R (VDC)	10	16	25	63
C_R (µF)	Case dimensions $d \times l$ (mm)			
0,10				5 × 11
0,22				5 × 11
0,33				5 × 11
0,47				5 × 11
0,68				5 × 11
1,0				5 × 11
2,2				5 × 11
3,3			5 × 11	6,3 × 11
4,7			5 × 11	6,3 × 11
6,8		5 × 11	6,3 × 11	
10		5 × 11	6,3 × 11	8 × 11
15		5 × 11		
22		6,3 × 11	8 × 11	
33		6,3 × 11	8 × 11	
47	6,3 × 11	8 × 11		
100	8 × 11			

Other capacitance and voltage ratings are available upon request.

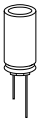


Technical data and ordering codes

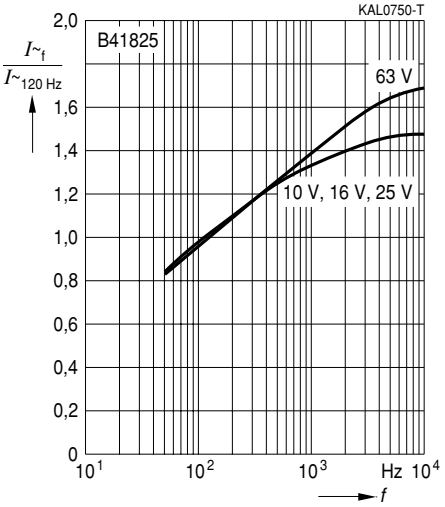
U_R VDC	C_R 120 Hz 20 °C µF	Case dimensions $d \times l$ mm	$I_{L, max}$ 2 min 20 °C µA	tan δ_{max} 120 Hz 20 °C	ESR_{max} 120 Hz 20 °C Ω	$I_{\sim R}$ 120 Hz 85 °C mA	Ordering code[1)]
10	47	6,3 × 11	0,94	0,20	7,0	66	B41825A3476M00*
	100	8 × 11	2,0	0,20	4,0	110	B41825A3107M00*
16	6,8	5 × 11	0,40	0,17	42	23	B41825A4685M00*
	10	5 × 11	0,40	0,17	28	28	B41825A4106M00*
	15	5 × 11	0,48	0,17	19	34	B41825A4156M00*
	22	6,3 × 11	0,70	0,17	13	49	B41825A4226M00*
	33	6,3 × 11	1,1	0,17	9,0	60	B41825A4336M00*
	47	8 × 11	1,5	0,17	6,0	83	B41825A4476M00*
25	3,3	5 × 11	0,40	0,15	76	17	B41825A5335M00*
	4,7	5 × 11	0,40	0,15	53	20	B41825A5475M00*
	6,8	6,3 × 11	0,40	0,15	37	29	B41825A5685M00*
	10	6,3 × 11	0,50	0,15	25	35	B41825A5106M00*
	22	8 × 11	1,1	0,15	11	60	B41825A5226M00*
	33	8 × 11	1,7	0,15	8,0	74	B41825A5336M00*
63	0,10	5 × 11	0,40	0,08	1 326	1,0	B41825A8104M00*
	0,22	5 × 11	0,40	0,08	603	2,2	B41825A8224M00*
	0,33	5 × 11	0,40	0,08	402	3,4	B41825A8334M00*
	0,47	5 × 11	0,40	0,08	282	4,8	B41825A8474M00*
	0,68	5 × 11	0,40	0,08	195	7,0	B41825A8684M00*
	1,0	5 × 11	0,40	0,08	133	8,0	B41825A8105M00*
	2,2	5 × 11	0,40	0,08	60	16	B41825A8225M00*
	3,3	6,3 × 11	0,42	0,08	40	22	B41825A8335M00*
	4,7	6,3 × 11	0,60	0,08	28	30	B41825A8475M00*
	10	8 × 11	1,3	0,08	13	50	B41825A8106M00*

Preferred types

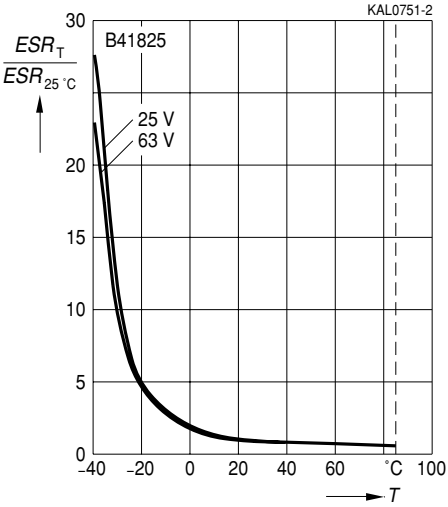
1) * = "0" for bulk version.
For taping versions, other lead configurations and packing information see page 503.



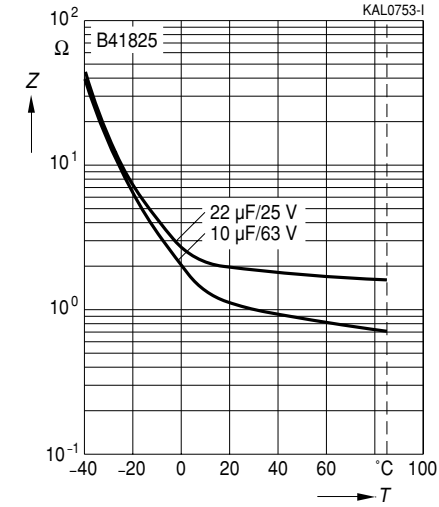
Frequency factor of permissible ripple current *I~*
versus frequency *f*



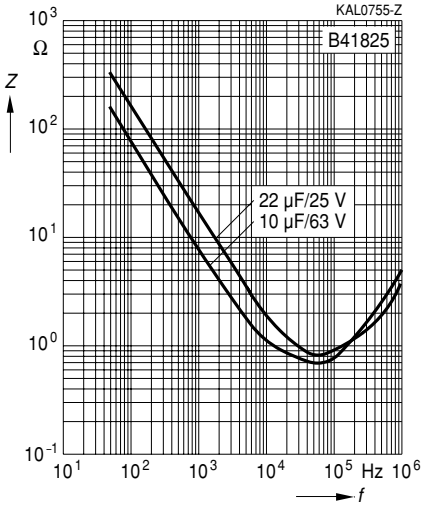
Equivalent series resistance *ESR*
at *f* = 120 Hz versus temperature *T*
Typical behavior

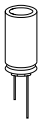


Impedance Z at *f* = 10 kHz
versus temperature *T*
Typical behavior

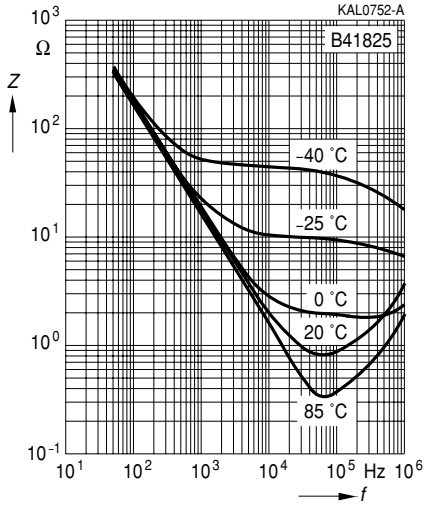


Impedance Z
versus frequency *f*
Typical behavior at 20 °C

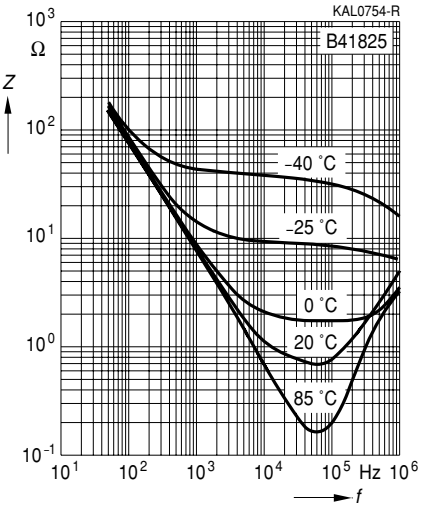




Impedance Z
versus frequency *f* and temperature *T*
for 22 µF/25 V
Typical behavior



Impedance Z
versus frequency *f* and temperature *T*
for 10 µF/63 V
Typical behavior



Herausgegeben von EPCOS AG
Unternehmenskommunikation, Postfach 80 17 09, 81617 München, DEUTSCHLAND
☎ ++49 89 636 09, FAX (0 89) 636-2 26 89

Bestellungen unterliegen den vom ZVEI empfohlenen Allgemeinen Lieferbedingungen für Erzeugnisse und Leistungen der Elektroindustrie, soweit nichts anderes vereinbart wird.

Diese Broschüre ersetzt die vorige Ausgabe.

Fragen über Technik, Preise und Liefermöglichkeiten richten Sie bitte an den Ihnen nächstgelegenen Vertrieb der EPCOS AG oder an unsere Vertriebsgesellschaften im Ausland. Bauelemente können aufgrund technischer Erfordernisse Gefahrstoffe enthalten. Auskünfte darüber bitten wir unter Angabe des betreffenden Typs ebenfalls über die zuständige Vertriebsgesellschaft einzuholen.

Published by EPCOS AG
Corporate Communications, P.O. Box 80 17 09, 81617 Munich, GERMANY
☎ ++49 89 636 09, FAX (0 89) 636-2 26 89

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.