

**General-purpose grade capacitors**  
**Ultra-miniaturized dimensions**

**Applications**

- General-purpose applications,  
mainly used in compact electronic equipments

**Features**

- Ultra-miniaturized dimensions
- Low profile

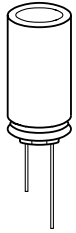
**Construction**

- Dimension 4 × 5 mm
- Charge-discharge proof, polar
- Aluminum case with insulating sleeve
- Minus pole marking on the insulation sleeve
- Stand off rubber seal

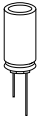
**Delivery mode**

- Bulk
- Taped, Ammo pack

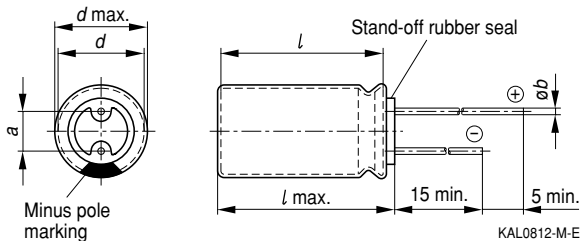
Refer to page 503 for further details and ordering example.



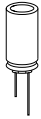
KAL0707-F


**B41852**
**Low Profile – 105 °C**
**Specifications and characteristics in brief**

Rated voltage $U_R$	10 ... 50 VDC	
Surge voltage $U_S$	$1,15 \cdot U_R$	
Rated capacitance $C_R$	0,1 ... 15 $\mu$ F	
Capacitance tolerance	$\pm 20 \% \triangleq M$	
Useful life 105 °C; $U_R$ ; $I_R$	> 1 000 h	Requirements: $\Delta C/C \leq \pm 50 \%$ of initial value $\tan \delta \leq 3$ times initial specified limit $I_L \leq$ initial specified limit Failure percentage: $\leq 3 \%$ Failure rate: $\leq 100$ fit ( $\leq 100 \cdot 10^{-9}/h$ ) (for definiton "fit", refer to chapter "Quality", page 62)
Voltage endurance test 105 °C; $U_R$	1 000 h	Post test requirements: $\Delta C/C \leq \pm 25 \%$ of initial value $\tan \delta \leq 2$ times initial specified limit $I_L \leq$ 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 $3 \times 2$ h	
IEC climatic category	To IEC 60068-1: 40/105/56 (– 40 °C/+ 105 °C/56 days damp heat test)	
Sectional specification	IEC 60384-4	

**Dimensional drawing**

**Dimensions and weight**

Dimensions (mm)				Approx. weight
$d \times l$	$d_{max} \times l_{max}$	$a \pm 0,5$	$b$	g
4 × 5	4,5 × 6	1,5	0,45 ± 0,05	0,3


**Overview of available types**

$U_R$ (VDC)	10	16	25	35	50
$C_R$ ( $\mu$ F)	Case dimensions $d \times l$ (mm)				
0,1					4 × 5
0,22					4 × 5
0,33					4 × 5
0,47					4 × 5
1					4 × 5
2,2					4 × 5
3,3				4 × 5	4 × 5
4,7			4 × 5	4 × 5	
10		4 × 5			
15	4 × 5				

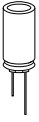
Other capacitance and voltage ratings are available upon request.

**Technical data and ordering codes**

$U_R$	$C_R$	Case dimensions	$I_{L, \max}$	$\tan \delta_{\max}$	$ESR_{\max}$	$I_{\sim R}$	Ordering code <sup>1)</sup>
VDC	120 Hz 20 °C $\mu$ F	$d \times l$ mm	5 min 20 °C $\mu$ A	120 Hz 20 °C	120 Hz 20 °C $\Omega$	120 Hz 105 °C mA	
10	15	4 × 5	3,0	0,20	18	20	B41852A3156M00*
16	10	4 × 5	3,0	0,17	23	18	B41852A4106M00*
25	4,7	4 × 5	3,0	0,15	42	13	B41852A5475M00*
35	3,3	4 × 5	3,0	0,12	48	11	B41852A7335M00*
	4,7	4 × 5	3,0	0,12	34	14	B41852A7475M00*
50	0,10	4 × 5	3,0	0,10	1 326	1,0	B41852A6104M00*
	0,22	4 × 5	3,0	0,10	603	2,0	B41852A6224M00*
	0,33	4 × 5	3,0	0,10	402	3,0	B41852A6334M00*
	0,47	4 × 5	3,0	0,10	282	3,8	B41852A6474M00*
	1,0	4 × 5	3,0	0,10	133	6,0	B41852A6105M00*
	2,2	4 × 5	3,0	0,10	60	11	B41852A6225M00*
	3,3	4 × 5	3,0	0,10	40	13	B41852A6335M00*

1) \* = "0" for bulk version.

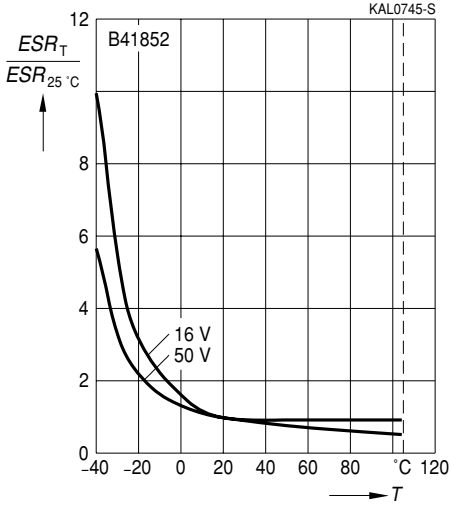
For taping versions, other lead configurations and packing information see page 503



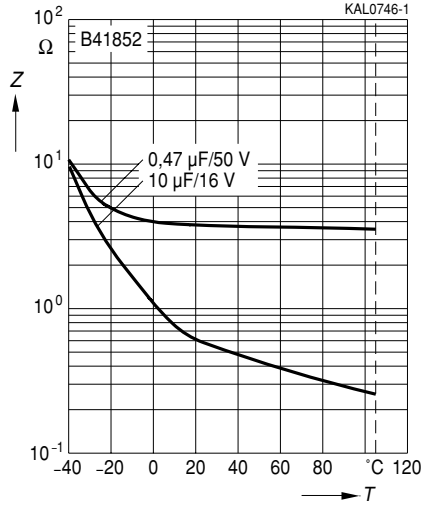
**B41852**

**Low Profile – 105 °C**

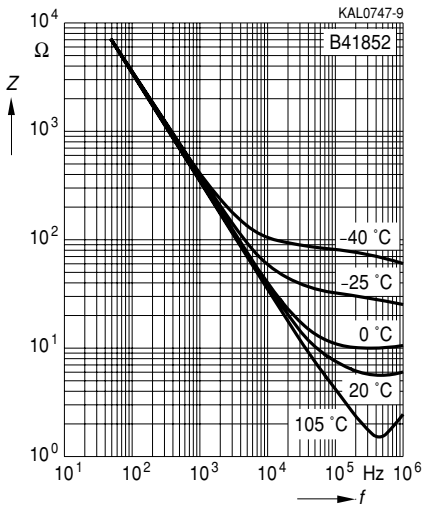
**Equivalent series resistance  $ESR$**   
at  $f = 120 \text{ Hz}$  versus temperature  $T$   
Typical behavior



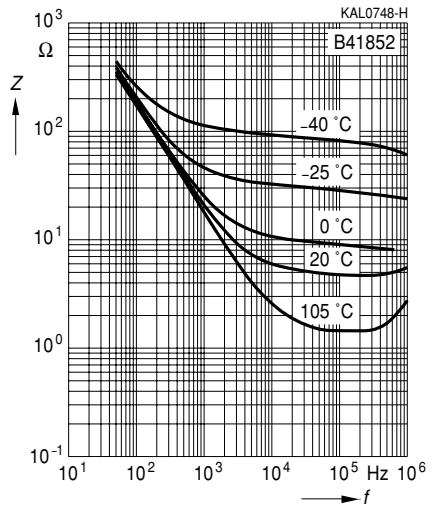
**Impedance  $Z$  at  $f = 10 \text{ kHz}$**   
versus temperature  $T$   
Typical behavior

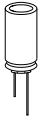


**Impedance  $Z$**   
versus frequency  $f$  and temperature  $T$   
for  $0.47 \mu\text{F}/50 \text{ VDC}$   
Typical behavior



**Impedance  $Z$**   
versus frequency  $f$  and temperature  $T$   
for  $10 \mu\text{F}/16 \text{ VDC}$   
Typical behavior

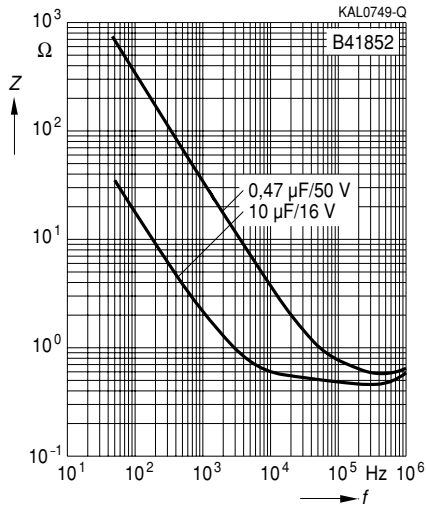




**Impedance  $Z$**

versus frequency  $f$

Typical behavior at 20 °C



**Herausgegeben von EPCOS AG**

**Unternehmenskommunikation, Postfach 80 17 09, 81617 München, DEUTSCHLAND**

**☎ ++49 89 636 09, FAX (0 89) 636-2 26 89**

© EPCOS AG 2002. Vervielfältigung, Veröffentlichung, Verbreitung und Verwertung dieser Broschüre und ihres Inhalts ohne ausdrückliche Genehmigung der EPCOS AG nicht gestattet.

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**

© EPCOS AG 2002. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

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.