

**Long-life grade capacitors
for professional electronic ballasts**

Applications

- Electronic ballasts
- Power supplies
- High-temperature environments
- Energy-saving lamps

Features

- Miniaturized dimensions
- High ripple current capability
- Wide temperature range

Construction

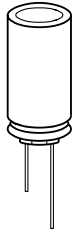
- Radial leads
- Charge-discharge proof, polar
- Aluminum case with insulating sleeve
- Minus pole marking on insulating sleeve
- Case with safety vent
- Stand off rubber seal

Delivery mode

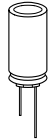
Special terminal configurations and packing:

- Bulk
- Taped, Ammo pack
- Cut
- Kinked

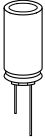
Refer to page 503 for further details and ordering example.



KAL0707-F


Specifications and characteristics in brief

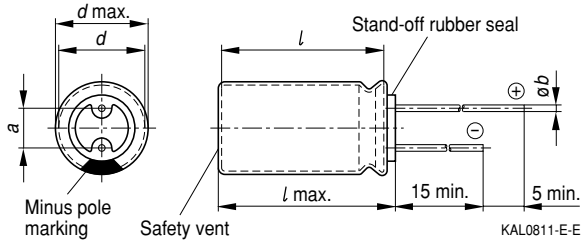
Rated voltage U_R	160 ... 350 VDC	
Surge voltage U_S	$1,1 \cdot U_R$	
Rated capacitance C_R	3,3 ... 100 μ F	
Capacitance tolerance	$\pm 20 \% \triangleq M$	
Useful life 140 °C; U_R ; I_{-R}	> 1 000 h	Requirements: $\Delta C/C \leq \pm 35 \%$ of initial value $ESR \leq 3$ times initial specified limit $I_L \leq$ initial specified limit Failure percentage: $\leq 1 \%$ Failure rate: ≤ 100 fit ($\leq 100 \cdot 10^{-9}/h$) (for definition "fit", refer to chapter "Quality", page 62)
Voltage endurance test 140 °C; U_R	1 000 h	Post test requirements: $\Delta C/C \leq \pm 30 \%$ of initial value $\tan \delta \leq 2$ times initial specified limit $I_L \leq$ initial specified limit
IEC climatic category	To IEC 60068-1 $U_R \leq 250$ V: 40/140/56 (– 40 °C/+ 140 °C/56 days damp heat test) $U_R = 350$ V: 25/140/56 (– 25 °C/+ 140 °C/56 days damp heat test)	
Sectional specification	IEC 60384-4	
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	



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140 °C

Dimensional drawing



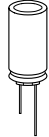
Dimensions and weights

Dimensions (mm)				Approx. weight
$d \times l$	$d_{max} \times l_{max}$	$a \pm 0,5$	b	g
10 × 20	10,5 × 22	5,0	0,60 ± 0,05	2,6
12,5 × 20	13 × 22	5,0	0,60 ± 0,05	3,6
12,5 × 25	13 × 27	5,0	0,60 ± 0,05	4,5
16 × 20	16,5 × 22	7,5	0,80 ± 0,05	5,5
16 × 25	16,5 × 27	7,5	0,80 ± 0,05	7,5
16 × 31,5	16,5 × 33,5	7,5	0,80 ± 0,05	7,8

Overview of available types

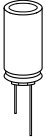
U_R (VDC)	160	200	250	350
C_R (µF)	Case dimensions $d \times l$ (mm)			
3,3				10 × 20
3,9				10 × 20
4,7				10 × 20
6,8				12,5 × 20
10		10 × 20	10 × 20	12,5 × 25
15		10 × 20	12,5 × 20	
22	10 × 20	12,5 × 20	12,5 × 25	16 × 25
33	12,5 × 20	12,5 × 25	12,5 × 25	16 × 31,5
47	12,5 × 25	12,5 × 25	16 × 31,5	
68	16 × 20	16 × 25		
100	16 × 25	16 × 31,5		
220				

Other voltage and capacitance ratings are also available upon request.


Technical data and ordering codes

U_R	C_R 120 Hz 20 °C μF	Case dimensions $d \times l$ mm	I_L 5 min 20 °C μA	$\tan \delta_{\max}$ 120 Hz 20 °C	ESR_{\max} 120 Hz 20 °C Ω	$I_{\sim R}$ 120 Hz 140 °C mA	Ordering code ¹⁾
160	22	10 × 20,0	95	0,20	15,1	145	B43867A1226M00*
	33	12,5 × 20,0	130	0,20	10,0	200	B43867A1336M00*
	47	12,5 × 25,0	175	0,20	7,1	270	B43867A1476M00*
	68	16 × 20,0	242	0,20	4,9	345	B43867A1686M00*
	100	16 × 25,0	345	0,20	3,3	450	B43867A1107M00*
200	10	10 × 20,0	65	0,20	33,2	90	B43867A2106M00*
	15	10 × 20,0	85	0,20	22,1	120	B43867A2156M00*
	22	12,5 × 20,0	113	0,20	15,1	170	B43867A2226M00*
	33	12,5 × 25,0	157	0,20	10,0	225	B43867A2336M00*
	47	12,5 × 25,0	213	0,20	7,1	270	B43867A2476M00*
	68	16 × 25,0	297	0,20	4,9	370	B43867A2686M00*
	100	16 × 31,5	425	0,20	3,3	495	B43867A2107M00*
250	10	10 × 20,0	75	0,20	33,2	95	B43867F2106M00*
	15	12,5 × 20,0	100	0,20	22,1	120	B43867F2156M00*
	22	12,5 × 25,0	135	0,20	15,1	185	B43867F2226M00*
	33	12,5 × 25,0	190	0,20	10,0	225	B43867F2336M00*
	47	16 × 31,5	260	0,20	7,1	330	B43867F2476M00*
350	3,3	10 × 20,0	48	0,25	125,6	55	B43867A4335M00*
	3,9	10 × 20,0	52	0,25	106,3	65	B43867A4395M00*
	4,7	10 × 20,0	57	0,25	88,2	75	B43867A4475M00*
	6,8	12,5 × 20,0	72	0,25	61,0	90	B43867A4685M00*
	10	12,5 × 25,0	95	0,25	41,4	122	B43867A4106M00*
	22	16 × 25,0	179	0,25	18,8	210	B43867A4226M00*
	33	16 × 31,5	256	0,25	12,6	280	B43867A4336M00*

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



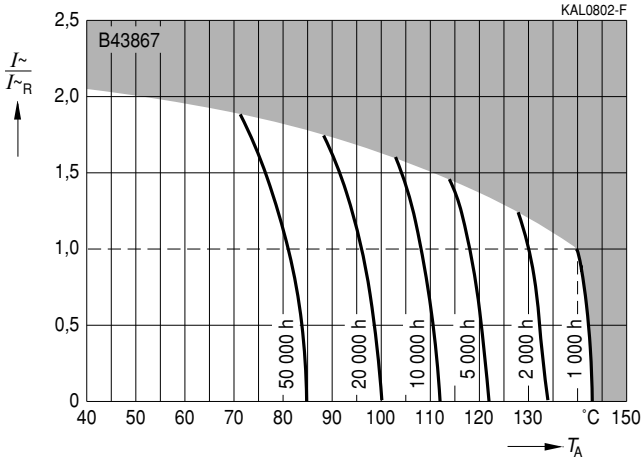
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140 °C

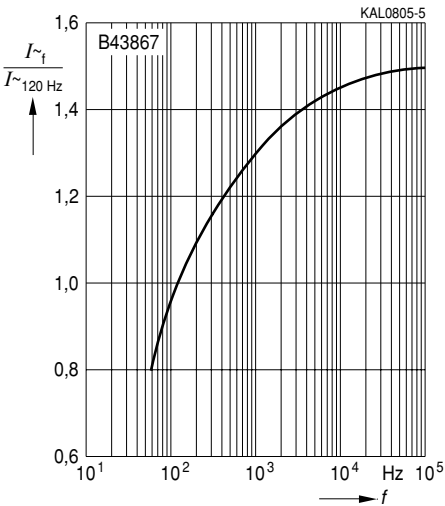
Useful life

depending on ambient temperature T_A under ripple current operating conditions¹⁾

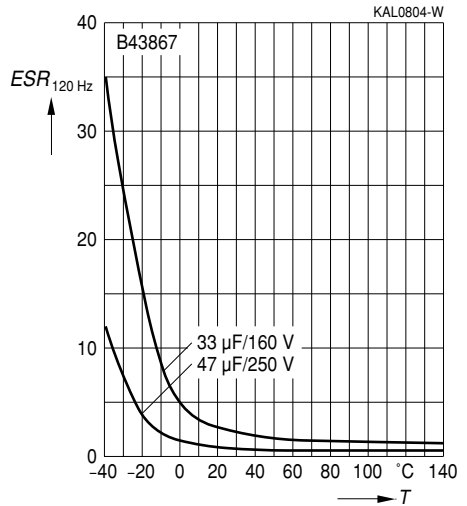
$U_R = 160 \dots 350$ VDC



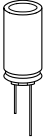
Frequency factor of permissible ripple current I_{\sim} versus frequency f



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



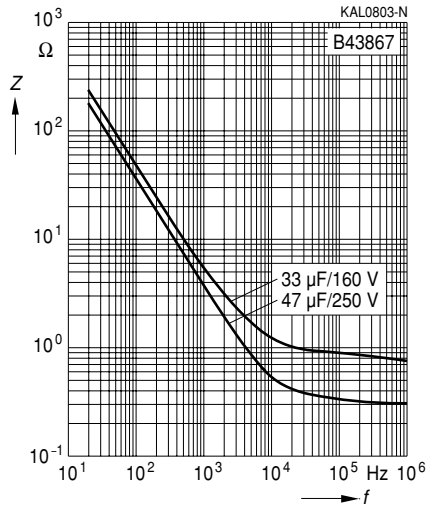
1) Refer to page 40 for an explanation on how to interpret the useful life graphs.



Impedance Z

versus frequency f

Typical behavior at 20 °C



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