



Aluminum Electrolytic Capacitors

Snap-in capacitors

Series/Type: **B43501**

Date: April 1, 2014

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Long-life grade capacitors

长寿命级电容器

Applications

应用

- Frequency converters
变频器
- Uninterruptible power supplies
不间断电源
- Switch mode power supplies in industrial electronics
工业电子产品中的开关电源

Features

特点

- Long useful life
长使用寿命
- High reliability
可靠性高
- High ripple current capability
耐高纹波电流能力
- Low ESR
低等效串联电阻
- RoHS-compatible
符合RoHS要求
- Useful life of 10000h at 85 °C
85 °C 10000h使用寿命

Construction

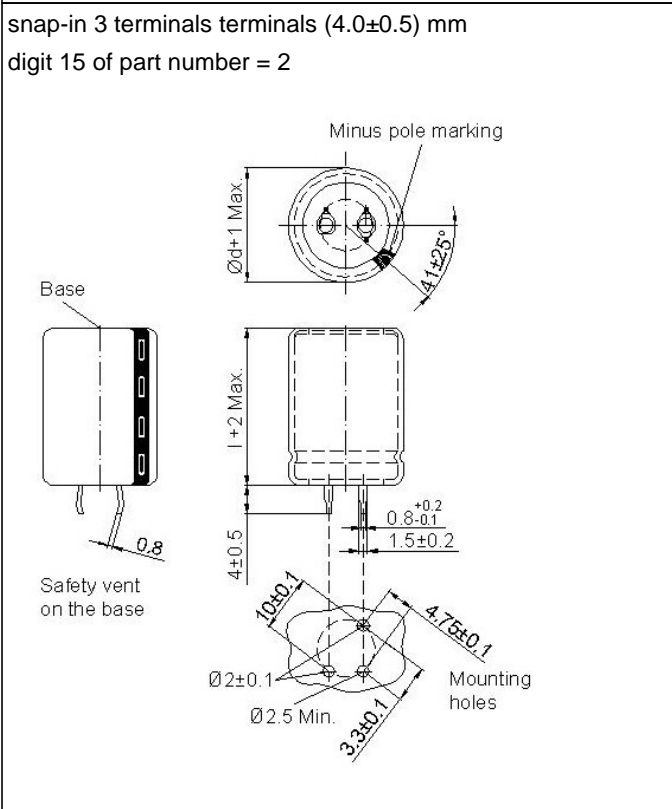
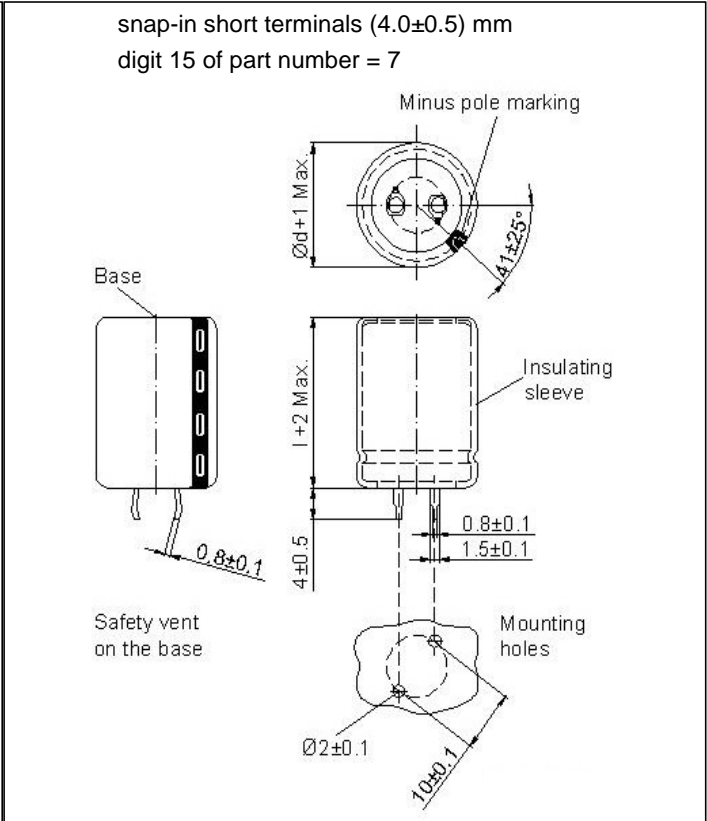
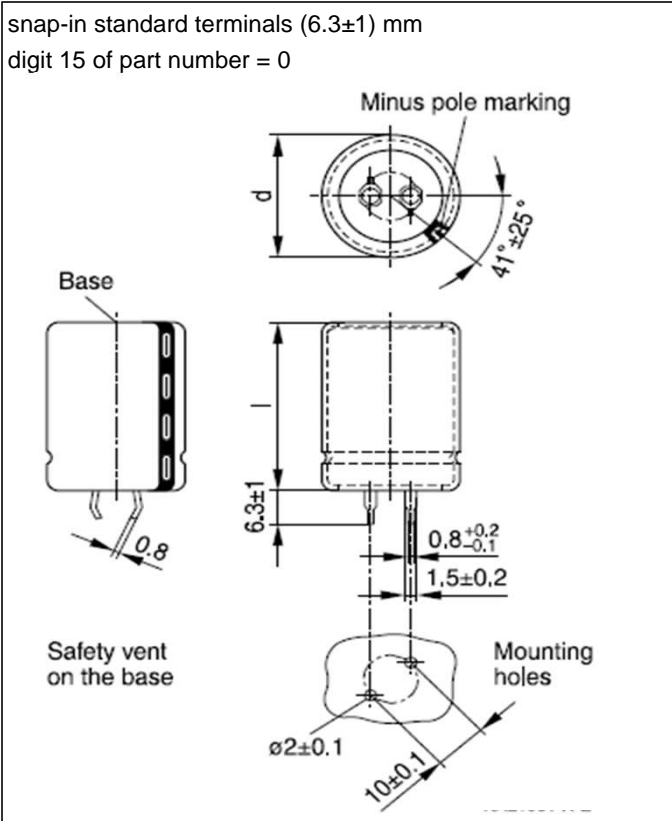
结构

- Charge/discharge-proof, polar
耐充放电，有极性
- Aluminum case, fully insulated
铝质外壳，整体绝缘
- Minus pole marking on the insulating sleeve
绝缘套管上标注负极
- Overload protection by safety vent on the base
底部安全阀过载保护

Specifications and characteristics in brief
规格性能参数一览表

Rated voltage V_R 额定电压 V_R	400...450 V DC						
Surge voltage V_S 浪涌电压 V_S	$1.10 \cdot V_R$						
Operating temperature range 工作温度范围	$V_R = 400V$ DC: -40 °C...+85 °C $V_R \geq 420V$ DC: -25 °C...+85 °C						
Rated capacitance C_R 额定电容量 C_R (20 °C, 120 Hz)	47...680 μ F						
Capacitance tolerance 电容量公差	$\pm 20\%$ M						
Dissipation factor(max.) 损耗正切角(最大值) 20°C, 120Hz.	V_R (V DC)	400		420...450			
	$\tan\delta$	0.15		0.20			
Leakage current I_{leak} (20 °C, after 5 minutes) 漏电流 I_{leak} (20 °C, 5分钟后)	$I_{leak} \leq 0.3\mu A \cdot \left(\frac{C_R}{\mu F} \cdot \frac{V_R}{V}\right)^{0.7} + 4\mu A$						
Low temperature stability 低温稳定性 (max impedance ratio) (最大阻抗比率)	V_R (V DC)	400		420...450		120 Hz	
	$\frac{Z(-25\text{ °C})}{Z(+20\text{ °C})}$	3		7			
	$\frac{Z(-40\text{ °C})}{Z(+20\text{ °C})}$	7		12			
Useful life 使用寿命 (85 °C, $V_R, I_{AC,R}$)	10000 h	Requirements 要求:					
		$\Delta C/C \leq \pm 20\%$ of initial value 初始值的 $\pm 20\%$					
		$\tan\delta \leq 2$ times initial specified limit 2倍初始规定值					
Shelf life 储存寿命	After storage for 1000 h at 85 °C, the capacitors shall meet the requirement of useful life test after reforming process. After test: V_R to be applied for 30 minutes, 24 to 48 hours before measurement.						
	85°C高温贮存1000小时, 并预处理后, 电容器必须符合使用寿命测试中对其电性能的要求。预处理方法: 先加额定电压充电30分钟, 恢复24至48小时后再测试。						
Frequency multiplier for rated ripple current 额定纹波电流频率系数	50 Hz	120 Hz	1 kHz	10 kHz	20 kHz		
	0.85	1.00	1.30	1.31	1.32		
Temperature multiplier for rated ripple current 额定纹波电流温度系数	+40 °C	+55 °C	+70 °C	+85 °C			
	2.2	2.0	1.7	1.0			
Sectional specification 分规范	IEC 60384-4						

Dimensional drawing



Technical dates and ordering codes

V_R	C_R 120Hz 20 °C μF	Case dimensions d x l mm	ESR_{typ} 120 Hz 20 °C m Ω	Z_{max} 10 kHz 20 °C m Ω	$I_{AC,R}$ 120 Hz 60 °C A	$I_{AC,R}$ 120 Hz 85 °C A	Ordering code
V DC							
400	68	22 x 25	920	1560	1.23	0.63	B43501A9686M0*#
	100	22 x 30	630	1060	1.59	0.81	B43501A9107M0*#
	100	25 x 25	630	1060	1.61	0.82	B43501B9107M0*#
	120	22 x 35	520	890	1.85	0.95	B43501A9127M0*#
	150	22 x 40	420	710	2.21	1.13	B43501A9157M0*#
	150	30 x 25	420	710	2.21	1.13	B43501B9157M0*#
	180	30 x 30	350	590	2.52	1.29	B43501A9187M0*#
	220	25 x 40	280	490	2.84	1.45	B43501A9227M0*#
	220	30 x 30	280	490	2.78	1.42	B43501C9227M0*#
	270	25 x 45	230	400	3.29	1.68	B43501B9277M0*#
	270	30 x 35	230	400	3.27	1.67	B43501A9277M0*#
	270	35 x 30	230	400	3.43	1.75	B43501C9277M0*#
	330	25 x 55	190	330	3.96	2.02	B43501B9337M0*#
	330	30 x 45	190	330	4.04	2.06	B43501A9337M0*#
	330	35 x 30	190	330	3.79	1.94	B43501C9337M0*#
	390	30 x 45	160	280	4.30	2.19	B43501B9397M0*#
	390	35 x 35	160	280	4.34	2.21	B43501C9397M0*#
	470	30 x 50	130	230	4.92	2.51	B43501B9477M0*#
	470	35 x 45	130	230	5.24	2.68	B43501A9477M0*#
	560	35 x 45	110	190	5.69	2.90	B43501B9567M0*#
	680	35 x 55	90	160	6.72	3.43	B43501A9687M0*#
420	100	22 x 30	1270	1600	1.59	0.81	B43501A0107M0*#
	100	25 x 25	1270	1600	1.61	0.82	B43501E0107M0*#
	120	25 x 30	1060	1330	1.90	0.97	B43501A0127M0*#
	150	22 x 40	850	1070	2.17	1.11	B43501A0157M0*#
	150	25 x 35	850	1070	2.24	1.14	B43501E0157M0*#
	180	25 x 35	710	890	2.44	1.25	B43501A0187M0*#
	180	30 x 30	710	890	2.53	1.30	B43501E0187M0*#
	220	25 x 40	580	730	2.84	1.45	B43501A0227M0*#
	220	30 x 35	580	730	2.95	1.50	B43501E0227M0*#

* = Insulation feature

0 = PVC sleeve

6 = PET sleeve

= Terminal style

0 = snap-in standard terminals (6.3±1) mm

2 = snap-in 3 terminals (4.0±0.5) mm

7 = snap-in short terminals (4.0±0.5) mm

Technical dates and ordering codes

V_R	C_R 120Hz 20 °C μF	Case dimensions d x l mm	ESR_{typ} 120 Hz 20 °C m Ω	Z_{max} 10 kHz 20 °C m Ω	$I_{AC,R}$ 120 Hz 60 °C A	$I_{AC,R}$ 120 Hz 85 °C A	Ordering code
420	270	25 x 55	470	590	3.56	1.82	B43501B0277M0*#
	270	30 x 35	470	590	3.27	1.67	B43501A0277M0*#
	270	35 x 30	470	590	3.45	1.76	B43501E0277M0*#
	330	30 x 45	390	490	3.96	2.02	B43501A0337M0*#
	330	35 x 35	390	490	4.00	2.04	B43501E0337M0*#
	390	30 x 50	330	410	4.48	2.29	B43501A0397M0*#
	470	30 x 55	270	340	5.10	2.61	B43501B0477M0*#
	470	35 x 45	270	340	5.20	2.66	B43501A0477M0*#
	560	35 x 50	230	290	5.91	3.02	B43501A0567M0*#
450	47	22 x 25	2710	3390	1.02	0.53	B43501A5476M0*#
	68	22 x 30	1870	2350	1.31	0.67	B43501A5686M0*#
	68	25 x 25	1870	2350	1.33	0.68	B43501B5686M0*#
	100	22 x 35	1270	1600	1.67	0.85	B43501D5107M0*#
	100	25 x 30	1270	1600	1.73	0.89	B43501B5107M0*#
	100	30 x 25	1270	1600	1.81	0.93	B43501C5107M0*#
	150	25 x 35	850	1070	2.21	1.13	B43501C5157M0*#
	150	30 x 30	850	1070	2.30	1.17	B43501B5157M0*#
	180	30 x 35	710	890	2.66	1.36	B43501A5187M0*#
	220	25 x 50	580	730	3.10	1.59	B43501B5227M0*#
	220	30 x 35	580	730	2.95	1.50	B43501C5227M0*#
	270	25 x 55	470	590	3.56	1.82	B43501B5277M0*#
	270	30 x 40	470	590	3.43	1.75	B43501C5277M0*#
	270	35 x 35	470	590	3.61	1.84	B43501D5277M0*#
	330	30 x 50	390	490	4.11	2.10	B43501B5337M0*#
	330	35 x 40	390	490	4.23	2.16	B43501A5337M0*#
	390	30 x 55	330	410	4.64	2.37	B43501A5397M0*#
	390	35 x 45	330	410	4.66	2.38	B43501B5397M0*#
	470	35 x 50	270	340	5.45	2.78	B43501A5477M0*#
	560	35 x 55	230	290	5.87	3.00	B43501A5567M0*#

* = Insulation feature

= Terminal style

0 = PVC sleeve

0 = snap-in standard terminals (6.3±1) mm

6 = PET sleeve

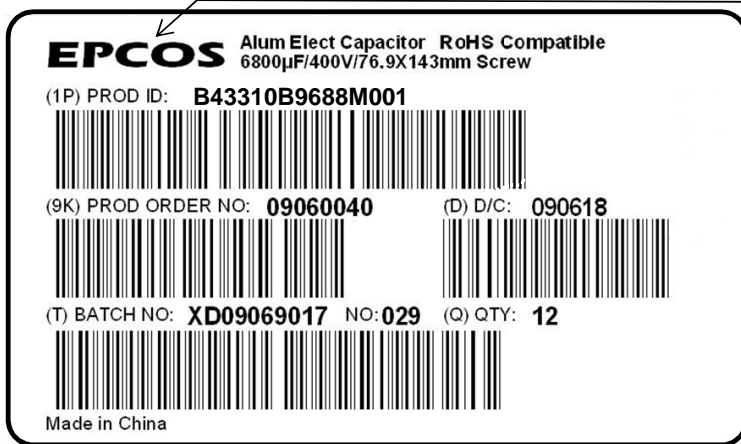
2 = snap-in 3 terminals (4.0±0.5) mm

7 = snap-in short terminals (4.0±0.5) mm

Bar code label and marking of the capacitor 条形码标签和电容器标签

Below is an example of bar code label on package:

以下为包装箱上条形码标签示例:



Brand 品牌

(1P) Ordering code	订购代码
(9K) Product order number	订单号
(D) Date code (yywwdd)	日期代码 (年月日)
(T) Batch number	批号
(Q) Quantity	数量

The two examples below shows how the capacitor sleeve are marked according to case height:

以下两个示例说明不同壳体高度电容器套管上的标签内容:

Case height

壳体高度

20mm	<p>EPCOS B43231-A9337-M 330µF (M) 400V- 25/085/56 MM.JJ</p>	<p>Brand Part number (ordering code) Rated capacitance, tolerance, rated voltage, Climatic category, month and year of production</p>	<p>品牌 料号 (订购代码) 额定电容、容差、额定电压 气候分类、月.年 (生产日期)</p>
25mm	<p>EPCOS B43231-A9337-M 330µF (M) 400V- 25/085/56 MM.JJ</p>	<p>Brand Part number (ordering code) Rated capacitance, tolerance, rated voltage, Climatic category Month and year of production</p>	<p>品牌 料号 (订购代码) 额定电容、容差、额定电压 气候分类 月.年 (生产日期)</p>
>25mm	<p>EPCOS B43231-A9337-M 330µF (M) 400V- 25/085/56 MM.JJ</p>	<p>Brand Part number (ordering code) Rated capacitance, tolerance, rated voltage, Climatic category Month and year of production</p>	<p>品牌 料号 (订购代码) 额定电容、容差、额定电压 气候分类 月.年 (生产日期)</p>

The climatic category is specified according to IEC 60068-1. If there is not enough space on the case, the following codes may be used:

气候类别符合 IEC 60068 - 1。如果壳体上没有足够空间，可使用以下代码:

E.g.: 40/085/56, in coded form, would read GPF 例如: 40/085/56的代码形式为GPF

1st letter (lower category temperature) 首字母 (下限类别温度)

Code letter 字母代码	F	G	H
Temperature 温度 (° C)	-55	-40	-25

2nd letter (upper category temperature) 第二字母 (上限类别温度)

Code letter 代码字母	K	M	P	S	U
Temperature 温度 (° C)	+125	+105(+100)	+85	+70	+60

3rd letter (humidity) 第三字母 (湿度)

Letter F: withstands IEC60068-2-78 Cab (damp heat, steady state), test duration 56 days.

字母F: 经受IEC 60068-2-78试验箱 (湿热、恒稳态), 试验周期56天。

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