Aluminum Electrolytic Capacitors

Snap-in capacitors

Series/Type: **B43255**

Date: April 1, 2014

EPCOS AG is a TDK Group Company.

Long-life grade capacitors
长寿命电容器

Applications
应用

- Frequency converters
  变频器
- Professional power supplies
  专业电源
- Solar and wind power generator
  太阳能和风力发电设备
- Uninterruptiple power supplies
  不间断电源

Features
特点

- RoHS-compatible
  符合RoHS要求
- High reliability
  高可靠性
- Useful life of 5000h at 105 ºC
  105 ºC 5000h使用寿命

Construction
结构

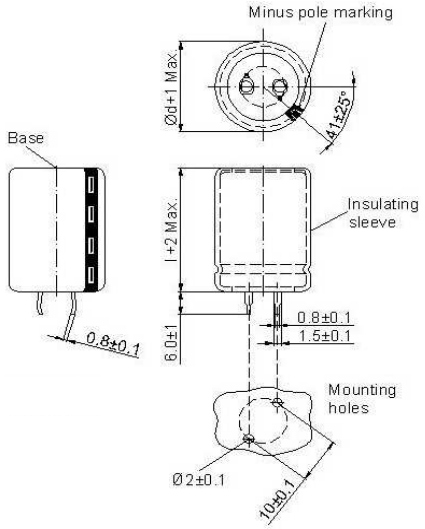
- Aluminum case, fully insulated
  铝质外壳，整体绝缘
- Minus pole marking on the insulating sleeve
  绝缘套管上标注负极
- Overload protection by safety vent on the base
  底部安全阀过载保护

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

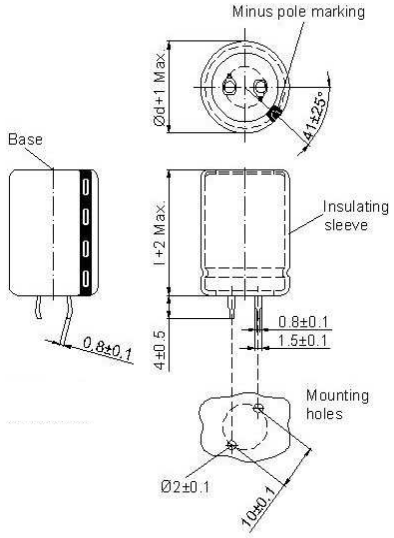
Rated voltage V_R 额定电压V_R	200…450 V DC						
Surge voltage V_S 浪涌电压V_S	1.15 · V_R (for V_R ≤ 315V DC) 1.10 · V_R (for V_R > 315V DC)						
Operating temperature range 工作温度范围	V_R ≤ 400V DC: -40 ºC…+105 ºC V_R ≥ 450V DC: -25 ºC…+105 ºC						
Rated capacitance C_R 额定电容量C_R (20 ºC,120 Hz)	47…1500 µF						
Capacitance tolerance 电容量公差	±20% M						
Dissipation factor(max.) 损耗正切角(最大值) 20ºC,120Hz.	V_R(V DC)	200…400		450			
	tanδ	0.15		0.20			
Leakage current I_{leak} (20 ºC,after 5 minutes) 漏电流 I_{leak} (20 ºC,5分钟后)	$I_{leak} \leq 0.02\ \mu A \cdot \left(\frac{C_R}{\mu F} \cdot \frac{V_R}{V}\right)$						
Low temperature stability 低温稳定性 (max impedance ratio) (最大阻抗比率)	V_R(V DC)	160…250	300…400	450	120Hz		
	$\frac{Z\ (-25\ ºC)}{Z\ (+20\ ºC)}$	4	4	8			
	$\frac{Z\ (-40\ ºC)}{Z\ (+20\ ºC)}$	6	8	-			
Useful life 使用寿命 (105 ºC,V_R,$I_{AC,R}$)	5000 h	Requirements 要求:					
		△C/C	≤ ±20% of initial value 初始值的±20%				
		tanδ	≤ 2 times initial specified limit 2倍初始规定值				
		I_{leak}	≤ initial specified limit 初始规定值				
Shelf life 储存寿命	After storage for 1000 h at 105 ºC, the capacitors shall meet the requirement of useful life test after reforming process. After test: VR to be applied for 30 minutes, 24 to 48 hours before measurement. 105ºC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		
	0.80	1.00	1.20	1.50	1.55		
Temperature multiplier for rated ripple current 额定纹波电流温度系数	+40 ºC	+55 ºC	+70 ºC	+85 ºC	+105 ºC		
	2.70	2.50	2.10	1.70	1.00		
Sectional specification 分规范	IEC 60384-4						

Dimensional drawing

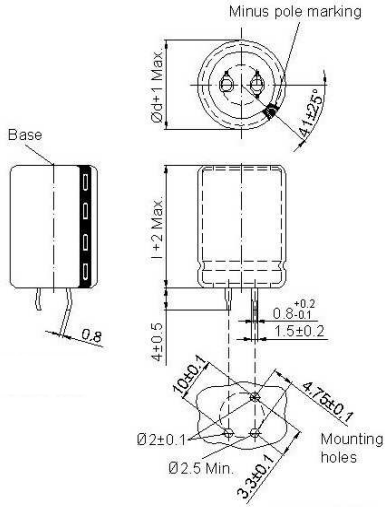
snap-in standard terminals (6.0±1) mm
digit 15 of part number = 0



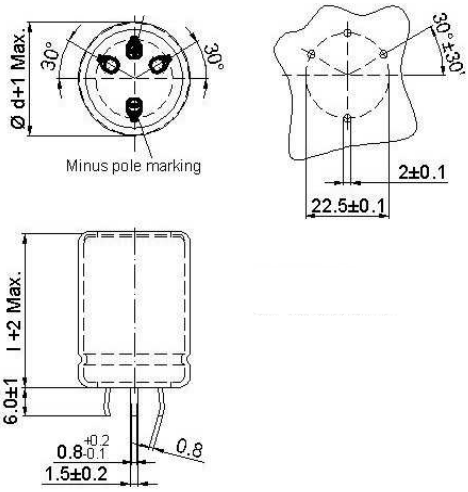
snap-in short terminals (4.0±0.5) mm
digit 15 of part number = 7



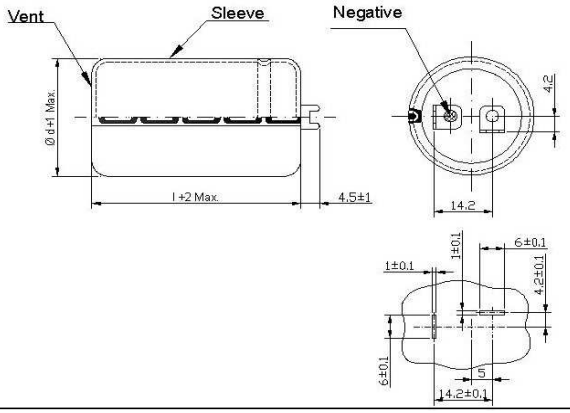
snap-in 3 terminals terminals (4.0±0.5) mm
digit 15 of part number = 2



snap-in 4 terminal terminals (6.0±1) mm
digit 15 of part number = 4



vibration-resistance terminals (4.5±1) mm
digit 15 of part number = 8



Technical dates and ordering codes

V_R V DC	C_R 120Hz 20 ºC µF	Case dimensions d × l mm	$I_{AC,R}$ 120 Hz 105 ºC A	Ordering code
200	220	22.0 × 25	0.82	B43255A2227M0*#
	270	25.4 × 25	1.00	B43255A2277M0*#
	330	25.4 × 30	1.18	B43255A2337M0*#
	390	25.4 × 35	1.35	B43255A2397M0*#
	470	25.4 × 40	1.56	B43255A2477M0*#
	560	30.0 × 35	1.76	B43255A2567M0*#
	680	30.0 × 40	2.03	B43255A2687M0*#
	820	35.0 × 35	2.29	B43255A2827M0*#
	1000	35.0 × 35	2.53	B43255A2108M0*#
	1200	35.0 × 40	2.69	B43255A2128M0*#
	1500	35.0 × 50	3.25	B43255A2158M0*#
250	150	22.0 × 25	0.68	B43255E2157M0*#
	180	22.0 × 30	0.79	B43255E2187M0*#
	220	25.4 × 30	0.96	B43255E2227M0*#
	270	25.4 × 35	1.13	B43255E2277M0*#
	270	30.0 × 25	1.03	B43255F2277M0*#
	330	30.0 × 30	1.28	B43255E2337M0*#
	390	30.0 × 35	1.47	B43255E2397M0*#
	470	35.0 × 30	1.65	B43255E2477M0*#
	560	35.0 × 35	1.89	B43255E2567M0*#
	680	35.0 × 40	2.18	B43255E2687M0*#
	820	35.0 × 45	2.50	B43255E2827M0*#
	1000	35.0 × 50	2.87	B43255E2108M0*#
315	82	22.0 × 25	0.48	B43255A0826M0*#
	100	22.0 × 30	0.57	B43255A0107M0*#
	120	25.4 × 25	0.64	B43255A0127M0*#
	150	30.0 × 25	0.78	B43255A0157M0*#
	180	30.0 × 25	0.86	B43255A0187M0*#
	220	30.0 × 30	1.00	B43255A0227M0*#
	270	35.0 × 30	1.20	B43255A0277M0*#
	330	35.0 × 30	1.33	B43255A0337M0*#
	390	35.0 × 35	1.52	B43255A0397M0*#
	470	35.0 × 40	1.74	B43255A0477M0*#
	560	35.0 × 45	1.98	B43255A0567M0*#
	680	35.0 × 50	2.27	B43255A0687M0*#

* = Insulation feature
0 = PVC sleeve
6 = PET sleeve

# = Terminal style
0 = snap-in standard terminals (6.0±1) mm
2 = snap-in 3 terminals (4.0±0.5) mm
4 = snap-in 4 terminals (6.0±1) mm
7 = snap-in short terminals (4.0±0.5) mm
8 = vibration-resistance terminals (4.5±1) mm

Technical dates and ordering codes

V_R V DC	C_R 120Hz 20 ºC µF	Case dimensions d × l mm	$I_{AC,R}$ 120 Hz 105 ºC A	Ordering code
350	82	22.0 × 25	0.48	B43255A4826M0*#
	100	25.4 × 25	0.59	B43255A4107M0*#
	120	25.4 × 30	0.68	B43255A4127M0*#
	150	25.4 × 30	0.76	B43255A4157M0*#
	180	25.4 × 35	0.88	B43255A4187M0*#
	220	30.0 × 35	1.06	B43255A4227M0*#
	270	30.0 × 40	1.23	B43255A4277M0*#
	330	35.0 × 35	1.40	B43255A4337M0*#
	390	35.0 × 40	1.59	B43255A4397M0*#
	470	35.0 × 45	1.82	B43255A4477M0*#
	560	35.0 × 50	2.06	B43255A4567M0*#
400	56	22.0 × 25	0.40	B43255A9566M0*#
	68	25.4 × 25	0.48	B43255A9686M0*#
	82	25.4 × 25	0.53	B43255A9826M0*#
	100	25.4 × 30	0.62	B43255A9107M0*#
	120	30.0 × 25	0.70	B43255A9127M0*#
	150	30.0 × 30	0.83	B43255A9157M0*#
	180	35.0 × 30	0.98	B43255A9187M0*#
	220	35.0 × 30	1.08	B43255A9227M0*#
	270	35.0 × 35	1.26	B43255A9277M0*#
	330	35.0 × 40	1.46	B43255A9337M0*#
	390	35.0 × 45	1.66	B43255A9397M0*#
	470	35.0 × 50	1.89	B43255A9477M0*#
	560	35.0 × 60	2.23	B43255A9567M0*#

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- 6 = PET sleeve

= Terminal style
- 0 = snap-in standard terminals (6.0±1) mm
- 2 = snap-in 3 terminals (4.0±0.5) mm
- 4 = snap-in 4 terminals (6.0±1) mm
- 7 = snap-in short terminals (4.0±0.5) mm
- 8 = vibration-resistance terminals (4.5±1) mm

Technical dates and ordering codes

V_R V DC	C_R 120Hz 20 ºC µF	Case dimensions d × l mm	$I_{AC,R}$ 120 Hz 105 ºC A	Ordering code
450	47	22.0 × 30	0.39	B43255A5476M0*#
	56	25.4 × 25	0.44	B43255A5566M0*#
	68	25.4 × 30	0.51	B43255A5686M0*#
	82	30.0 × 30	0.61	B43255A5826M0*#
	100	30.0 × 30	0.68	B43255A5107M0*#
	100	35.0 × 25	0.67	B43255B5107M0*#
	120	30.0 × 30	0.74	B43255A5127M0*#
	120	30.0 × 25	0.67	B43255B5127M0*#
	150	35.0 × 30	0.90	B43255A5157M0*#
	150	25.4 × 45	0.92	B43255B5157M0*#
	150	35.0 × 25	0.82	B43255C5157M0*#
	180	35.0 × 35	1.03	B43255A5187M0*#
	180	35.0 × 30	0.95	B43255B5187M0*#
	220	35.0 × 40	1.19	B43255A5227M0*#
	220	30.0 × 45	1.22	B43255B5227M0*#
	220	35.0 × 35	1.11	B43255C5227M0*#
	270	35.0 × 45	1.38	B43255A5277M0*#
	270	35.0 × 35	1.22	B43255B5277M0*#
	330	35.0 × 50	1.58	B43255A5337M0*#
	330	35.0 × 40	1.41	B43255B5337M0*#
	390	35.0 × 50	1.71	B43255A5397M0*#
	470	35.0 × 50	1.88	B43255A5477M0*#
	680	35.0 × 70	2.68	B43255A5687M0*#

* = Insulation feature
0 = PVC sleeve
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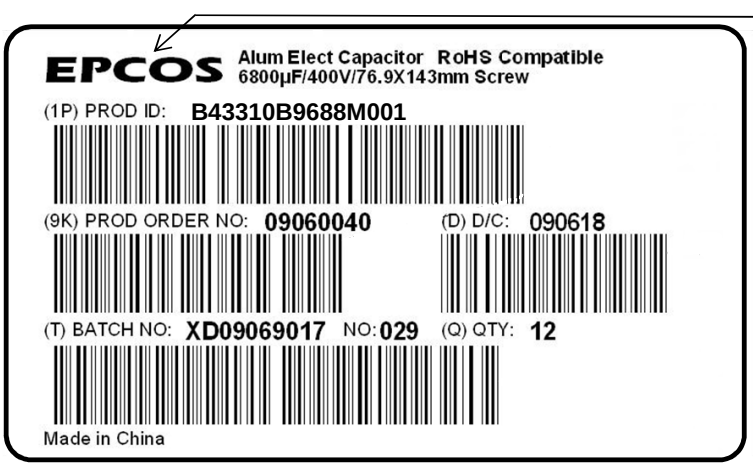
# = Terminal style
0 = snap-in standard terminals (6.0±1) mm
2 = snap-in 3 terminals (4.0±0.5) mm
4 = snap-in 4 terminals (6.0±1) mm
7 = snap-in short terminals (4.0±0.5) mm
8 = vibration-resistance terminals (4.5±1) mm

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：



(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	EPCOS B43231-A9337-M 330µF (M) 400V- 25/085/56 MM.JJ	Brand Part number (ordering code) Rated capacitance, tolerance, rated voltage, Climatic category, month and year of production	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）
25mm	EPCOS B43231-A9337-M 330µF (M) 400V- 25/085/56 MM.JJ	Brand Part number (ordering code) Rated capacitance, tolerance, rated voltage, Climatic category Month and year of production	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）
>25mm	EPCOS B43231-A9337-M 330µF (M) 400V- 25/085/56 MM.JJ	Brand Part number (ordering code) Rated capacitance, tolerance, rated voltage, Climatic category Month and year of production	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）

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。

Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.

2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or lifesaving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.

3. **The warnings, cautions and product-specific notes must be observed.**

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