SMD

**New series** NEW




### Construction

- Polar tantalum capacitors with solid electrolyte
- Tantalum polymer technology
  (cathode consists of a solid conductive polymer)
- Three parallel low ESR tantalum capacitors in one case
  (“multiple anode”)
- Flame-retardant plastic case (UL 94 V-0)
- Tinned terminals

### Features

- High volumetric efficiency
- Ultra-low ESR, high ripple current
- Excellent solderability
- Stable temperature and frequency characteristics
- High ESR stability during temperature rise
- High permissible ripple current
- Only low derating necessary
- Low dissipation factor
- High resistance to shock and vibration
- Suitable for use without series resistor
  (recommended operating voltage 0,8 · $V_R$)

### Applications

- Telecommunications
  (e.g. mobile phones, private branch exchanges)
- Data processing (e.g. laptops, main frames)
- Measuring and control engineering
- Medical engineering
- Switch-mode power supplies
  with very high clock frequencies (300 kHz)
- DC/DC converters

### Soldering

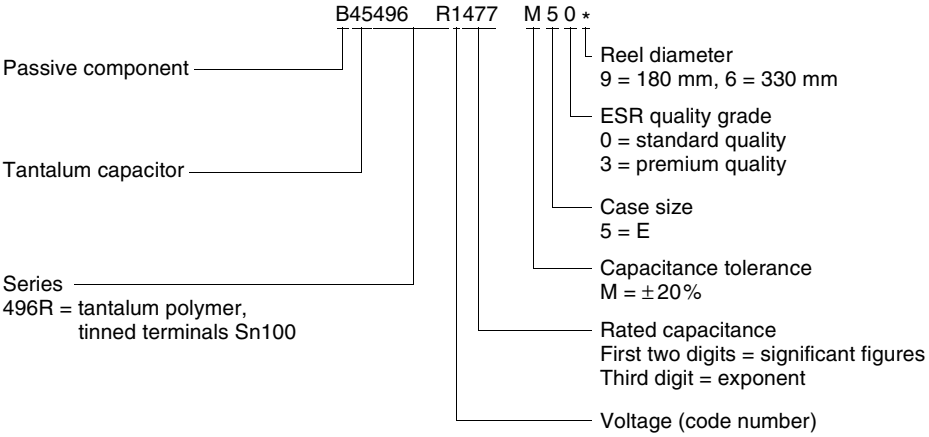
Suitable for reflow soldering (IR and vapor phase) and wave soldering

### Delivery mode

Taped and reeled in accordance with IEC 60286-3

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**Ordering code structure**

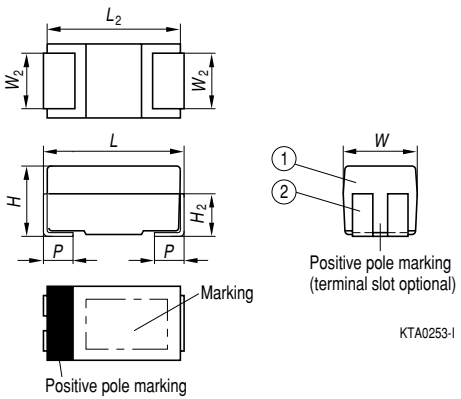



**Specifications and characteristics in brief**

For characteristic curves see “General Technical Information”, page 107 ff.

| | Ultra-Low ESR; multiple anode |
|---|---|
| Series | B45496R |
| Technology | Ta-Poly |
| Terminals | Tinned |
| Rated voltage $V_R$ (up to 85 °C) | 2,5 … 6,3 Vdc |
| Rated capacitance $C_R$ | 470 … 1500 µF |
| Capacitance tolerance | ±20% |
| Operating temperature | –55 … +105 °C |
| Failure rate | Specification in preparation |
| Service life | > 500 000 h |
| Leakage current ($V_R$, 5 min, 20 °C) | 100 nA/µC |
| $ESR_{max}$ (20 °C, 100 kHz) | 10 … 20 mΩ |
| IEC climatic category | To IEC 60068-1<br>55/105/56 (–55/+105 °C; 56 days damp heat test) |

**Dimensional drawing**

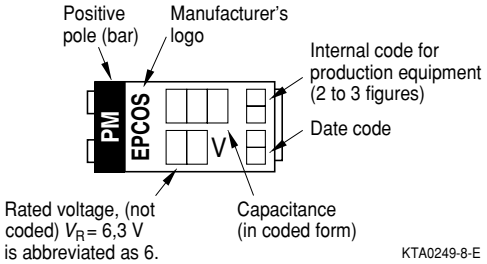



① Encapsulation: molded epoxy resin
② NiFe; tinned surface Sn100

| Case size | Dimensions in mm (inches) | | | | | | |
|---|---|---|---|---|---|---|---|
| | *L* | *W* | *H* | $L_2$ typ. | $W_2 \pm 0{,}1$ ±(,004) | $H_2$ typ. | $p \pm 0{,}3$ ±(,012) |
| E (5) | 7,3 ± 0,3 (,287±,012) | 4,3 ± 0,3 (,169±,012) | 4,1 ± 0,3 (,157±,012) | 7,1 (,280) | 2,4 (,094) | 1,6 (,062) | 1,3 (,051) |

**Marking**

Case size E




Capacitance coding

| | |
|---|---|
| 1st and 2nd digit | Capacitance in pF |
| 3rd digit | Multiplier: 7 = $10^7$ pF |

Date coding

| Year | Month | |
|---|---|---|
| M = 2000 | 1 = January | 7 = July |
| N = 2001 | 2 = February | 8 = August |
| P = 2002 | 3 = March | 9 = September |
| R = 2003 | 4 = April | O = October |
| S = 2004 | 5 = May | N = November |
| T = 2005 | 6 = June | D = December |

In addition to the year and month of manufacture, the stamp includes another two or three figures which internally allow us an assignment to production equipment.

SMD

**Overview of available types**

| | Ultra-Low ESR | | |
|---|---|---|---|
| Series | B45496R | | |
| $V_R$ (Vdc) up to 85 °C | 2,5 | 4 | 6,3 |
| $C_R$ (µF) | | | |
| 470 | | | E |
| 680 | E | E | E |
| 1000 | E | E | |
| 1500 | E | | |

**Technical data and ordering codes**

| $V_R$ up to 85 °C (up to 105 °C) Vdc | $C_R$ µF | Case size | tan $\delta_{max}$ (20 °C, 120 Hz) | $I_{lk,\ max}$ (20 °C, $V_R$, 5 min) µA | $ESR_{max}$ [1] (20 °C, 100 kHz) mΩ | Iac (20 °C, 100 kHz) A | Ordering code [2] |
|---|---|---|---|---|---|---|---|
| 2,5 | 680 | E | 0,1 | 170 | 18 | 3,9 | B45496R9687M50⋆ |
| (1,7) | 680 | E | 0,1 | 170 | 10 | 5,2 | B45496R9687M53⋆ |
| | 1000 | E | 0,1 | 250 | 18 | 3,9 | B45496R9108M50⋆ |
| | 1000 | E | 0,1 | 250 | 10 | 5,2 | B45496R9108M53⋆ |
| | 1500 | E | 0,1 | 380 | 20 | 3,7 | B45496R9158M50⋆ |
| | 1500 | E | 0,1 | 380 | 12 | 4,7 | B45496R9158M53⋆ |
| 4 | 680 | E | 0,1 | 270 | 18 | 3,9 | B45496R0687M50⋆ |
| (2,5) | 680 | E | 0,1 | 270 | 10 | 5,2 | B45496R0687M53⋆ |
| | 1000 | E | 0,1 | 400 | 18 | 3,9 | B45496R0108M50⋆ |
| | 1000 | E | 0,1 | 400 | 10 | 5,2 | B45496R0108M53⋆ |
| 6,3 | 470 | E | 0,1 | 300 | 20 | 3,7 | B45496R1477M50⋆ |
| (4,0) | 470 | E | 0,1 | 300 | 12 | 4,7 | B45496R1477M53⋆ |
| | 680 | E | 0,1 | 430 | 20 | 3,7 | B45496R1687M50⋆ |
| | 680 | E | 0,1 | 430 | 12 | 4,7 | B45496R1687M53⋆ |

Upon request

Capacitance tolerance: M = ±20%

1) Other values upon request
2) ⋆ Code number for reel diameter: 9 = 180 mm, 6 = 330 mm

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

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