

New series
Construction

- Polar tantalum capacitors with solid electrolyte
- Tantalum polymer technology (cathode consists of a solid conductive polymer)
- Flame-retardant plastic case (UL 94 V-0)
- Tinned terminals
- Maximum height 2,0 mm


Features

- High volumetric efficiency
- Ultra-low ESR
- Excellent solderability
- Stable temperature and frequency characteristics
- High ESR stability during temperature rise
- High permissible ripple current
- Only low derating necessary
- Low self-inductance
- High resistance to shock and vibration
- No failure-mode ignition in high-surge current applications
- Suitable for use without series resistor (recommended operating voltage $0,8 \cdot V_R$)
- Operating temperature $-55 \dots +105 \text{ }^{\circ}\text{C}$

Applications

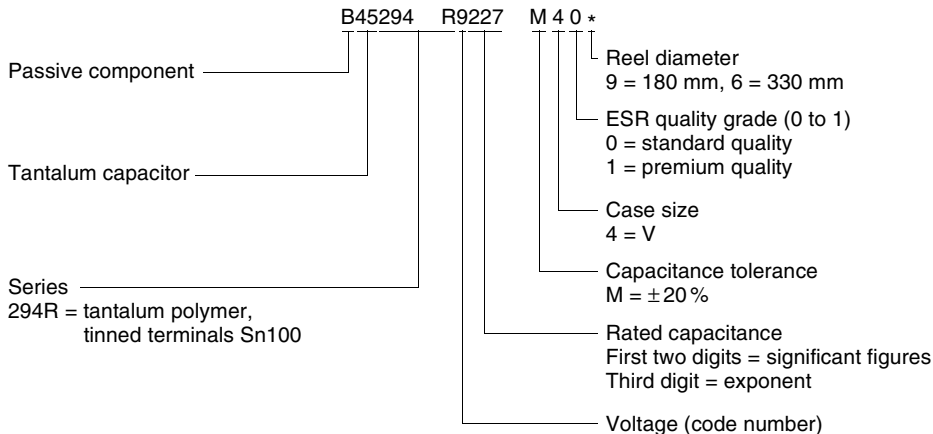
- Telecommunications (e.g. mobile phones, private branch exchanges, PDA)
- Data processing (e.g. laptops, main frames)
- Measuring and control engineering
- Automotive electronics (e.g. navigation systems, convenience electronics)
- Medical engineering
- Switch-mode power supplies with very high clock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

Soldering

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

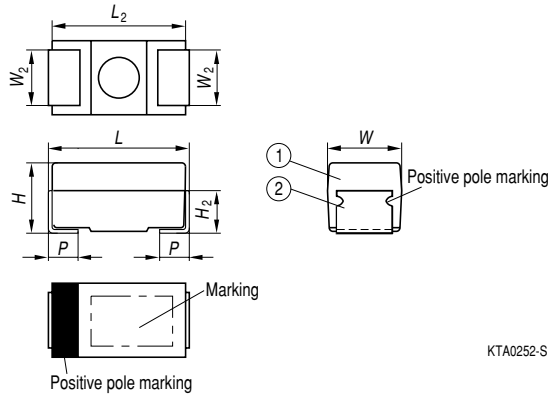
Delivery mode

Taped and reeled in accordance with IEC 60286-3


Ordering code structure

Specifications and characteristics in brief

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

	Ultra-Low ESR
Series	B45294R
Technology	Ta-Poly
Terminals	Tinned
Rated voltage V_R (up to 85 °C)	2,5 ... 10 Vdc
Rated capacitance C_R	100 ... 330 μF
Capacitance tolerance	$\pm 20\%$
Operating temperature	$-55 \dots +105 \text{ }^\circ\text{C}$
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)	25 ... 80 m Ω
IEC climatic category	To IEC 60068-1 55/105/56 ($-55/+105 \text{ }^\circ\text{C}$; 56 days damp heat test)

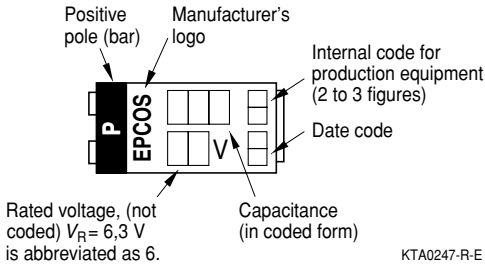
Dimensional drawing


Parts are nearly black, letters are gray.

Case size	Dimensions in mm (inches)						
	L	W	H	L_2 typ.	$W_2 \pm 0,1$ $\pm(,004)$	H_2 typ.	$p \pm 0,3$ $\pm(,012)$
V (4)	$7,3 \pm 0,3$ (,287 $\pm$,012)	$4,3 \pm 0,3$ (,169 $\pm$,012)	$1,9 \pm 0,1$ (,079 max)	7,1 (,280)	2,4 (,094)	1,1 (,043)	1,3 (,051)

Marking

Case size V



Parts are nearly black, letters are gray.

Capacitance coding

1st and 2nd digit	Capacitance in pF
3rd digit	Multiplier: $6 = 10^6 \text{ pF}$ $7 = 10^7 \text{ pF}$

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.

Tantalum Chip Capacitors
B45294
Polymer; Low Profile; $H_{\max} = 2,0$ mm; Ultra-Low ESR

Overview of available types

Series	B45294R, tinned terminals Sn90/Pb10 or Sn100			
V_R (Vdc) up to 85 °C	2,5	4	6,3	10
C_R (μF)				
100			V	V
150			V	
220	V	V	V	
330	V	V	V	

Technical data and ordering codes

V_R up to 85 °C (up to 105 °C)	C_R	Case size	$\tan \delta_{\max}$ (20 °C, 120 Hz)	$I_{lk, \max}$ (20 °C, V_R , 5 min)	$ESR_{\max}^{1)}$ (20 °C, 100 kHz)	I_{ac} (20 °C, 100 kHz)	Ordering code ²⁾
Vdc	μF			μA	mΩ	A	
2,5 (2,0)	220	V	0,1	55	45	1,7	B45294R9227M40*
	220	V	0,1	55	35	1,9	B45294R9227M41*
	330	V	0,1	83	40	1,8	B45294R9337M41*
4 (3,2)	220	V	0,1	88	45	1,7	B45294R0227M40*
	220	V	0,1	88	35	1,9	B45294R0227M41*
	220	V	0,1	88	25	2,2	B45294R0227M42*
	330	V	0,1	132	45	1,7	B45294R0337M40*
	330	V	0,1	132	40	1,8	B45294R0337M41*
6,3 (5,0)	100	V	0,1	63	45	1,7	B45294R1107M40*
	100	V	0,1	63	25	2,2	B45294R1107M42*
	150	V	0,1	95	45	1,7	B45294R1157M40*
	150	V	0,1	95	35	1,9	B45294R1157M41*
	150	V	0,1	95	25	2,2	B45294R1157M42*
	220	V	0,1	139	45	1,7	B45294R1227M40*
	220	V	0,1	139	25	2,2	B45294R1227M42*
	330	V	0,1	208	45	1,7	B45294R1337M40*
10 (8,0)	100	V	0,1	100	80	1,3	B45294R2107M40*
	100	V	0,1	100	55	1,5	B45294R2107M41*

 Under development

Capacitance tolerance: M = $\pm 20\%$
¹⁾ Other values upon request

²⁾ * Code number for reel diameter: 9 = 180 mm, 6 = 330 mm