

# T51 AEC-Q200 Qualified vPolyTan™ Polymer SMD Capacitors Combine Low ESR Down to 40 mΩ With High Volumetric Efficiency and High Temperature Operation



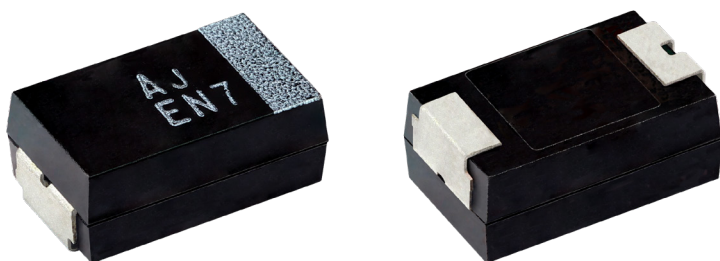
## ADVANTAGE



Delivers improved performance in high temperature, high humidity operating conditions, the AEC-Q200 qualified T51 series offers lower ESR, lower voltage, and a benign failure mode.

## KEY PRODUCT FEATURES

- ✓ AEC-Q200 qualified polymer tantalum capacitors
- ✓ High volumetric efficiency - able to offer more capacitance than available in other technologies
- ✓ Low ESR - more highly conductive polymer cathode system provides lower ESR than traditional tantalum capacitors



## MARKETS AND APPLICATIONS



### MOBILITY

- ADAS and Infotainment
- Body Electronics
  - Light and rain sensors
  - Communication bus
  - Car alarms
  - Windshield wipers
  - Small motor drives
  - Tire Pressure sensors
- In-Vehicle Systems
  - USB type C chargers
  - Seat controls
  - Window and mirror controls
  - Panoramic roof systems
  - Cruise control

## RESOURCES





## ADDITIONAL BENEFITS

The introduction of T51 brings to market a highly robust polymer solution which offers an improvement over standard polymer tantalum in biased humidity and temperature cycling performance.

## SPECIFICATIONS:

- Specific temperature operation: -55 °C to +125 °C
- Capacitance range: 6.8 μF to 330 μF
- Voltage ratings: 2.5 V<sub>DC</sub> to 35 V<sub>DC</sub>
- Case sizes: - V - 7343-20  
- D - 7343-31

## RATINGS AND CASE CODES

μD	2.5 V	4.0 V	6.3 V	10 V	16 V	20 V	25 V	35 V
6.8								D
10							D	D
15							D	
22							D	
33					D	D	D	
47					D			
68					D			
100				D	D			
150		D <sup>(1)</sup>	D <sup>(1)</sup>	D <sup>(1)</sup>				
220	V	D <sup>(1)</sup>	D <sup>(1)</sup>	D <sup>(1)</sup>				
330	V	D <sup>(1)</sup>	D <sup>(1)</sup>					

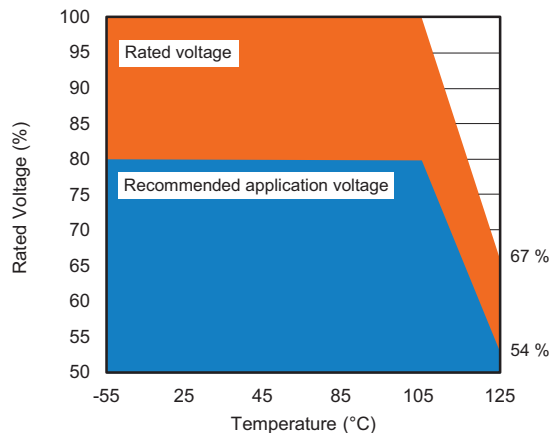
### Note

<sup>(1)</sup> Rating in development, contact factory for availability

## LOWER VOLTAGE DERATING

In addition to a significantly lower ESR, the conductive polymer cathode features a benign failure mode, therefore additional derating is not required for the safety concerns associated with traditional MnO<sub>2</sub> technology.

In the illustration, we see that for a rated voltage (V<sub>R</sub>) of 10 V or less, only 10 % derating is required, while for V<sub>R</sub> > 10 V, 20 % derating is suggested (90 % and 80 % of application voltage respectively). These guidelines are consistent up to 105 °C. After 105 °C, we see a linear decline of the recommended derating to 40 % of V<sub>R</sub> for < 10 V at 125 °C. Likewise, capacitors with a V<sub>R</sub> > 10 V see a decrease to a recommended derating of 46 %.



Looking for a better alternative to MLCCs in automotive power supplies, ADAS, infotainment, and other in-vehicle electronic systems?

Please contact us, if you would like to [purchase](#) the T51 or [order samples](#).