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### Aluminum Capacitors Qualified to AEC-Q200



#### RADIAL TYPES

- 140 RTM - high temperature
- 146 RTI - high temperature, low impedance
- 150 RMI - low impedance
- 152 RMH - high voltage
- 160 RLA - enhanced high temperature, low impedance
- 170 RVZ - ultra low impedance
- 172 RLX - ultra low impedance, high ripple current
- 190 RTL - ultra low impedance, high temperature
- 250 RMI-V - low Impedance, high vibration capability
- 246 RTI-V - high temperature, high vibration capability
- 260 RLA-V - enhanced high temperature, high vibration capability

#### SMD TYPES

- 140 CRH - High Temperature
- 146 CTI - High Temperature, Low Impedance
- 150 CRZ - Low Impedance
- 152 CME - High Voltage
- 160 CLA - Enhanced High Temperature, Low Impedance
- 192 CTX - High Voltage, High Temperature
- 250 CRZ-V - Low Impedance, High Vibration Capability
- 246 CTI-V - High Temperature, High Vibration Capability
- 260 CLA-V - Enhanced High Temperature, High Vibration Capability

#### AXIAL TYPES

- 120 ATC - High Temperature, Low Impedance
- 125 ALS - Low Impedance
- 126 ALX - High Temperature, Low Impedance

#### RESOURCES


- Brochure: AEC-Q200 - [www.vishay.com/doc?49882](http://www.vishay.com/doc?49882)
- For technical questions contact [gerald.tatschl@vishay.com](mailto:gerald.tatschl@vishay.com)

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### Selected Aluminum Capacitor Series Are Now Qualified to AEC-Q200 Standards

On February 1, 2009, Vishay BCcomponents Austria announced the qualification to AEC-Q200 for select series of aluminum electrolytic capacitors, which are mainly used in the automotive electronics and industrial market segments.


#### SMD Design

|                                | Product Family   | Series                    | Voltage        | Capacitance      | Temperature | Useful Life    | Case Size (mm)       |
|--------------------------------|--|---------------------------|----------------|------------------|-------------|----------------|----------------------|
| Low Impedance / High Vibration | Vishay BCcomponents<br> | <a href="#">140 CRH</a>   | 6.3 V to 63 V  | 10 µF to 4.7 mF  | 125 °C      | Up to 6000 h   | 8 x 10 to 18 x 21    |
|                                |  | <a href="#">146 CTI</a>   | 16 V to 100 V  | 10 µF to 4.7 mF  | 125 °C      | Up to 6000 h   | 8 x 10 to 18 x 21    |
|                                |  | <a href="#">150 CRZ</a>   | 6.3 V to 100 V | 4.7 µF to 10 mF  | 105 °C      | Up to 10 000 h | 8 x 10 to 18 x 21    |
|                                |  | <a href="#">152 CME</a>   | 400 V to 450 V | 2.2 µF to 33 µF  | 105 °C      | Up to 6000 h   | 10 x 10 to 18 x 21   |
|                                |  | <a href="#">160 CLA</a>   | 16 V to 80 V   | 47 µF to 3.3 mF  | 150 °C      | Up to 2000 h   | 12.5 x 13 to 18 x 21 |
|                                |  | <a href="#">192 CTX</a>   | 400 V          | 2.2 µF to 33 µF  | 125 °C      | Up to 2500 h   | 10 x 10 to 18 x 21   |
|                                |  | <a href="#">246 CTI-V</a> | 16 V to 100 V  | 150 µF to 4.7 mF | 125 °C      | Up to 6000 h   | 16 x 16 to 18 x 21   |
|                                |  | <a href="#">250 CRZ-V</a> | 6.3 V to 100 V | 220 µF to 10 mF  | 105 °C      | Up to 10 000 h | 16 x 16 to 18 x 21   |
|                                |  | <a href="#">260 CLA-V</a> | 16 V to 80 V   | 150 µF to 3.3 mF | 150 °C      | Up to 2000 h   | 16 x 16 to 18 x 21   |

#### Radial Design

|                                | Product Family   | Series                    | Voltage        | Capacitance      | Temperature | Useful Life    | Case Size (mm)     |
|--------------------------------|--|---------------------------|----------------|------------------|-------------|----------------|--------------------|
| Low Impedance / High Vibration | Vishay BCcomponents<br> | <a href="#">140 RTM</a>   | 6.3 V to 63 V  | 22 µF to 4.7 mF  | 125 °C      | Up to 4000 h   | 10 x 12 to 18 x 31 |
|                                |  | <a href="#">146 RTI</a>   | 16 V to 63 V   | 68 µF to 6.8 mF  | 125 °C      | Up to 6000 h   | 10 x 12 to 18 x 35 |
|                                |  | <a href="#">150 RMI</a>   | 10 V to 100 V  | 100 µF to 8.2 mF | 105 °C      | Up to 10 000 h | 8 x 12 to 18 x 40  |
|                                |  | <a href="#">152 RMH</a>   | 200 V to 450 V | 1.5 µF to 220 µF | 105 °C      | Up to 4000 h   | 10 x 12 to 18 x 35 |
|                                |  | <a href="#">160 RLA</a>   | 16 V to 50 V   | 33 µF to 3.3 mF  | 150 °C      | Up to 2000 h   | 10 x 12 to 18 x 35 |
|                                |  | <a href="#">170 RVZ</a>   | 10 V to 63 V   | 100 µF to 6.8 mF | 105 °C      | Up to 10 000 h | 10 x 12 to 18 x 40 |
|                                |  | <a href="#">172 RLX</a>   | 10 V to 50 V   | 150 µF to 15 mF  | 105 °C      | Up to 10 000 h | 10 x 12 to 18 x 40 |
|                                |  | <a href="#">190 RTL</a>   | 16 V to 50 V   | 100 µF to 6.8 mF | 125 °C      | Up to 6000 h   | 10 x 12 to 18 x 35 |
|                                |  | <a href="#">246 RTI-V</a> | 16 V to 63 V   | 390 µF to 6.8 mF | 125 °C      | Up to 6000 h   | 16 x 20 to 18 x 35 |
|                                |  | <a href="#">250 RMI-V</a> | 10 V to 100 V  | 330 µF to 8.2 mF | 105 °C      | Up to 10 000 h | 16 x 20 to 18 x 40 |
|                                |  | <a href="#">260 RLA-V</a> | 16 V to 50 V   | 470 µF to 3.3 mF | 150 °C      | Up to 2000 h   | 16 x 25 to 18 x 35 |

#### Axial Design

|                                | Product Family   | Series                  | Voltage       | Capacitance     | Temperature | Useful Life    | Case Size (mm)      |
|--------------------------------|--|-------------------------|---------------|-----------------|-------------|----------------|---------------------|
| Low Impedance / High Vibration | Vishay BCcomponents<br> | <a href="#">120 ATC</a> | 16 V to 100 V | 47 µF to 6.8 mF | 125 °C      | Up to 8000 h   | 10 x 30 to 21 x 38  |
|                                |  | <a href="#">125 ALS</a> | 10 V to 63 V  | 47 µF to 18 mF  | 105 °C      | Up to 10 000 h | 6.5 x 18 to 21 x 38 |
|                                |  | <a href="#">126 ALX</a> | 10 V to 63 V  | 33 µF to 12 mF  | 125 °C      | Up to 8000 h   | 6.5 x 18 to 21 x 38 |

All these capacitor series deliver stable performance for automotive electronics, including engine control units, gearbox controls, body electronics, and safety, power supplies, and braking systems. These AEC-Q200 qualified capacitors likewise deliver reliable performance in industrial applications such as drives and motion control and in rugged energy management applications such as renewable energy products.

In addition, these series comply with GADSL, a list of legal restrictions on hazardous substances. This includes full compliance with EC Directive 2000/53/EC on End-of-Life Vehicles (ELV), 2000/53/EC Annex II to End-of Life Vehicles (ELV II) Directives, 2011/65/EU on the Restriction of Hazardous Substances (RoHS), and 2002/96/EC on Waste Electrical and Electronic Equipment Directive (WEEE).