Protec GmbH
Vertrieb elektronischer Bauteile

AUTOMOTIVE COMPONENTS NEWSLETTER *NOVEMBER 2016*

AEM

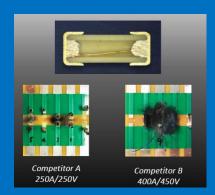## Simulated short circuit event in a Hybrid / EV Battery System

AEM AirMatrix Chip Fuse
- Integrity of fuse body maintained
- Airtight package preserved
- Exhibits proper extinguishing characteristics

AEM AirMatrix 450A/450V

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Conventional Wire-in-Air Fuse
- Fuse opening causes solder vaporization
- High pressure results in explosion of fuse
- Extended arcing affect due to re-deposition of solder

Competitor A 250A/250V   Competitor B 400A/450V

Protec GmbH

Rosenheimer Landstraße 117
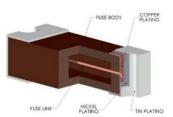83229 Ottobrunn-Riemerling
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AEM Leading Edge Automotive Grade Fuses
AirMatrix Fuses – QA Series

AirMatrix Fuses, with their unique construction, have proven to be of particular interest for various automotive applications, especially for battery management systems for EV and Hybrid vehicles.

Features & Functions
- AEC-Q200 Qualified / TS16949 Certified
- Unique fiberglass enforced epoxy fuse body Airtight & robust mechanical structure
- Patented Wire-in-Air design
- Anti-Sulphur & Solderless design
- Consistent electrical performance
- Highly reliable Fast Acting design
- 2410 / 1206 Package Size Options
- Current ratings 0.5 to 20A
- Voltage Ratings 32 to 250VAC
- Operating temperature -55 to +125ºC
- Anti-Sulphur & solderless construction

AirMatrix Fuse Structure vs Square Ceramic Tube Fuse

	AirMatrix Fuses	Square Nano Fuse
Process	PCB Batch Process	Mechanical Assembly
Structure	Fiberglass enforced body Cu / Cu alloy composite fuse link Cu termination with Sn over Ni plating Direct connect design	Ceramic body Cu / Cu alloy fuse link Plated metal end cap Solder connect design
Current Rating	Up to 20A	Up to 15A
Voltage Rating	Up to 250VAC /125VDC	125V
Reliability	Direct Connect Design Fully visible connection Consistent / repeatable performance RoHS compliant / 100% Lead free	Solder Connect Design Reliability concern – Blind solder joint Inconsistent performance RoHS compliant

Current Voltage Waveforms

AirMatrix ® Wire-in-Air Fuse   **Conventional Wire-in-Air Fuse**

AEM Components 450A/450V Pulse Test   Competitor A 250A/250V Pulse Test   Competitor B 400A/450V Pulse Test