

# **Automotive Electronics Council**

## **Component Technical Committee Charter**

**Automotive Electronics Council**  
Component Technical Committee

**AUTOMOTIVE ELECTRONICS COUNCIL (AEC)  
COMPONENT TECHNICAL COMMITTEE  
CHARTER**

*Text enhancements and changes made since the last revision of this document are shown as underlined text.*

**1 Automotive Electronics Council (AEC) Component Technical Committee**

The Automotive Electronics Council was originally established by Chrysler, Delco Electronics, and Ford to establish common part qualification and quality system standards. At its inception, the AEC consisted of two committees: the Quality Systems Committee and the Component Technical Committee. The Quality System Committee is no longer active, having deferred all quality specification to ISO-TS16949. **This charter applies only to the Component Technical Committee of the AEC.**

**1.1 Organization**

The AEC Component Technical Committee is an engineering committee composed of representatives from the following classifications:

- **Sustaining members** representing "end-user" companies (e.g., Tier 1 or equivalent) that supplies electronic modules/systems to consumer automotive OEM's.
- **Technical members** representing automotive-market companies that use electronics in their products or manufactures electronic components (e.g., Tier 2 or equivalent).
- **Associate members** representing companies/organizations providing support and services to the electronics industry (e.g., Tier 3, sub-contractors, universities, etc.).
- **Guest members** representing non-automotive electronics-market companies and/or organizations.

The Component Technical Committee is a standardization body for establishing standards for high quality/reliability electronic components.

**1.2 Scope**

The scope of the Component Technical Committee focuses on the creation of qualification standards for integrated circuits, discrete semiconductors, passive electrical components, and various manufacturing support functions. The results of Committee activities are primarily applied to electronic components used in high quality/reliability application markets, such as transportation, military, industrial, computer, telecommunication, and information systems.

Integrated circuits include custom, semi-custom, and standard integrated circuits, multi-chip modules, and hybrid integrated circuits (i.e., all devices related to integrated circuits, whether they are packaged, unpackaged, or mounted on a passive or active substrate).

Discrete semiconductors include, but are not limited to, transistors, semiconductor diodes, thyristors, and opto-electronic devices.

Passive components include, but are not limited to, capacitors, resistors, crystals, and resonators.

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Manufacturing support functions refer to hardware and software system elements used in the design, manufacture, and test of electronic devices. These elements include, but are not limited to, packages, test vectors, and quality standards.

AEC Component Technical Committee members are only allowed to discuss material related to quality and reliability standardization. Topics such as detailed warranty information, pricing, and proprietary designs are outside the scope of this Committee.

### **1.3 AEC Component Technical Committee Memberships**

**Any company that uses, manufactures, or provides support for electronic components that is interested in developing and supporting AEC Component Technical Committee documents is eligible for consideration for membership as defined herein.** While there is no fee to join the AEC, member companies are expected to pay an equal share of all expenses associated with hosting the annual Reliability Workshop event (see Sections 1.3.1, 1.3.2, 1.3.3, and 2 for more information). Any interested company should refer to the application form in this document for more information. The Sustaining Members serve as the governing body and are responsible for approving any application for membership. The AEC operates under the "one company, one vote" rule whereby each member company shall be restricted to one vote (see Section 3.6). Once membership is approved, each member company shall assign one primary member-representative and an alternate member-representative; the designation of an alternate is not required, but assures that the member company is adequately represented. The primary and alternate representatives must be capable of making a technical contribution to all AEC activities. To retain AEC Committee membership, the member company must remain in good standing, actively participating in all AEC Committee activities and supporting usage of AEC documents.

#### **1.3.1 Sustaining Member**

The governing body of the AEC is the Sustaining Members, which originally comprised of individual members from Chrysler, Delco Electronics, and Ford. The present Sustaining Members of the AEC Component Technical Committee can be found on the AEC website (<http://www.aecouncil.com>). Any "end-user" company (e.g., Tier 1 or equivalent) that supplies electronic modules/systems to consumer automotive OEM's can petition to become a Sustaining Member of the AEC Component Technical Committee. Each Sustaining Member company is expected to pay a share of all expenses associated with hosting the annual Reliability Workshop event (see Section 2 for more information). Each Sustaining Member company and representative shall actively participate in all AEC Committee activities and serve in the expected roles/functions as defined in Section 2; failure to do so, may result in having AEC Committee membership privileges revoked.

#### **1.3.2 Technical Member**

Any automotive-market company that uses electronics in their products or manufactures electronic components (e.g., Tier 2 or equivalent) and is interested in using and developing AEC documents can petition to become a Technical Member of the AEC Component Technical Committee. A Technical member has full voting privileges (see Section 3.6 for more information). Each Technical member company is expected to pay a share of all expenses associated with hosting the annual Reliability Workshop event (see Section 2 for more information). Each Technical Member company and representative shall actively participate in all AEC Committee activities and serve in the expected roles/functions as defined in Section 2; failure to do so, may result in having AEC Committee membership privileges revoked.

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### **1.3.3 Associate Member**

Any organization or company that provides services or support for the electronics industry (e.g., Tier 3, sub-contractors, universities, etc.) and is interested in using and developing AEC documents can petition to become an Associate Member of the AEC Component Technical Committee. An Associate Member has limited voting privileges (see Section 3.6 for more information). Each Associate Member company is expected to pay a share of all expenses associated with hosting the annual Reliability Workshop event (see Section 2.6 for more information). Each Associate Member company and representative shall actively participate in all AEC Committee activities and serve in the expected roles/functions as defined in Section 2; failure to do so, may result in having AEC Committee membership privileges revoked.

### **1.3.4 Guest Member**

Any other electronics-market company or organization (e.g., medical, military, etc.) can petition to become a Guest Member of the AEC Component Technical Committee. A Guest Member is free to participate in AEC activities, but has no voting privileges. Guest Members are encouraged to contribute toward expenses associated with hosting the annual Reliability Workshop event, but are not required to do so. Each Guest Member company and representative shall actively participate in all AEC Committee activities and serve in the expected roles/functions as defined in Section 2; failure to do so, may result in having AEC Committee membership privileges revoked.

### **1.3.5 Limits and Restrictions**

While engaged in AEC activities, AEC Component Technical Committee members shall act in a manner that does not violate any state, federal, or international laws or regulations.

## **2 PROCEDURE**

### **2.1 Component Technical Committee Chairperson**

The Technical Committee Chairperson shall be a sustaining member and is responsible for coordinating all AEC Technical Committee activities, while also serving as the teleconference and meeting facilitator. If there are no volunteers from the sustaining members, a technical committee member may serve as chairperson with approval from the sustaining members until such time that a sustaining member wishes to volunteer to serve. This technical committee member will serve as a neutral facilitator and will be responsible for setting the agenda, coordinating the meetings, recording meeting minutes and issuing action items.

### **2.2 Technical Committee Meetings**

One annual meeting and at least one additional planning meeting will be scheduled by the chairperson unless mutually agreed not to by the Sustaining Members due to extenuating circumstances. The scheduled annual Technical Committee meeting shall coincide with the annual AEC Reliability Workshop event. Additional meetings, either via teleconferencing or in person, shall be held as necessary to conduct business.

All Technical Committee meetings (e.g., face-to-face, conference call, etc.) must have at least one Sustaining Member present to invoke a quorum and make the meeting official.

### **2.3 Agendas and Meeting Minutes**

The Technical Committee chairperson will be responsible for developing and circulating the agendas and the meeting minutes for all AEC activities. The chairperson may delegate these responsibilities to other Committee Members, if desired.

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### **2.4 Subcommittees and Task Groups**

At the Technical Committee's discretion, subcommittees and task groups may be formed to address issues off-line whose results can later be used to conduct business. The members of these subcommittees and task groups do not have to be designated as representatives or Committee Members.

### **2.5 Reliability Workshop Chairperson**

The position of Workshop Chairperson shall rotate among the Sustaining Members and shall be for a term of one year, beginning at the close of the Annual Reliability Workshop through the adjournment of the following year's Workshop event. The company of the Workshop Chairperson shall serve as the host for the annual Reliability Workshop and is responsible for managing the event. At the Chairperson's discretion, other Committee members may be assigned certain tasks associated with the workshop event. The Workshop Chairperson, together with the Sustaining Members, shall approve all facility contracts and proposed event budgets.

### **2.6 Reliability Workshop**

An annual Reliability Workshop shall be held to provide a forum and structured environment to discuss quality and reliability problems and philosophies related to all aspects of passive component, discrete semiconductor, and integrated circuit design, test, analysis, fabrication, assembly, and field performance. The environment is a highly interactive technical presentation and panel discussion format promoting open and frank communications within the international automotive component supplier base. The purpose of this workshop is to continuously improve communications between automotive electronic component users and their supplier base. Workshop Chairperson shall coordinate the workshop event, including but not limited to: distribution of the call for papers/presentations, abstract selection, presentation review, attendee registration, attendee materials, host facility interface, and resolution of final expenses.

All workshop event expenses (e.g., meeting room fees, AV, catering, etc.) shall be distributed among all AEC Committee member companies, in the form of a member payment:

- Sustaining and Technical Member companies shall be responsible for a full share (i.e., 1X) of expenses.
- Associate Member companies shall be responsible for a one-half share (i.e., 0.5X) of expenses.
- Guest Members are encouraged to contribute toward expenses associated with hosting the annual Reliability Workshop event, but are not required to do so.

The Workshop Chairperson shall coordinate member payment activity with the host facility.

## **3 AEC COMPONENT TECHNICAL COMMITTEE DOCUMENTS**

The sustaining members of the Committee shall have the final authority to determine the categories of documents issued (e.g., standards, publications, guidelines, specifications, etc.). There are no restrictions on use or reproduction of AEC Component Technical Committee documents. All AEC documents are free of charge and can be downloaded via the AEC website at <http://www.aecouncil.com>.

It is desirable for AEC Component Technical Committee documents to be accepted as industry standards in worldwide standardization bodies such as JEDEC (Solid State Technology Association) and ECIA (Electronic Components Industry Association). If they do become standards in these bodies, the AEC Component Technical Committee reserves the right to publish addenda to alert suppliers of special AEC Component Technical Committee requirements.

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## **3.1 Document Identification**

A numbering system identifying the AEC Committee, document title, and revision shall be used on all AEC Technical Committee documents. The following document structure shall be used:

- Q100 refers to qualification of integrated circuits
- Q101 refers to qualification of discrete semiconductors
- Q200 refers to qualification of passive components

The Q00X designation (e.g., Q001, Q002, etc.) identifies methods, publications, and guidelines that apply to the entire spectrum of automotive electronic components.

## **3.2 AEC Component Technical Committee Standards**

The information included in AEC Component Technical Committee standards is intended to represent a sound approach to automotive electronics specification and application.

## **3.3 AEC Component Technical Committee Publications**

AEC Component Technical Committee publications provide general engineering information on products, procedures, and/or services within the scope of the AEC that may not necessarily be appropriate for release as a standard. This information may involve materials, parts, accessories, installation, maintenance or test procedures, application, reliability, and/or quality assurance.

## **3.4 AEC Component Technical Committee Specifications**

AEC Component Technical Committee specifications are prepared to clearly and accurately identify the essential technical requirements for the procurement and use of components in automotive electronic applications. Additional procedures needed to help determine whether electronic components meet the requirements of an AEC specification shall be referenced.

## **3.5 AEC Component Technical Committee Guidelines**

An AEC Component Technical Committee guideline is a document that provides a desirable method of manufacture or test. Being conceptual in nature, the guideline allows the supplier to perform the manufacturing or testing as needed to meet the intent of the guideline. Details in the guideline are not requirements, but are intended to provide a documented description of the method so that the desired level of compliance can be met with some degree of flexibility.

## **3.6 Voting**

All AEC Component Technical Committee members (i.e., Sustaining, Technical, Associate, and Guest Members) shall have an opportunity to review, comment, and vote on each new or revised document. The term document refers to Standards, Publications, Specifications, or Guidelines.

The AEC operates under the "one company, one vote" rule whereby each Sustaining and Technical Member company shall be restricted to one full vote (i.e., 1.0 vote); Associate Member companies shall be restricted to a partial vote equivalent to a one-half vote (i.e., 0.5 vote); Guest Member companies will have the opportunity to review and comment on a new or revised document, but do not have voting privileges.

Document approval will require a 3/4 majority of the voting Technical Committee members, including Sustaining, Technical, and Associate Members. Abstain votes shall not be considered in the vote tally. Negative/Reject votes and all submitted comments shall receive a timely response in an attempt to resolve all issues brought forth, either by modifying the document in question or through detailed discussion on the justification behind the document and/or issue.

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Any technical modification to the document in question shall require a re-balloting of the revised document. If an issue cannot be resolved, a 3/4 majority of the voting Technical Committee members will result in approval of the re-ballot document.

## **3.7 Notices and Copyrights**

The AEC owns the copyright to all documents created through AEC activities. The use of copyrighted material requires full AEC Sustaining member approval. For the protection of member companies, all AEC documents, including but not limited to Standards, Publications, Specifications, and/or Guidelines, shall be copyrighted. Any document distributed for review, comment, and/or vote shall include the following notification on the first page of the document:

**NOTICE**

AEC documents contain material that has been prepared, reviewed, and approved through the AEC Technical Committee.

AEC documents are designed to serve the automotive electronics industry through eliminating misunderstandings between manufacturers and purchasers, facilitating interchangeability and improvement of products, and assisting the purchaser in selecting and obtaining with minimum delay the proper product for use by those other than AEC members, whether the standard is to be used either domestically or internationally.

AEC documents are adopted without regard to whether or not their adoption may involve patents or articles, materials, or processes. By such action AEC does not assume any liability to any patent owner, nor does it assume any obligation whatever to parties adopting the AEC documents.

The information included in AEC documents represents a sound approach to product specification and application, principally from the automotive electronics system manufacturer viewpoint. No claims to be in conformance with this document shall be made unless all requirements stated in the document are met.

Inquiries, comments, and suggestions relative to the content of this AEC document should be addressed to the AEC Technical Committee on the link <http://www.aecouncil.com>.

Published by the Automotive Electronics Council.

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**MEMBERSHIP APPLICATION - AEC COMPONENT TECHNICAL COMMITTEE**

Sustaining       Technical       Associate       Guest

Desired Committee(s):    Q100 (IC)       Q101 (Discrete)       Q200 (Passive)

Company Name: _____
Company Address: _____ _____
Company:    User/Tier 1 <input type="checkbox"/> Supplier/Tier 2 <input type="checkbox"/> Support/Tier 3 <input type="checkbox"/> Other <input type="checkbox"/>
Company Business (please describe): _____ _____ _____
Primary Company Representative Name: _____
Representative Title: _____
Address: _____ _____ _____
Telephone: _____
Fax: _____
E-mail address: _____

<p><b><u>Company Management Approval</u></b></p> <p>I have read the AEC Component Technical Committee Charter and my company supports the objectives expressed in the document.</p> <p>Name (typed or printed): _____</p> <p>Title: _____</p> <p>Signature: _____</p> <p>Date: _____</p>
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Complete the above application form and submit to both of the AEC Members listed below. Every effort will be made to notify you within 30 days of the status of your application.

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## Revision History

<u>Rev #</u>	<u>Date of change</u>	<u>Brief summary listing affected sections</u>
-	Mar. 12, 1998	Initial Release
A	Aug. 25, 2000	Revised 1.1, 2.1, 2.2, and 3.5
B	Nov. 25, 2002	Revised AEC Sustaining Member representative names and signatures. Added reference to AEC web site.
C	Aug. 25, 2004	Revised AEC sustaining member representative names and removed signatures. Modified section 3.5 to add AEC document notice.
D	Sept. 19, 2006	Complete document revision. Revised the following: Sections 1, 1.1, 1.2, 1.3, 1.3.1, 1.3.2, 2.1, 2.3, 2.4, and 3.1 to 3.5. Added new Sections 1.3.3 (Guest Member), 1.3.4 (Limits and Restrictions), 2.5 (Reliability Workshop Chairperson), 2.6 (Reliability Workshop), 3.1 (Document Identification), and 3.6 (Voting). Revised the Membership Application Form to update AEC sustaining member representative names and contact information.
E	Jan. 14, 2008	Revised the following: Sections 1.1, 1.3, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 2.3, 2.4, 2.6, 3.6, and 3.7. Added new Section 1.3.2 (Technical Member). Revised the Membership Application Form to reflect new membership structure and update AEC sustaining member representative names and contact information.
E1	Apr. 20, 2009	Revised the Membership Application Form to update AEC sustaining member representative names and contact information.
E2	Jun. 1, 2010	Revised the Membership Application Form to update AEC sustaining member representative names and contact information.
E	<u>Mar. 18, 2011</u>	<u>Revised Section 1.1 to clarify membership classifications. Revised Section 2.1 to modify chairperson allowances. Revised Section 2.2 to modify conditions for workshop meeting schedules. Revised Membership Application Form to update AEC contact information.</u>