IEC PAS 62686-2

Edition 1.0 2016-07

PUBLICLY AVAILABLE SPECIFICATION

PRE-STANDARD

**Process management for avionics – Electronic components for aerospace, defence and high performance (ADHP) applications –
Part 2: General requirements for passive components**

IEC PAS 62686-2:2016-07(en)

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Part 2: General requirements for passive components

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STACK specification S/0003 has served as a basis for the development of Part 2 of this publicly available specification.

IEC PAS 62686-2 has been processed by IEC technical committee 107: Process management for avionics.

The text of this PAS is based on the following document:	This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document
Draft PAS	**Report on voting**
107/281/PAS	107/284A/RVD

Following publication of this PAS, which is a pre-standard publication, the technical committee or subcommittee concerned may transform it into an International Standard.

This PAS shall remain valid for an initial maximum period of 3 years starting from the publication date. The validity may be extended for a single 3-year period, following which it shall be revised to become another type of normative document, or shall be withdrawn.

A bilingual version of this publication may be issued at a later date.

PROCESS MANAGEMENT FOR AVIONICS – ELECTRONIC COMPONENTS FOR AEROSPACE, DEFENCE AND HIGH PERFORMANCE (ADHP) APPLICATIONS –

Part 2: General requirements for passive components

1 Scope

This PAS defines the minimum requirements for general purpose 'off the shelf' COTS passive components for ADHP (Aerospace, Defence and High Performance) applications.

This specification is intended to be used wherever possible for components that typically can be applied to operate in high reliability applications within the manufacturers publicly available datasheet limits. This document can be used in conjunction with IEC TS 62239-1 for avionics applications.

This specification is identical to STACK Specification S/0003 issue 02 which is included in Annex A.

NOTE Adoption of the STACK Specification S/0003 issue 02 will enable all existing STACK Certified manufacturers to be audited by IECQ under the STACK-IECQ joint venture.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

See the referenced documents within Annex A.

3 Terms, definitions and abbreviated terms

For the purposes of this document, the following terms, definitions and abbreviations apply. When the following terms are used in *italics* they have the meaning defined in this clause.

3.1
available
accessible, obtainable

Note 1 to entry: For example technical data, documents, etc. are information that can be requested and made available for consultation or analysis.

3.2
calendar days
continuous days, including weekends and holidays

[SOURCE: IEC 62686-1:2015, 3.1.1]

3.3
component
device
electrical or electronic device that is not subject to disassembly without destruction or impairment of design use

Note 1 to entry: Resistors (for example wire wound resistor) and capacitors (for example ceramic capacitor) are examples of passive components.

[SOURCE: IEC 62239-1:2015, 3.1.19, modified for the purpose of this document]

3.4
customer
user
original equipment manufacturer (OEM) which procures integrated circuits and/or semiconductor devices compliant to this technical specification and uses them to design, produce, and maintain systems

[SOURCE: IEC 62686-1:2015, 3.1.3]

3.5
data sheet
document prepared by the manufacturer that describes the electrical, mechanical, and environmental characteristics of the component

[SOURCE: IEC 62686-1:2015, 3.1.4]

3.6
deviation
user agreement to allow the delivery of a shipping lot which does not fully meet the requirements of a specification

Note 1 to entry: Considered equivalent to concession for the purpose of this document.

[SOURCE: IEC 62686-1:2015, 3.1.5]

3.7
device specification
document written by a user and agreed by the supplier or OCM

[SOURCE: IEC 62686-1:2015, 3.1.6]

3.8
form
shape, arrangement of parts, visible aspect, mode in which a part exists or manifests itself, and the material an item is constructed from

[SOURCE: IEC 62686-1:2015, 3.1.7]

3.9
fit
fitability of an item to physically interface or interconnect with or become an integral part of another item or assembly

Note 1 to entry: Size and scale are examples of considered characteristics.

[SOURCE: IEC 62686-1:2015, 3.1.8]

3.10
function
work to a specification that an item is designed to without degrading reliability

[SOURCE: IEC 62686-1:2015, 3.1.9]

3.11
generic family
group or family of devices with the same basic construction but with differing values, i.e. capacitance, tolerance, voltage rating etc.

3.12
incoming lot
one or more shipments of a device, grouped together for the purpose of incoming inspection

[SOURCE: IEC 62686-1:2015, 3.1.10]

3.13
inner container
box or bag containing *devices,* either in *magazines* or bulk packaged

[SOURCE: IEC 62686-1:2015, 3.1.11]

3.14
limitation
restriction with regard to a requirement or a condition or a constraint

Note 1 to entry: Limitations may be identified during a certification audit when suppliers' products or processes do not meet the requirements of a specification. In that event, the supplier is noted as having limitations which are recorded in the audit report and on the certificate. These limitations are applicable to that individual supplier only.

3.15
magazine
shipping container that feeds into automatic placement machines

Note 1 to entry: Sticks, tubes, matrix trays, tape/reel, etc. are examples of magazine.

[SOURCE: IEC 62686-1:2015, 3.1.12]

3.16
manufacturing lot
definite quantity of devices tracked at each manufacturing operation. It is associated with a travel log and constitutes a group, homogeneously processed through all manufacturing operations under uniform manufacturing conditions

3.17
may
indicates a course of action which is permissible within the limits of this document

3.18
original component manufacturer
OCM
company specifying and manufacturing the electronic component

[SOURCE: IEC 62686-1:2015, 3.1.15]

3.19
outer container
outer shipping container, containing one or more *inner boxes*

3.20
room temperature
temperature identified at 25 °C ± 5 °C in a room

[SOURCE: IEC 62686-1:2015, 3.1.16]

3.21
shall
indicates a requirement

3.22
should
offers a guide or recommendation that might be used or helpful to assure compliance to this document

3.23
shipping lot
single lot of one or more *outer boxes* received by a user

[SOURCE: IEC 62686-1:2015, 3.1.18]

3.24
specification
specification together with all other documents referred to as forming part thereof

3.25
supplier
company which provides to another an electronic component which is identified by the logo or name marked on the device

Note 1 to entry: A supplier can be the OCM, a franchised distributor or agent, a non-franchised distributor, broker, reseller, OEM, CEM and EMS etc.

[SOURCE: IEC 62686-1:2015, 3.1.19]

3.26
termination
element of a component that connects it electrically and mechanically to the next level of assembly

[SOURCE: IEC 62686-1:2015, 3.1.20]

3.27
T_{op}min
minimum operating temperature

3.28
T_{op}max
maximum operating temperature

3.29
waiver
written notice that a requirement of a document or specification no longer applies or is relaxed

Note 1 to entry: Generally if granted, the waiver is documented on the registration certificate and is applicable to an individual supplier only.

4 Abbreviations and acronyms

AOQ average outgoing quality

AQEC aerospace qualified electronic component