IEC TS 62878-2-4

Edition 1.0 2015-03

TECHNICAL SPECIFICATION

SPECIFICATION TECHNIQUE

Device embedded substrate –
Part 2-4: Guidelines – Test element groups (TEG)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Substrat avec appareil(s) intégré(s) –
Partie 2-4: Directives – Groupes d'éléments d'essai (TEG)

IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/4020ca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

IEC TS 62878-2-4:2015-03(en-fr)

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2015 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue
The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,…). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org
The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 15 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary
More than 60 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue
Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub
La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,…). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished
Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org
Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 15 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary
Plus de 60 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.

IEC TS 62878-2-4

Edition 1.0 2015-03

TECHNICAL SPECIFICATION

SPECIFICATION TECHNIQUE

Device embedded substrate –
Part 2-4: Guidelines – Test element groups (TEG)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Substrat avec appareil(s) intégré(s) –
Partie 2-4: Directives – Groupes d'éléments d'essai (TEG)

IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 31.180; 31.190

ISBN 978-2-8322-2435-9

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

® Registered trademark of the International Electrotechnical Commission
Marque déposée de la Commission Electrotechnique Internationale

CONTENTS

FOREWORD....4
INTRODUCTION....6
1 Scope....7
2 Normative references....7
3 Terms, definitions and abbreviations....7
3.1 Terms and definitions....7
3.2 Abbreviations....7
4 Test conditions and sample preparation....7
4.1 General....7
4.2 Test conditions....7
4.2.1 Classification of tests and evaluation....7
4.2.2 Measuring environment....8
4.2.3 Test methods....8
4.3 Test specimens and number of specimens....8
4.3.1 Specimen....8
4.3.2 Number of specimens....9
4.3.3 Test report....9
5 TEG....9
5.1 Preparation of the TEG....9
5.2 Structures of TEG....17
5.3 Test pattern guide....18
5.3.1 Test items....18
5.3.2 Area array arrangement of TEG for an active device....19
5.3.3 Peripheral arrangement of TEG....20
5.3.4 TEG size for active devices....23
5.3.5 TEG for passive devices....24
5.3.6 Complex test pattern for the area arrangement, TEG-A....24
5.3.7 Complex pattern for area arrangement of TEG-B....27
5.3.8 Complex test pattern for peripheral arrangement....29
5.3.9 Complex test pattern for passive components....30
5.3.10 Guide of measurement terminals of a complex test pattern for an active device....33
5.3.11 Terminal arrangement using complex patterns....34
Bibliography....36

Figure 1 – Area array arrangement – TEG for conductor resistivity and via-to-via insulation....10
Figure 2 – Area array arrangement – TEG for insulation measurement of resistance between conductors and insulation resistance between layers....11
Figure 3 – Chip arrangement in a shot....12
Figure 4 – Shot arrangement in a wafer....13
Figure 5 – Pitch chip specification of peripheral terminal of 60μm TEG....14
Figure 6 – Peripheral arrangement of TEG for complex tests....15
Figure 7 – Chip arrangement in a shot....16
Figure 8 – Shot arrangement in a wafer....16
Figure 9 – Structure of test board and pad connection....17

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

Figure 10 – Structure of a test board and via connection 17
Figure 11 – Area array arrangement 19
Figure 12 – Peripheral arrangement of TEG 21
Figure 13 – Example of pad arrangement of peripherals 22
Figure 14 – TEG size of active device 23
Figure 15 – TEG for passive device 24
Figure 16 – Test pattern for conduction and insulation resistance between vias (seen from L6)...25
Figure 17 – Complex test patterns for conduction and via-to-via insulation 26
Figure 18 – Test patterns for insulation between conductor and between layers in an area array arrangement 27
Figure 19 – Complex test patterns for L1 to L6 for insulation between conductors and layers 28
Figure 20 – L1 to L6 complex test patterns for the peripheral arrangement 29
Figure 21 – Conduction test patterns for L1 to L6 of passive components 30
Figure 22 – Insulation test patterns between terminals for L1 to L6 of passive components 31
Figure 23 – Interlayer insulation test patterns of L1 to L6 of passive components 32
Figure 24 – Terminal arrangement (1) for measurement and evaluation using complex pattern for an active device 33
Figure 25 – Terminal arrangement (2) for measurement and evaluation using complex pattern for an active device 34
Figure 26 – Terminal arrangement for measurement and evaluation using complex pattern for passive device 35
Figure 27 – Terminal arrangement for measurement and evaluation using complex pattern for device embedded substrate 35

Table 1 – Application and embedded device 8
Table 2 – Measuring environment 8
Table 3 – Test items 18
Table 4 – Terminal dimensions 20
Table 5 – Detailed dimensions of the peripheral arrangement of TEG 21
Table 6 – Detailed dimensions of the peripheral arrangement of pad connections.................22
Table 7 – Dimension of passive device TEG 24
Table 8 – Dimensions of the area array arrangement of TEG-A 25
Table 9 – Dimensions of TEG-B for the area array arrangement 27

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b5d2eea08eb4/iec-ts-62878-2-4-2015

INTERNATIONAL ELECTROTECHNICAL COMMISSION

____

DEVICE EMBEDDED SUBSTRATE –

Part 2-4: Guidelines – Test element groups (TEG)

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.

3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.

4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.

5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ccab-4100-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

6) All users should ensure that they have the latest edition of this publication.

7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.

8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

The main task of IEC technical committees is to prepare International Standards. In exceptional circumstances, a technical committee may propose the publication of a Technical Specification when

- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 62878-2-4, which is a Technical Specification, has been prepared by IEC technical committee 91: Electronics assembly technology

The text of this Technical Specification is based on the following documents:

Enquiry draft	Report on voting
91/1144/DTS	91/1165A/RVC

Full information on the voting for the approval of this Technical Specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62878 series, published under the general title *Device embedded substrate,* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

INTRODUCTION

This part of IEC 62878 provides guidance with respect to device embedded substrate, fabricated by embedding discrete active and passive electronic devices into one or multiple inner layers of a substrate with electric connections by means of vias, conductor plating, conductive paste, and printing. Within the IEC 62878 series,

- IEC 62878-1-1 specifies the test methods,
- IEC TS 62878-2-1 gives a general description of the technology,
- IEC TS 62878-2-3 provides guidance on design, and
- IEC TS 62878-2-4 specifies the test element groups.

The device embedded substrate may be used as a substrate to mount SMDs to form electronic circuits, as conductor and insulator layers may be formed after embedding electronic devices.

The purpose of the IEC 62878 series is to achieve a common understanding with respect to structures, test methods, design and fabrication processes and the use of the device embedded substrate in industry.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

DEVICE EMBEDDED SUBSTRATE

Part 2-4: Guidelines – Test element groups (TEG)

1 Scope

This part of IEC 62878 describes the test element group devices useful when measuring basic properties of device embedded substrates.

This part of IEC 62878 is applicable to device embedded substrates fabricated by use of organic base material, which include for example active or passive devices, discrete components formed in the fabrication process of electronic wiring board, and sheet formed components.

The IEC 62878 series neither applies to the re-distribution layer (RDL) nor to the electronic modules defined as an M-type business model in IEC 62421.

2 Normative references

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

IEC 60194, *Printed board design, manufacture and assembly – Terms and definitions*

IEC 62878-1-1, *Device embedded substrate – Part 1-1: Generic specification – Test methods*[1]

IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60194 apply.

3.2 Abbreviations

AABUS	as agreed between user and supplier
AV	audiovisual
L/S	line and space
SMD	surface mount device

4 Test conditions and sample preparation

4.1 General

Clause 4 describes the test conditions for device embedded boards to be used in electronics equipment and reliability, and Clause 5 describes the test element group (hereafter referred to as TEG) to be used as dummy test chips, as well as test patterns used in TEGs.

4.2 Test conditions

4.2.1 Classification of tests and evaluation

Subclause 4.2.1 describes the classification of test levels in various applications. The environment in which products are used is divided into

[1] To be published.

- consumer applications (portable and non-portable), and
- industrial and automotive applications (AV/information, car operation control, and engine control).

Evaluation tests are divided into tests for package, module board and mother board. In this part of IEC 62878, “mother board” indicates the main board to which packages or modules are assembled. Three ranks are specified for evaluation levels for embedded devices (passive and active), board materials, assembly methods, and specification and characteristics of embedding devices. Evaluation levels are to be agreed between user and supplier (hereafter referred to as AABUS). Table 1 shows the above mentioned classification of user environment for each application.

Table 1 – Application and embedded device

Products		Package			Module			Mother board		
Applications		– Consumer (portable and non-portable) – Industrial – Automotive (audiovisual information, car operation control and engine control)								
Device	Passive	○		○	○		○	○		○
	Active	○	○		○	○		○	○	

4.2.2 Measuring environment

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402fbca98-ceab-4160-834a-b3d2eca08eb4/iec-ts-62878-2-4-2015

The test environment adopted in the tests described in IEC 62878-1-1 is specified in 4.2.2. Tests are performed, unless otherwise specified, in the standard atmospheric pressure of 86 kPa to 106 kPa and air flow of smaller than 1 m/s. If it is difficult to test a specimen in the standard condition, a test may be carried out in a condition other than the standard condition when there is no question in evaluating test results. The test shall be carried out with the conditions shown in Table 2 when there is no question concerning the test result, or it shall be specifically requested by the user and supplier.

Table 2 – Measuring environment

Classification			Temperature °C	Humidity %	Pressure kPa	Remarks
Standard condition	Common		15 to 35	25 to 75	86 to 106	Use the standard testing condition, if not specified
	23/50	Class 1	23 ± 1	50 ± 5	86 to 106	
		Class 2	23 ± 2	50 ± 10		
	27/65	Class 1	27 ± 1	65 ± 5	86 to 106	AABUS e.g. in a tropical area
		Class 2	27 ± 1	65 ± 5		
Evaluation	Common		20 ± 2	60 to 70	86 to 106	

4.2.3 Test methods

Test methods using TEG are as described in this part of IEC 62878. These test methods especially comprise electrical and mechanical tests. Tests for other items described in this part of IEC 62878 may be carried out AABUS.

4.3 Test specimens and number of specimens

4.3.1 Specimen

Test specimen is either a) or b) as listed below. The surface of a specimen shall not be contaminated by grease, sweat or other foreign objects.

a) Actual device embedded board

Cut a specimen for the test from the product of a shape and size as specified by individual specifications using a method that does not affect the performance of the specimen.

b) Test pattern specimen

Use TEG and applicable circuit for the test of an embedded device itself. Prepare a test pattern specimen of a board and embedded device(s) using the same material as that used in the actual device embedded board. Use the same procedure to prepare a test device as for the embedded device.

4.3.2 Number of specimens

The number of specimens used in a test shall be either a) or b) as specified by the manufacturing status below. The agreement between user and supplier, if there is any, shall have priority.

a) Test production

$n \geq 5$ of the unit AABUS.

b) Volume production

$n \geq 10$ of the unit AABUS.

4.3.3 Test report

The test items shall be chosen from the list stated below AABUS, and the items shall be included in the test report:

a) date of the test;
b) test location;
c) name, type and size of the embedded device;
d) material, size and layer structure of the test board;
e) assembly technique of the embedded device (interconnection, embedding, etc.);
f) design specification and product specification of the test board;
g) test equipment (specifications of the test system and equipment, jigs, material, shape, etc.);
h) test condition (temperature, humidity, applied voltage, current, number of repetitions, time, etc.);
i) graphs and figures showing relations between test condition and result;
j) defect mode (photographs, etc.).

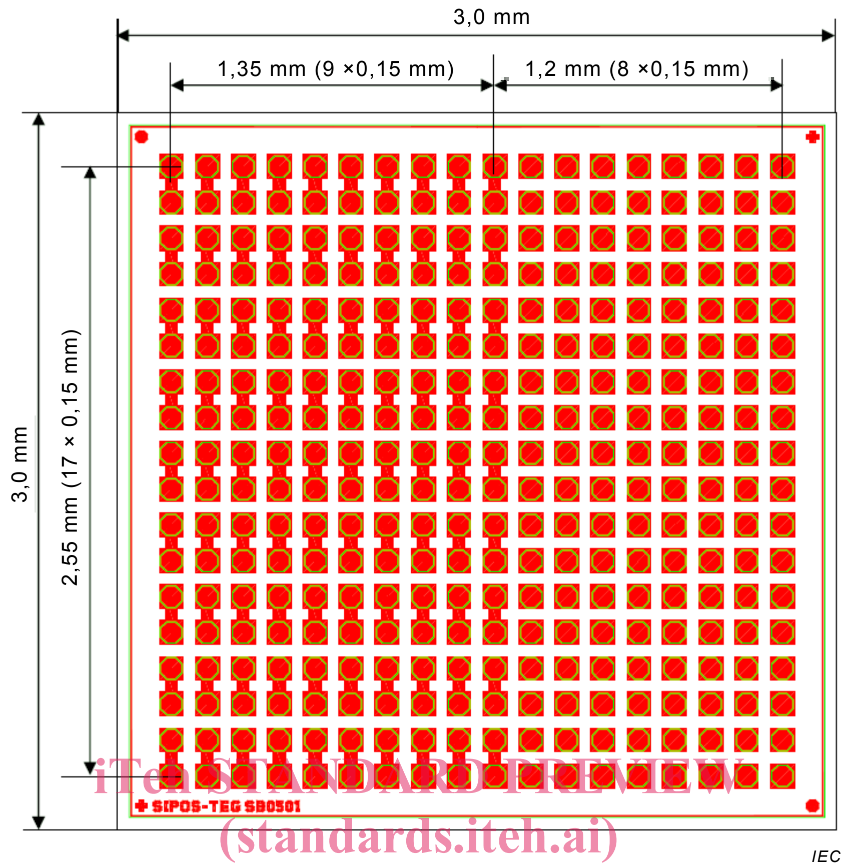
iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bea98-aeab-4160-834a-
b3d2eea08eb4/iec-ts-62878-2-4-2015

5 TEG

5.1 Preparation of the TEG

For the testing of device embedded substrate, TEG made up of neutral aluminium wiring is prepared. It is recommended that the passive device be replaced by a copper wiring board or that a zero ohm jumper resistor be used.

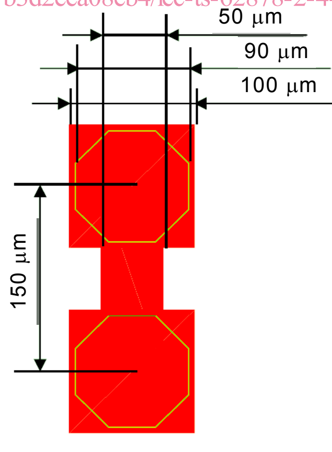
Examples of TEG are shown in Figure 1 and Figure 2. TEG-A is a sample of daisy chain to investigate connectivity. TEG-B is to measure leakage current and capacitance.



iTeh STANDARD PREVIEW
(standards.iteh.ai)

a) TEG-A – Entire view of TEG of 150 µm pitch chip

IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

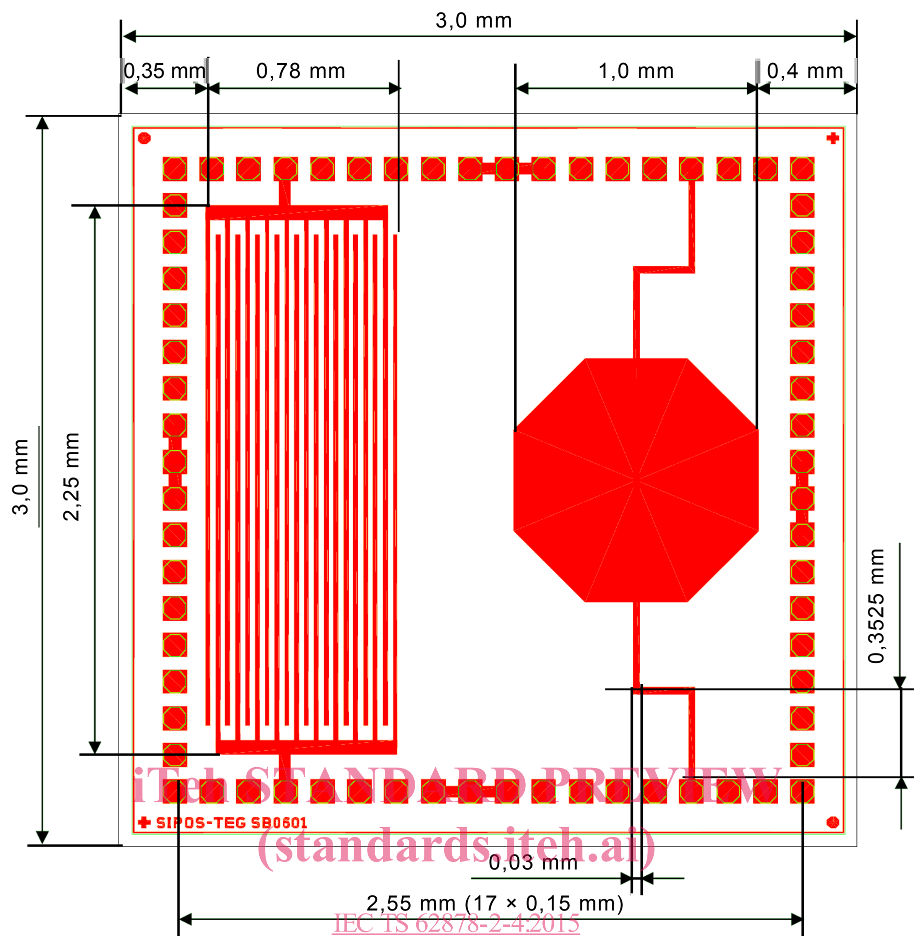


b) Detail of pad

Specification of TEG-A 150 µm pitch chip

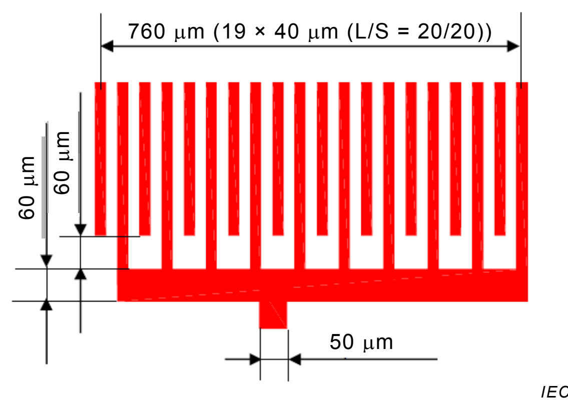
Name: SIPOS-TEG SB0501	Distance between pad edges: 50 µm
Pad pitch: 150 µm	Chip size: 3,0 mm × 3,0 mm
Number of pads: 324 (18 × 18)	Daisy chain pad: 180
Pad size: 100 µm × 100 µm (aluminium wiring)	Independent pad: 144
Scribe width: 100 µm	Pad opening: φ = 90 µm (pad opening)

Figure 1 – Area array arrangement – TEG for conductor resistivity and via-to-via insulation



iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

a) TEG-B Entire view of TEG of 150 µm pitch chip



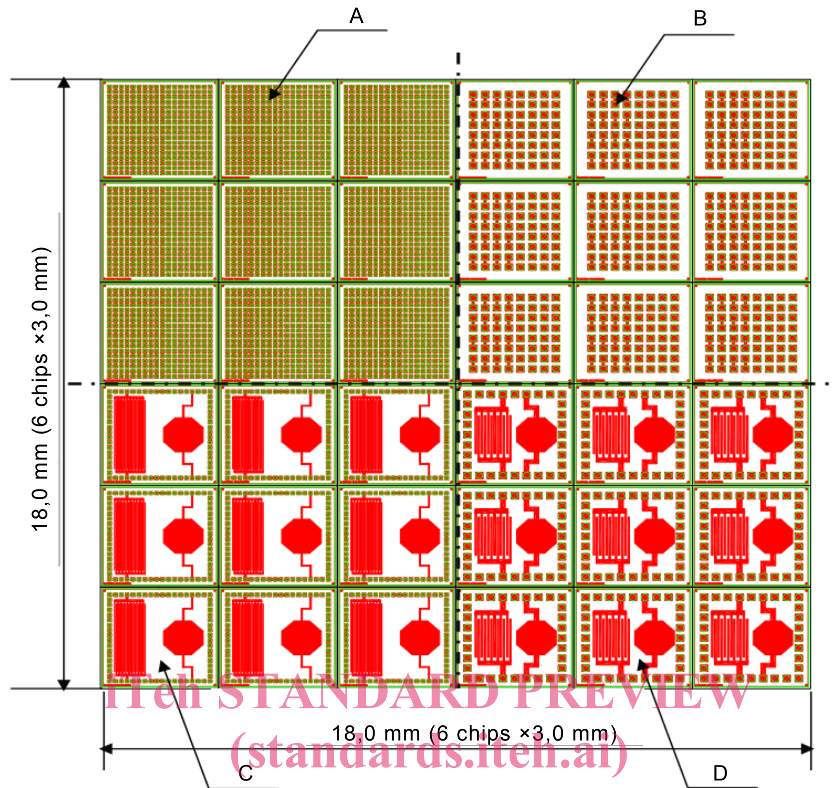
b) Detail of comb pattern

Specification of TEG-B 150 µm pitch chip

Name: SIPOS-TEG SB0601	Chip size: 3,0 mm × 3,0 mm
Pad pitch: 150 µm	Number of pads: 68
Pad size: 100 µm × 100 µm (aluminium wiring)	Pad opening: φ = 90 µm (pad opening)
Size of comb pattern: L/S = 20 µm/20 µm	Number of comb patterns: 20 (10 × 2)
Dimension of inter-layer insulation pattern:	φ = 1,0 mm (octagonal)

Figure 2 – Area array arrangement – TEG for insulation measurement of resistance between conductors and insulation resistance between layers

Figure 3 and Figure 4 show chip arrangement in a shot and shot arrangement in a wafer, respectively.

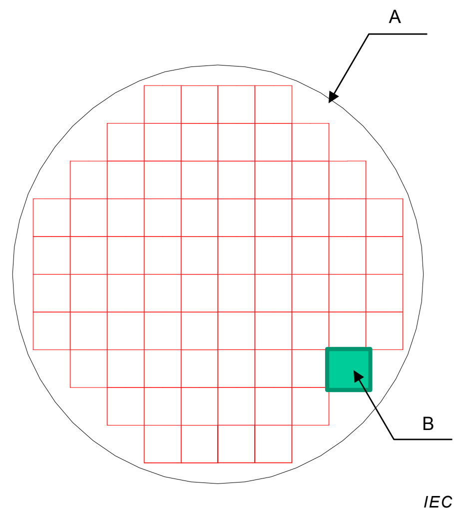


iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015

Key

A	Area arrangement: TEG-A of 150 µm pad pitch
B	Area arrangement: TEG-A of 300 µm pad pitch
C	Area arrangement: TEG-B of 150 µm pad pitch
D	Area arrangement: TEG-B of 300 µm pad pitch

Figure 3 – Chip arrangement in a shot



Key

A	Wafer
B	Shot

Shot size: 18,0 mm × 18,0 mm

Number of shots: 76 shots per wafer (8 in (203,2 mm) wafer)

Figure 4 – Shot arrangement in a wafer

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Figure 5 shows the pitch chip specification of peripheral terminal of 60 µm TEG. Details of the peripheral terminal and interconnection are shown in Figure 6.

IEC TS 62878-2-4:2015
https://standards.iteh.ai/catalog/standards/sist/402bca98-ceab-4160-834a-b3d2eea08eb4/iec-ts-62878-2-4-2015