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Publication 100

Registered Mechanical Outlines
For
Passive Electronic Components

Draft Document For P-4 Committee
Review

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REGISTERED OUTLINES FOR PASSIVE ELECTRONIC COMPONENTS

(Formulated under the cognizance of the P-4 Committee on Mechanical Outlines for Passive Components)

PREFACE

This publication contains the procedures necessary to ascertain approval for mechanical outlines to be posted for reference and/or download on the EC-Central Web Site. A mechanical outline for any actively produced passive component may be submitted for Registration by any active ECA Member Company through their Committee Representative for review by the ECA P-4 Passive Electronic Component Mechanical Outline Committee. Acceptance of a Mechanical Outline for posting will be based on successfully complying with a standardized layout, to be determined by the P-4 Committee. All balloting on Mechanical Outlines submitted to the P-4 Committee will be carried out by P-4 Committee members present at Spring and Fall ECA Engineering Meetings.

Access to Mechanical Outlines that have been accepted by the P-4 Committee and the ECA will not be limited to EIA or ECA Members. These Mechanical Outlines will be available for viewing and download by all visitors to the EC-Central Web Site.

DISCLAIMER

The EIA/ECA is not responsible for changes in component dimensions, dimensional tolerance deviations or availability from a given vendor for passive components referenced in the Mechanical Outlines.

PREPARATION AND SUBMISSION
OF
PASSIVE ELECTRONIC COMPONENT MECHANICAL OUTLINES

1. INTRODUCTION

This section is a guide to manufacturers of passive electronic components for the preparation and submission of Mechanical Outlines (Here-in-after referred to as “outlines”) for outline registration.

2. INITIAL AND FINAL DRAWINGS

The initial outline drawings submitted for review by the P-4 Committee are used as working documents and for balloting. They should, therefore, follow the minimum requirements of this section as closely as possible to avoid misunderstandings and to save time after submission to the Committee. It is, however, not necessary for the initial “working copy” drawings to be as neat and clean as the final approved drawings that are used as masters for the Publication.

- 2.1 “Working copy” drawings may be presented to the P-4 Committee in any convenient software format, including the CAD file from which they were generated or a PDF file, provided they are able to be projected using equipment normally made available at the meetings.
- 2.2 “Working copy” drawings that are distributed to members of P-4 for comment via E-Mail shall be provided in PDF file format, or a previously agreed upon CAD format which will permit mark-up of the drawing.
- 2.3 Submission of the final outline for acceptance by the P-4 Committee and posting to the Web Site shall be in a PDF file format generated in Adobe Acrobat 5.0 or later.
- 2.4 A Working Group shall be established in the P-4 Committee for each type of passive component Mechanical Outline to be submitted for review. These Working Groups shall include, but are not limited to:
- Resistors
 - Capacitors
 - Inductors
 - Fuses
 - Integrated Passive Devices (IPD’s)

3. PURPOSE OF OUTLINES

- 3.1 An outline shall provide all dimensions and geometric characteristics of a package necessary to insure mechanical interchangeability with all other packages conforming to the same outline and “Variation”.

- 3.2 An outline is intended to serve the end user by clearly specifying the general package configuration, physical size, location and number of terminals, space required by the package, recommended size and location of surfaces for mounting, body size for mechanical handling equipment, etc.
- 3.3 Outlines will provide Web links to the EIA/ECA related documents, as well as Web links to specific sources for a given “Variation”, for active members of the ECA. Non-members will have access to the outlines for review and download. However, Non-members will not have access to the other features provided to active members.
4. DEFINITIONS
** Definitions will be added **
5. OUTLINE PREPARATION
Several outline parameters are shown in Figure 1, below. The intent of these outlines is to provide only mechanical information for use by the design engineer without directly supplying the source of the device.
- 5.1 A three-view line drawing showing important dimensions for the device (Figure 1, A) shall be provided at the top of the Mechanical Outline.
- 5.2 A recommended land pattern for surface mount devices, or hole layout and dimensions for leaded devices, shall be located immediately below the three-view line drawing. (Figure 1, B) Note that the dimensions provided are only “recommended”. The end user may elect to deviate from the recommendations, provided they have adequate spacing for their application. Components not intended for surface mount or leaded connections (e.g. cartridge devices to be used in clips or holders) need not have a recommended land pattern.
- 5.3 Dimensions are always provided in a table (Figure 1, C) as letter references to the three-view line drawing. These dimensions will be provided as metric and [non-metric] values. Dimensions for the recommended land patterns, or hole layout, are provided on the drawings. (Figure 1, B)
- 5.4 Each “Variation” (e.g. AA, AB, AC, etc.) will provide specific component dimensions for an available device type. This is shown in Figure 1, D. The nominal values may be equivalent, but there may be differences in the tolerances. Or, there may be slight differences in the nominal values and tolerances. If the number of “Variations” exceeds the space available on the first page of the Mechanical Outline, an additional page will be added. (Figure 1, J) The EIA Drawing Number (Figure 1, I) will remain the same for all pages of the same Mechanical Outline.

- 5.5 The Notes for each Mechanical Outline will vary somewhat. However, they tend to be used for maintenance of the drawing and general information about the Mechanical Outline. While the CAD package employed to generate and update the original drawing is called out, all of the Mechanical Outlines shall ultimately be presented to P-4 and to the ECA in Adobe Acrobat 5.0, or later, PDF File format.
- 5.6 The Title (Figure 1, F) shall consist of a brief description of the package being presented. There is no need to indicate which type of passive component is covered, since this information will be conveyed in the Drawing Number. (Figure 1, I)
- 5.7 Both the Mechanical Outline Issue (Figure 1, G) and Date (Figure 1, H) will be assigned by the P-4 Committee upon acceptance.
- 5.8 Final decisions regarding the adequacy of font type and size for each part of the Mechanical Outline will be left to the discretion of the P4 Committee and appropriate Working Group. Generally, we have used Arial Font in sizes that vary, but are always sufficient in size and clarity to assure readability.

6. OUTLINE SUBMISSION

Procedures for Registration of Mechanical Outlines are as follows:

STAGE

PROCEDURE

1 SPONSOR

- 1.1 The Sponsor must initiate the action for registration of an outline.
- 1.2 The Sponsor may be an individual ECA member company, an active ECA Subcommittee, an active ECA working group or any ECA Ad Hoc Group.
- 1.3 The Sponsor must have a printed “Draft” copy of a Mechanical Outline to be proposed, as well as an acceptable file format copy suitable for distribution to members of the P-4 Committee.

2 SUBMISSION FOR PROJECT ACCEPTANCE BY P-4 COMMITTEE

- 2.1 A “Draft” copy of a Mechanical Outline to be reviewed will be presented to the P-4 Committee in an acceptable printed and file format.
- 2.2 After review by members of the P-4 Committee, a vote will be taken to determine if the proposed Mechanical Outline fully meets the intent of the Committee.
- 2.3 Upon acceptance by the P-4 Committee, a project number will be assigned to the proposed outline and this number will be recorded by the P-4 Committee Secretary.
- 2.4 The accepted project will be assigned to the appropriate Working Group for editorial review.

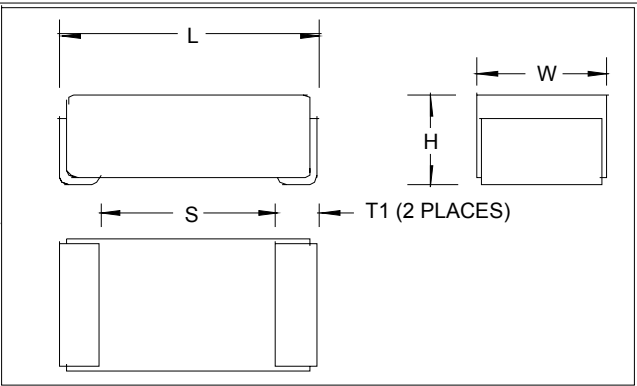
3 EDITORIAL REVIEW

- 3.1 The Working Group members will review the “Draft” Mechanical Outline to insure that no identical Outline and Variation already exists.
- 3.2 If an identical outline and “Variation” is located, the Sponsor will be advised and work on the proposal will cease. This will be reported back to the P-4 Committee and the Project will be formally terminated.
- 3.3 If an equivalent device is not located, the Working Group will proceed with editorial and content confirmation with the Sponsor.
- 3.4 The Working Group will first determine if a Mechanical Outline already exists for a component similar to the device being submitted.
- 3.5 If a Mechanical Outline with a similar “Variation” having different dimensions is found, work will proceed with editing this Mechanical Outline to add a new “Variation”.
- 3.6 Upon completion of editorial and content changes, the Working Group will return the finalized Mechanical Outline to the P-4 Committee for final acceptance.

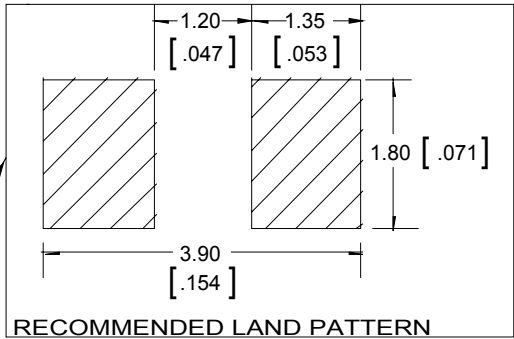
4 P-4 COMMITTEE FINAL DISPOSITION

- 4.1 Upon submission of a new or modified Mechanical Outline to the P-4 Committee by a Working Group, the Committee will review the outline and a vote will be taken. A simple majority will serve to accept the submission.
- 4.2 Accepted new or changed Mechanical Outlines will be forwarded to the ECA IT Staff for posting on the EC-Central Web Site.

A - Three View Drawing



B - Recommended Land Pattern (or PCB Mounting Holes)



VARIATION	L	W	H	T1	S MIN.
AA	3.20 ± 0.20 [.126 ± .008]	1.60 ± 0.20 [.063 ± .008]	1.10 ± 0.20 [.043 ± .008]	0.50 ± 0.10 [.020 ± .004]	1.80 [.071]

D - Variations

C - Dimensions

E - Notes

NOTES:

1. THIS IS A COMPUTER-GENERATED DRAWING. ANY CHANGES MUST BE WITHIN THE FILE. THE FILE NAME IS: SFCH 120604 THIS FILE IS A DESIGNCAD 2D .DC FORMAT.
2. ALL DIMENSIONS ARE IN MILLIMETERS AND DIMENSIONS WITHIN [] ARE IN INCHES.
3. CONTROLLING DIMENSION: MILLIMETERS

F - Title

G - Issue

H - Date

I - EIA Number

ELECTRICAL PART MECHANICAL OUTLINE	TITLE SMT CHIP (RECTANGULAR) 3.20 mm X 1.60 mm	ISSUE A	DATE 10/08/03	EIA NUMBER SFCH 120604 Sheet 1 of 1
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J - Sheet Number

Figure 2

P-4 COMMITTEE

PROCEDURE FOR REGISTRATION OF MECHANICAL OUTLINES

