REVISION	
REV	DESCRIPTION
C	RELEASE/CHANGE PER ECO-R172706

Battery Connection Board Specification

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1.0 INTRODUCTION

1.1 Purpose

The purpose of this document is to provide the requirements for the Battery Connection Board.

1.2 Scope

This document provides the requirements for the Battery Connection Board used in the PB 520, 540, 560, and 640.

1.3 Revision History

Revision	Date	Author	Change Description
A	11/08/07	[redacted]	Initial release
B	11/03/08	[redacted]	Clarify requirements, update to standard format.
C	1/20/009	[redacted]	Incorporate updates from Verification Review

2.0 Glossary / Acronyms

Acronym	Definition
A	Ampere
PCBA	Printed Circuit Board Assembly
V	Volt

3.0 OVERVIEW

The Battery Connection Board provides the interconnections between the Power Management Board and the Battery. This PCBA is used in place of a cable or harness. PCBA mounted spring fingers provide a connection to the battery cell device and a connector on the PCBA provides the interface to the Power Management PCBA.

4.0 Electrical Requirements

4.1 Specifications

HWSBAB7 Traces used to provide battery power shall be capable of supporting 3A at 29.4V, reference section 4.2.2.

HWSBAB8 Traces used to provide battery power shall have less than 100mV drop at 3A, reference section 4.2.2.

HWSBAB9 The battery connection board shall provide an interconnect to allow measurement of the battery temperature, reference section 4.2.2.

HWSBAB10 The battery connection board shall provide an interconnect to allow reading of the battery memory device, reference section 4.2.2.

HWSBAB11 The battery connector shall support 1mm travel while providing a valid electrical contact between the battery and the Battery Connection Board.

HWSBAB12 Spring contacts shall be rated for 2X the maximum required current.

4.2 Interconnects

4.2.1 Power Management Connector (J1)

PIN NUMBER	SIGNAL NAME		PIN NUMBER	SIGNAL NAME
1	**-** (Battery **-**)		**2**	**-** (Battery **-**))
3	**-** (Battery **-**)		**4**	**-** (Battery **-**)
5	TEMP		**6**	MEM
7	**+** (Battery **+**)		**8**	**+** (Battery **+**)
9	**+** (Battery **+**)		**10**	**+** (Battery **+**)

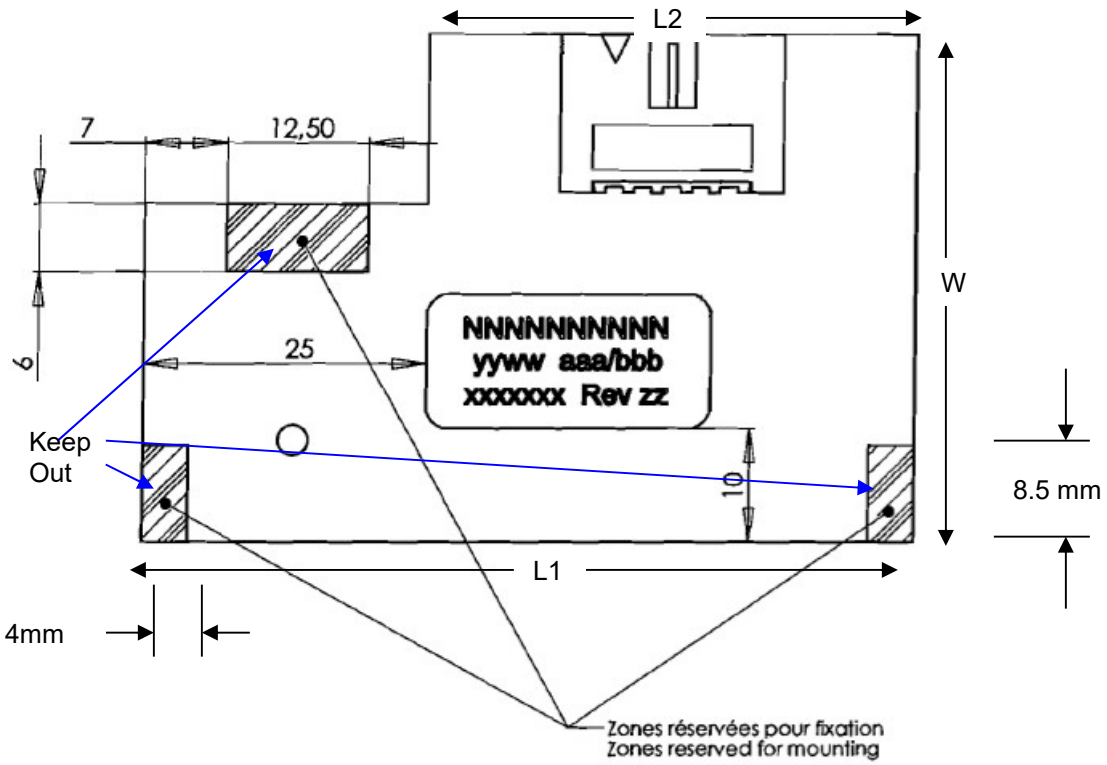
4.2.2 Battery Connector

Connector Designation	PIN NUMBER	SIGNAL NAME		PIN NUMBER	SIGNAL NAME
J3	**1**	**+** (Battery **+**)		**2**	**+** (Battery **+**)
J4	**1**	MEM (EEPROM)		**2**	MEM (EEPROM)
J5	**1**	TEMP (EEPROM)		**2**	TEMP (EEPROM)
J6	**1**	**-** (Battery **-**)		**2**	**-** (Battery **-**)

5.0 Mechanical Requirements

5.1 Size

HWSBAB13 The length (L1) of the PCBA shall be 68mm +/- 1mm
HWSBAB14 The length (L2) of the PCBA shall be 43mm +/- 1mm
HWSBAB15 The width (W) of the PCBA shall be 45mm +/- 1mm
HWSBAB16 The thickness (T) of the PCBA shall be 1.60mm +/- 0.5mm



5.2 Mounting

HWSBAB17 Three areas shall be kept clear of traces and feed throughs on the J1 side of the PCBA to allow for mounting. The first area on the top (labeled Keep out) shall have a height of 6mm +/- 1mm and length of 12.5mm +/-1mm. The second area (labelled Keep Out) shall have a length of 4mm +/- 1mm and a height of 8.5mm +/- 1mm.

5.3 Cooling

N/A.

5.4 Fabrication

HWSBAB18 The Printed Circuit Board shall be fabricated per standard IPC-A-610D: 2005, Acceptability for Electronic Assemblies – Class III

5.5 Protection

N/A.

5.6 Labeling

HWSBAB19 The PCBA shall be labeled with its Name, Part Number and Revision which is also human readable.

6.0 Packaging Requirements

HWSBAB20 Packaging shall be tested to the international standard ISTA2A.
HWSBAB21 Packaging shall be designed to minimize the level of waste and waste disposal as per the European Directive on handling waste packaging.