

**PCB IDENTIFICATION**

Item ID : 1883340-9  
Item Name : 1320-A / Digital input output

**STANDARD REQUIREMENTS**

The PCB should be manufactured according to the following:

- IPC-A-600H Class 3
- IPC-6012C Class 3
- PERFAG 3D for multilayer boards

This document specifies additional requirements and exceptions from above general requirements.

**MECHANICAL DATA**

PCB Thickness : 1.65 mm +/- 10% (Incl. plating and solder masks)  
Board size : 190 mm X 132  
Number of holes : 196  
Smallest hole size : 0.8 mm  
Smallest track width : 0.6 mm  
Smallest clearance : 0.2mm  
Smallest Annular ring : 0.2 mm  
Type of board : 2 Layers  
SMD on TOP layer : NO  
SMD on Bottom layer : NO  
Plated holes : YES  
Non-plated holes : YES

***Notes:***

- Counter sunk NP holes 2 x 3.1 mm THRU ALL 4.88 x 82 deg. From Bottom side.
- 70 um Nominal cu thicknesses on all layers.

***Basis Laminate***

- FR4 in accordance to IPC4101/99
- Tg  $\geq 150^{\circ}\text{C}$
- Td  $\geq 325^{\circ}\text{C}$
- CTE, Z-axis: Pre-Tg  $\leq 50$  ppm/ $^{\circ}\text{C}$
- Post-Tg  $\leq 250$  ppm/ $^{\circ}\text{C}$
- Flammability UL94V-0

***CU thickness***

Top/Bottom : Minimum Surface Conductor Thickness after Processing **52.9um** (IPC6012C Table 3-12 Class 3)  
In holes : Minimum **20um** in thin areas. Minimum **25um** average (IPC6012C Table 3-3 Class 3)

**SURFACE**

Ni/Au : YES (IPC6012C 3.2.7.6 and IPC4552 Table 3-2 Code ENIG)

***Solder mask***

Photopolymer Liquid Film according to IPC-SM840 class T. Able to withstand cleaning and fluxes used in the soldering processes. (IPC-SM-840C 3.6.1)

Solder mask Top side : YES  
Solder mask Bottom side : YES  
Clearance : Minimum 100 um  
Solder mask Colour : Green

Optimization of the solder mask for production improvement is allowed, as long as unprotected copper does not occur.

***Silk screen***

Silk screen Top side : YES  
Silk screen Bottom side : NO  
Silk screen Colour : White

No silk screen on solder land must occur, if necessary silk screen must be cut.

**BOARD MARKING**

The PCB manufacturer must uniquely identify the individual PCB production batch by placing an appropriate production ID:

- Production Year-Week Batch (YYYY-WW X, e.g.: **2011-21 1**) (Gregorian calendar)
- UL marking
- Logo of PCB manufacturer incl. production site

This must only be placed in the silk screen of the PCB, inside the box or field for the purpose, unless otherwise specified. The PCB manufacturer must not add further information to a PCB.

**MULTILAYER BUILD-UP**

TOP	Layer_1	Cu	1.500 mm
CORE			
BOTTOM	Layer_2	Cu	

**TEST**

Bare board EL-TEST : YES  
Optical test (AOI) : YES

IPC356 net list is supplied, compliance must be checked. No IPC Net shorts are allowed.

**SETTINGS*****Gerber***

Format : RS-274-X  
Data code : ASCII  
Type : Absolute coordinates  
Units : mm  
Zero suppression : Leading  
Digits leading : 3  
Digits trailing : 5

***Drill***

Format : Enhanced Excellon  
Data code : ASCII  
Type : Absolute coordinates  
Units : mm  
Zero suppression : Leading  
Digits leading : 3  
Digits trailing : 5

**APPENDIX, INCLUDED FILES****Documentation data**

<b>Filename</b>	<b>Contents</b>	<b>Format</b>
3093995-8.pdf	PCB Specification (This file)	PDF

**Gerber data**

<b>Filename</b>	<b>Contents</b>	<b>Format</b>
ASSEMBLY_TOP.art	Assembly TOP	Gerber
SILK_TOP.art	Silkscreen TOP	Gerber
SMT.art	Solder mask TOP	Gerber
TOP.art	Cu Layer1 TOP	Gerber
BOTTOM.art	Cu Layer2 BOTTOM	Gerber
SMB.art	Solder mask BOTTOM	Gerber
MASTER_DRAWING.art	Drill Table / symbol drawing	Gerber
OUTLINE.art	PCB border	Gerber

**Drill data**

<b>Filename</b>	<b>Contents</b>	<b>Format</b>
1883340-9-1-4.drl	Drill file	Excellon

**IPC net list**

<b>Filename</b>	<b>Contents</b>	<b>Format</b>
IPC_1883340-9.ipc	IPC net list	IPC-D-356A

**Assembly data**

<b>Filename</b>	<b>Contents</b>	<b>Format</b>
ASSEMBLY_TOP.pdf	Assembly drawing TOP	PDF
MASTER_DRAWING.pdf	Drill Table / symbol drawing	PDF
Place_1883340-9.txt	Pick and place information	Text