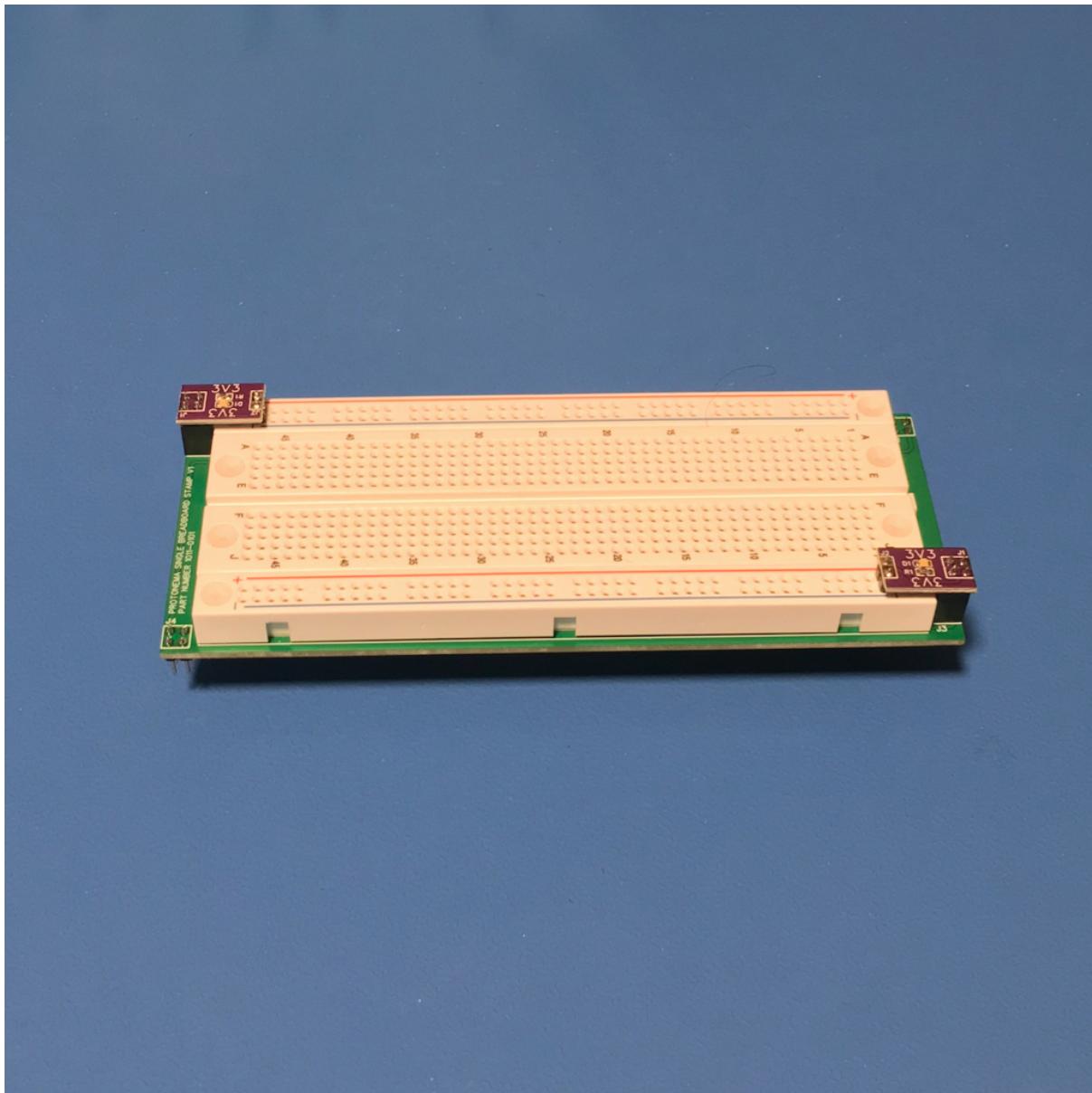


# ASSEMBLY INSTRUCTIONS

1011A Horizontal Breadboard Stamp



Document control number: 1011-8010

Document date: 2022-10-27

Document revision: v1.1

ABSTRACT: This document provides instructions on how to assembly and test a 1011A horizontal breadboard stamp. A complete bill of materials is included as an annex.

Suggestions and corrections should be directed to <http://www.github.com/dslik/protonema/issues>

Serial number: Assembly date: Assembled by:

12 USAGE

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21 Source location: <https://github.com/dslik/protonema/tree/main/stamps/1011A>

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51 Revision history

Table 1: Document Revisions

Version	Date	Change	Approver
0.1	2022-10-10	Initial draft for internal review	D. Slik
0.2	2022-10-17	Template updates	D. Slik
1.1	2022-10-27	Upgrade of document build environment	D. Slik

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179

## **Part I**

180

# **1011A assembly instructions**

## 181 Section 1

# 182 Overview

183 This document describes the materials, processes, outcomes and verifications required to successfully assemble  
184 and test a 1011A horizontal breadboard stamp, a sub-component of the Protonema electronics prototyping and  
185 learning system.

186 A first-time reader should carefully review section 2 - prerequisites, and section 3 - preparation before beginning  
187 the assembly process.

188 This document serves both as instructions and as a record of the assembly of the product. When you finish each  
189 step in this document, sign your name (or apply your stamp) in the "Signature/Stamp" box on the right to provide a  
190 record of completion.

191 When things go wrong, this document provides guidance for common issues that have been encountered in the  
192 past. When this document does not provide guidance, please contact your quality management representative,  
193 who will help you fill out an exception report. These reports help improve process quality and product quality, and  
194 these reports are incorporated into future revisions of this document.

195 Always remember: If you are unable to successfully complete these instructions, that means the processes sup-  
196 porting you (including this document) have failed you. Our processes are built for your success, and by improving  
197 our processes, we help everyone succeed.

198

## Section 2

199

# Prerequisites

200

### 2.1 Required safety training

- 201 The following safety training units must be completed before assembling this product.
- 202 By signing (or applying your stamp) on the right, you indicate that you have completed the following training:

Table 2: Safety training

Item #	Description	Signature/Stamp
1	0102-0100 - Safety reporting policies and procedures training  Key topics: Understanding policies and procedures around how to identify, contain and report a safety-related issue in the workplace, including damaged or malfunctioning equipment, leaks, spills, and other occupational hazards.	Stamp or sign here
2	0102-0101 - Material safety data sheets training  Key topics: Understanding how to read material safety data sheets (MSDS) for materials you will be handling during product assembly, how they can affect your health and the health of the environment, how to safely handle and dispose of them, and what to do if there is a spill or accidental exposure.	Stamp or sign here
3	0102-0102 - Solder handling and disposal policies and procedures training  Key topics: Understanding policies and procedures related to handling solder and solder paste, stencil cleaning, and solder disposal.	Stamp or sign here
4	0102-0105 - Electro-static discharge controls policies and procedures training  Key topics: Understanding policies and procedures related to protecting equipment and components from electro-static discharge, including clothing, protective equipment, material handling and labelling.	Stamp or sign here

## 2.2 Required skills training

- <sup>203</sup> The following skills training units must be completed before assembling this product.  
<sup>205</sup> By signing (or applying your stamp) on the right, you indicate that you have completed the following training:

Table 3: Skills training

Item #	Description	Signature/Stamp
1	0103-0202 - ANSI/ESD S20.20 Electro-static discharge controls  Key topics: Understanding of ESD safety, the ESD control program, equipment and personnel grounding, EPAs, packaging and marking.	Stamp or sign here
2	0103-0203 - General components handling  Key topics: Understanding of safe component handling, including reeled components, components in JEDEC trays, and loose components. Includes avoiding contamination, moisture control, and component inventory management.	Stamp or sign here
3	0103-0414 - 5040-XTS reflow station  Key topics: Safe and effective use of the 5040-XTS reflow station, including use of the pre-heater, the hot air system, and the soldering iron. Covers inspection and verification, cleaning, preferred settings and best practice techniques.	Stamp or sign here
4	0103-0301 - IPC-A-610G - Acceptability of electronic assemblies  Key topics: Covers visual acceptability requirements for electronic assemblies, including handling considerations, hardware installation, component placement, soldering, terminal connections, wiring, marking and cleanliness.	Stamp or sign here
5	0103-0302 - IPC-J-STD-001F - Soldered electrical connections  Key topics: Covers soldering materials, general soldering and assembly requirements, wire and terminal connections, through-hole mounting, surface mounting of components, cleaning process requirements, PCB requirements, coatings and product assurance.	Stamp or sign here

## 206 Section 3

# 207 Preparation

### 208 3.1 Workspace

- 209 Before starting assembly, check out an assembly desk for a minimum of one hour. A single unit can be assembled  
 210 in ten minutes, with an additional ten minutes per additional unit.

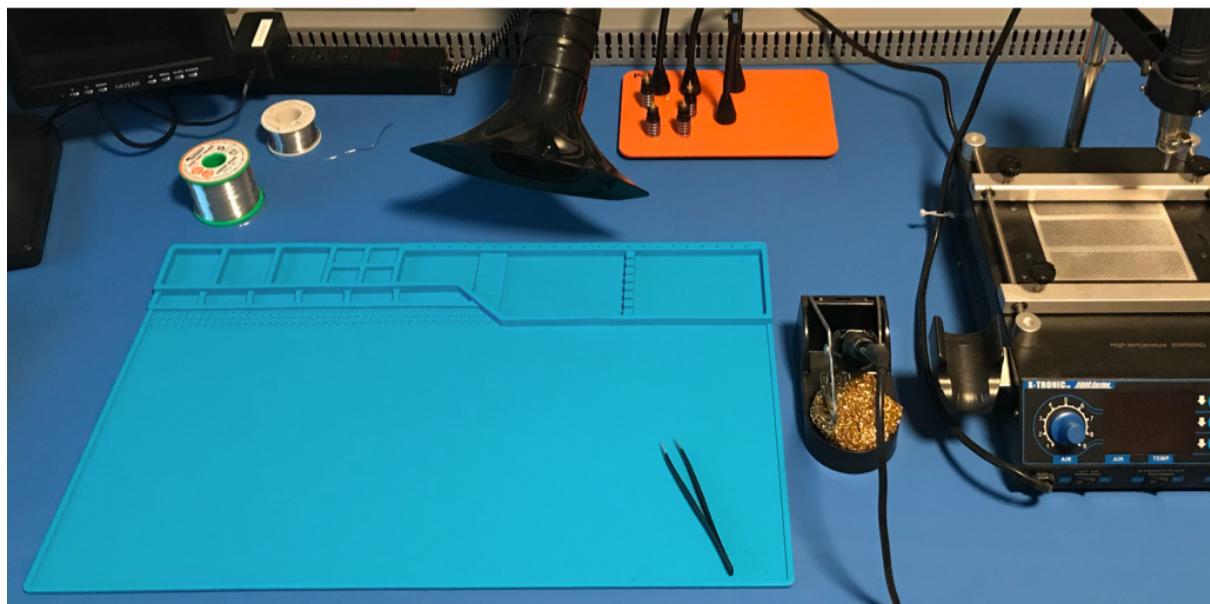


Fig. 1: Assembly Desk

Table 4: Prepare workspace

Step	Description	Signature/Stamp
3.1.1	Verify that the workspace has a clean assembly mat and anti-static mat, and that the cleaning record has been signed since last use.	Stamp or sign here
3.1.2	Verify that the HEPA fume extractor turns on, and you can feel air suction from the nozzle.	Stamp or sign here

continues on next page

Table 4 – continued from previous page

Step	Description	Signature/Stamp
3.1.3	Verify that the 5040-XTS rework station soldering iron tip is not worn down. If it is worn down, obtain a new 900M-T-I tip from the stores department.	Stamp or sign here

## 211 3.2 Project consumables

212 Obtain each of the below consumable items from the stores department:

Table 5: Assembly consumables

Item #	Description	Signature/Stamp
3.2.1	 <p>Fig. 2: 1 pair ESD gloves If you prefer to use your own pair of ESD gloves, make sure they are tested before use.</p>	Stamp or sign here
3.2.2	 <p>Fig. 3: 1 spool MG Chemicals 4900 Lead Free No-Clean Wire Solder Sn96.2Ag2.8Cu0.4 (96.2/2.8/0.4) 20 AWG</p>	Stamp or sign here

### 213 3.3 Project tools

- 214 Obtain a tools container labelled "1XXX Assembly Tools" from the 1XXX section of the stores supply shelf. At your assembly desk, use [Table 6](#) to verify that all the required tools are present.
- 215 If any required tools are missing, return all tools and the tools container to the stores department, and obtain another tools container.



Fig. 4: Tools Container

- 218 Remove each of the following tools from the tools container, and place them on the anti-static mat of the assembly desk:

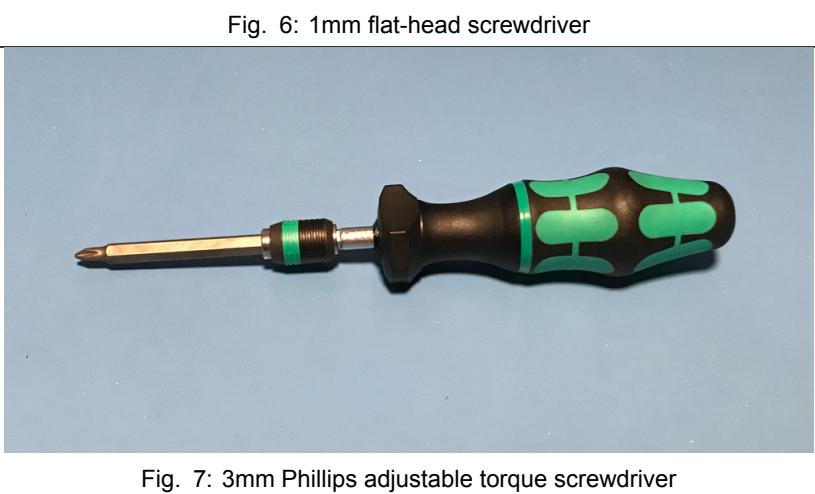
Table 6: Assembly tools

Item #	Description	Signature/Stamp
3.3.1		<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 100px; height: 100px; margin: auto;"> <span style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%);">Stamp or sign here</span> </div>

Fig. 5: Hozan F-23 components tray

continues on next page

Table 6 – continued from previous page

Item #	Description	Signature/Stamp
3.3.2	 A photograph of a 1mm flat-head screwdriver with a black and green handle, lying diagonally on a light blue background.	 A circular placeholder for a stamp or signature, containing the text "Stamp or sign here".
3.3.3	 A photograph of a 3mm Phillips adjustable torque screwdriver with a black and green handle and a gold-colored Phillips head, lying horizontally on a light blue background.	 A circular placeholder for a stamp or signature, containing the text "Stamp or sign here".
3.3.4	 A photograph of a set of ESD tweezers in a black and blue padded case, showing several pairs of tweezers of different sizes and tips.	 A circular placeholder for a stamp or signature, containing the text "Stamp or sign here".

continues on next page

Table 6 – continued from previous page

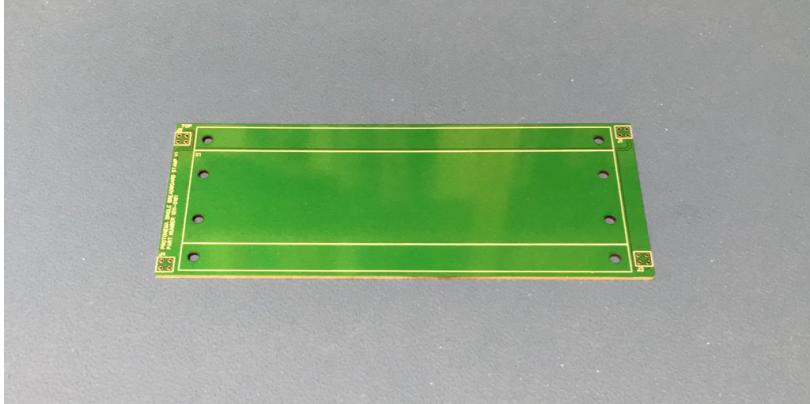
Item #	Description	Signature/Stamp
3.3.5		<p>Stamp or sign here</p>
3.3.6		<p>Stamp or sign here</p>

## 220 3.4 Parts preparation

### 221 3.4.1 PCBs and PCBAs

- 222 NOTICE: All PCBs and PCBAs must be handled with gloves to prevent marking with skin oils.
- 223 NOTICE: PCBs are removed from manufacturer packaging only when needed.

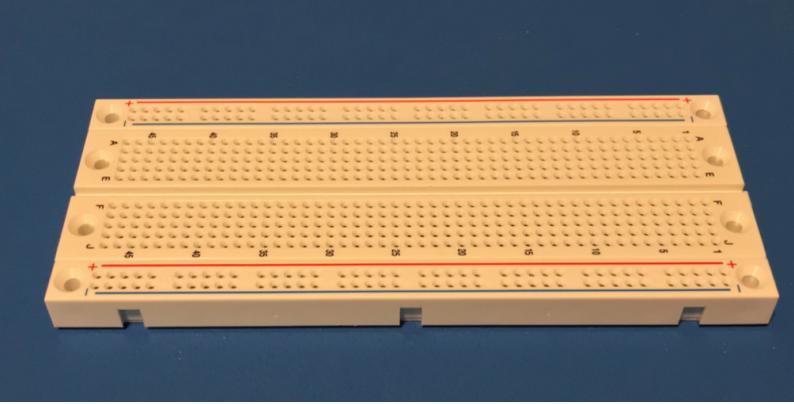
Table 7: PCBs and PCBAs

Item #	Description	Signature/Stamp
3.4.1.1	No marking required  Fig. 11: 1x 1011-0101 v1.0 - Horizontal Breadboard Stamp PCB	Stamp or sign here

### 3.4.2 Loose components

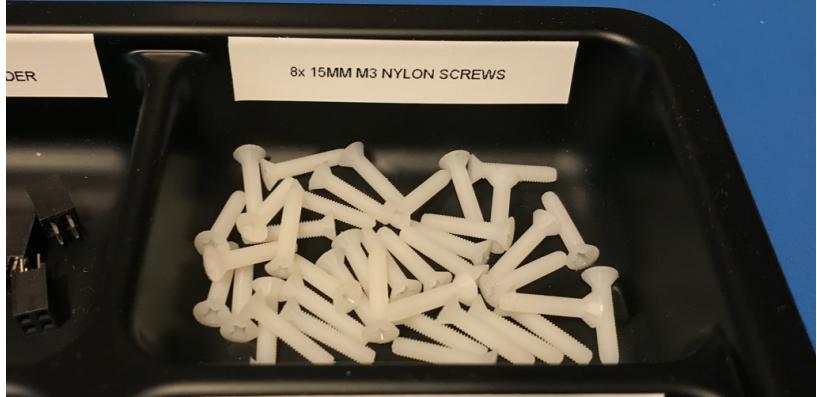
- 224 All loose components are stored on the shelf labelled "1XXX Components". Take the components tray and obtain the following quantities of the following parts:

Table 8: Loose components

Item #	Description	Signature/Stamp
3.4.2.1	No marking required 	Stamp or sign here
3.4.2.2	No marking required 	Stamp or sign here
3.4.2.3	No marking required 	Stamp or sign here

continues on next page

Table 8 – continued from previous page

Item #	Description	Signature/Stamp
3.4.2.4	<p>No marking required</p>  <p>Fig. 15: 8x M3 15mm White Nylon Phillips Socket Flat Head Screws</p>	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 50px; height: 50px; margin: auto;"> <span>Stamp or sign here</span> </div>
3.4.2.5	<p>No marking required</p>  <p>Fig. 16: 4x M3 11mm+6 Black Nylon Standoffs</p>	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 50px; height: 50px; margin: auto;"> <span>Stamp or sign here</span> </div>
3.4.2.6	<p>No marking required</p>  <p>Fig. 17: 4x M3 Black Nylon Nuts</p>	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 50px; height: 50px; margin: auto;"> <span>Stamp or sign here</span> </div>

### 227 3.4.3 Packaging materials

- 228 All packaging materials are stored on the shelf labelled "1XXX Components". Take the packaging box and obtain  
 229 the following quantities of the following materials:

Table 9: Packaging materials

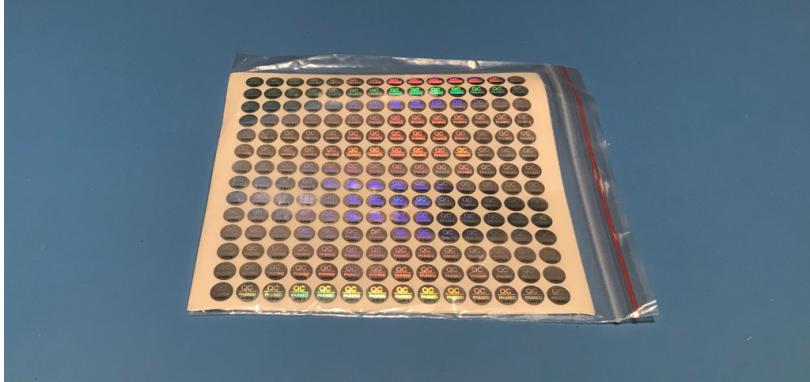
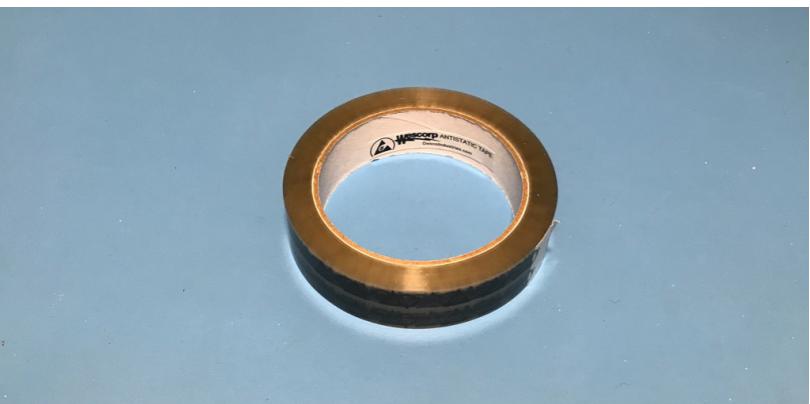
Item #	Description	Signature/Stamp
3.4.3.1	No marking required  	Stamp or sign here
3.4.3.2	No marking required  	Stamp or sign here
3.4.3.3	No marking required  	Stamp or sign here

Fig. 18: 1x QC Sticker

continues on next page

Table 9 – continued from previous page

Item #	Description	Signature/Stamp
3.4.3.4	<p>No marking required</p> 	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 100px; height: 100px; margin: auto;"> <span style="position: absolute; left: 50%; top: 50%; transform: translate(-50%, -50%);">Stamp or sign here</span> </div>
3.4.3.5	<p>No marking required</p> 	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 100px; height: 100px; margin: auto;"> <span style="position: absolute; left: 50%; top: 50%; transform: translate(-50%, -50%);">Stamp or sign here</span> </div>
3.4.3.6	<p>No marking required</p> 	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 100px; height: 100px; margin: auto;"> <span style="position: absolute; left: 50%; top: 50%; transform: translate(-50%, -50%);">Stamp or sign here</span> </div>

## 230 Section 4

# 231 Assembly

### 232 4.1 1011A assembly

233 This assembly step takes 5 minutes.

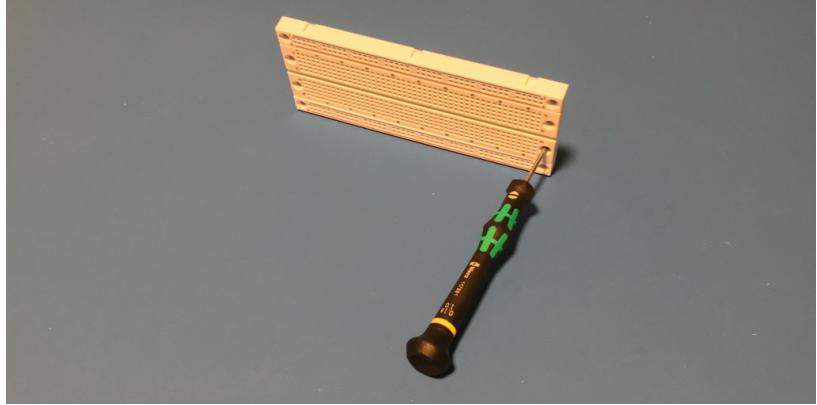
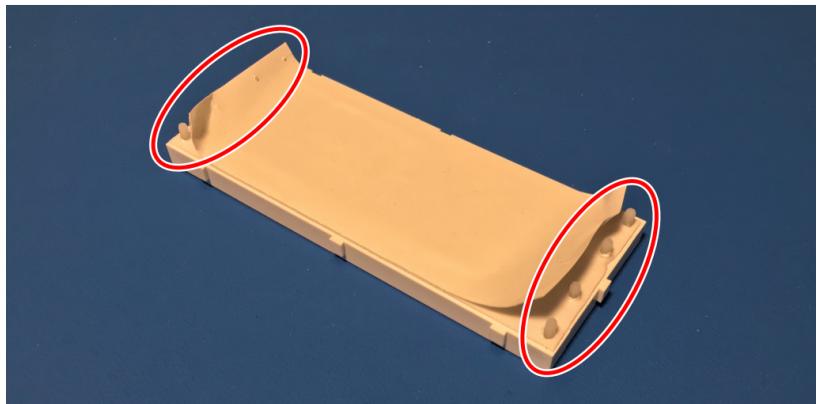
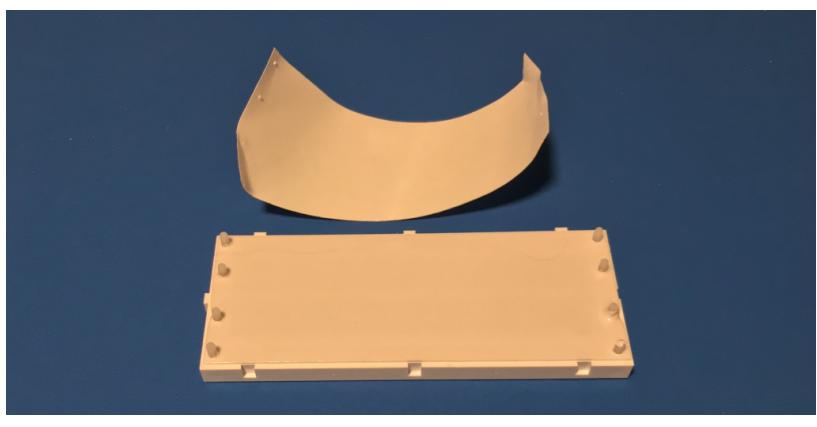
Table 10: 1011A assembly steps

Step #	Description	Signature/Stamp
4.1	Solder J1 and J4 onto the 1011-0101 PCB.  	Stamp or sign here
4.2	Solder J2 and J3 onto the 1011-0101 PCB. Note that if the connectors are rectangular, they should be aligned with the longer side facing the longer side of the PCB, as shown below.  	Stamp or sign here

Fig. 24: 1011-0101 PCB with rear-mounted connectors soldered on.

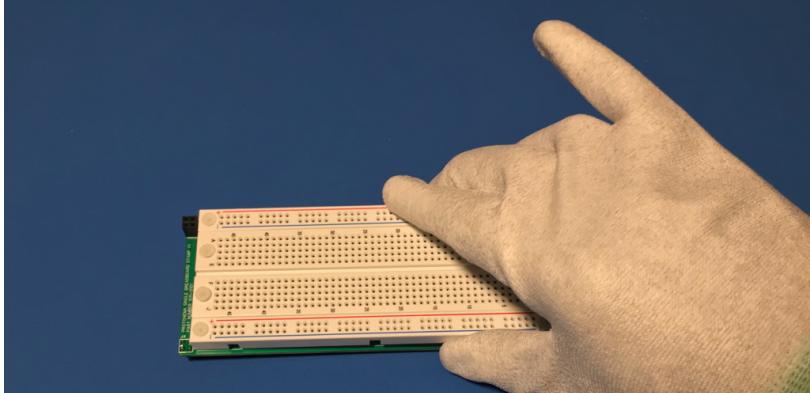
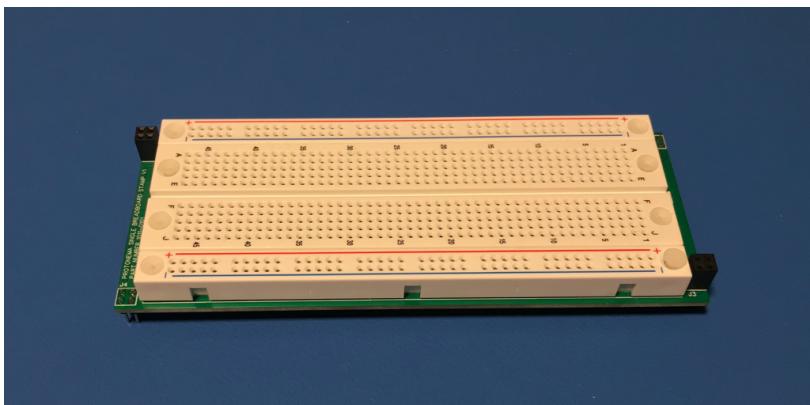
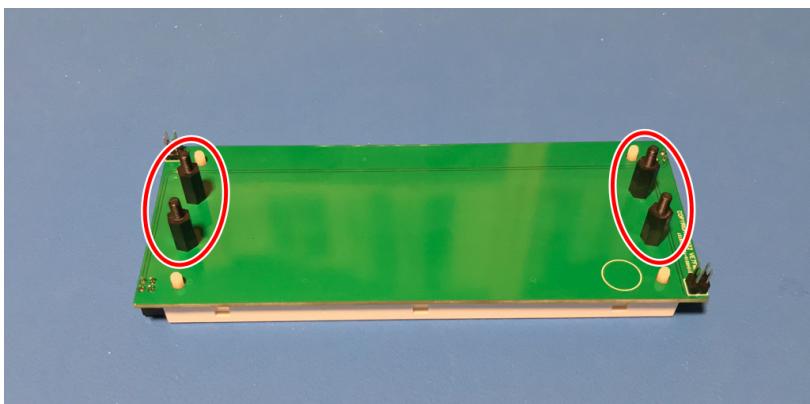
continues on next page

Table 10 – continued from previous page

Step #	Description	Signature/Stamp
4.3	<p>Using the slotted screwdriver, make eight holes in the adhesive backing of the breadboard.</p>  <p>Fig. 26: Breadboard with screwdriver used to make holes in the adhesive backing.</p>	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 50px; height: 50px; margin: auto;"> <span style="font-size: 10px; color: lightgray;">Stamp or sign here</span> </div>
4.4	<p>Push the eight white screw through the adhesive layer from the front of the breadboard. While pushing the screw through, you may need to prevent the adhesive from peeling off by holding it with the screwdriver.</p>  <p>Fig. 27: Breadboard with eight screws.</p>	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 50px; height: 50px; margin: auto;"> <span style="font-size: 10px; color: lightgray;">Stamp or sign here</span> </div>
4.5	<p>Remove the protective paper from the breadboard's adhesive layer.</p>  <p>Fig. 28: Breadboard with protective paper removed.</p>	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 50px; height: 50px; margin: auto;"> <span style="font-size: 10px; color: lightgray;">Stamp or sign here</span> </div>

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Table 10 – continued from previous page

Step #	Description	Signature/Stamp
4.6	Align the eight screws with the 1011-0101 PCB, making sure that the top-most red line faces the top.	 Stamp or sign here
4.7	Attach the breadboard to the 1011-0101 PCB by pushing it evenly against the PCB.	 Stamp or sign here
4.8	Screw four standoffs onto the rear of the four inner screws. Do not screw too tightly (finger-tight).	 Stamp or sign here

continues on next page

Table 10 – continued from previous page

Step #	Description	Signature/Stamp
4.9	Screw four nuts onto the rear of the four outer screws. Do not screw too tightly (finger-tight).	 Stamp or sign here

Fig. 32: 1011-0101 PCB with nuts attached to outer screws.

## 234 Section 5

### 235 Test

#### 236 5.1 Visual inspection

237 This test process takes 2 minutes.

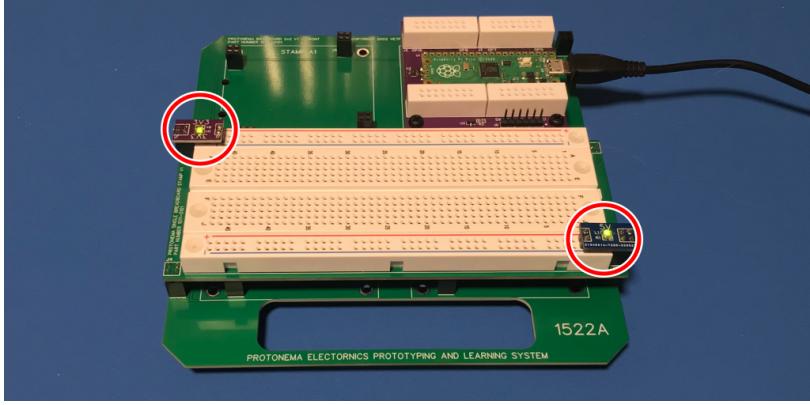
Table 11: 1011A visual inspection

Step #	Description	Signature/Stamp
1	Verify that there are no loose parts.	Stamp or sign here
2	Verify that there are no visible fingerprints.	Stamp or sign here

## 238 5.2 QC final check

239 This test process takes 2 minutes.

Table 12: 1011A QC final check

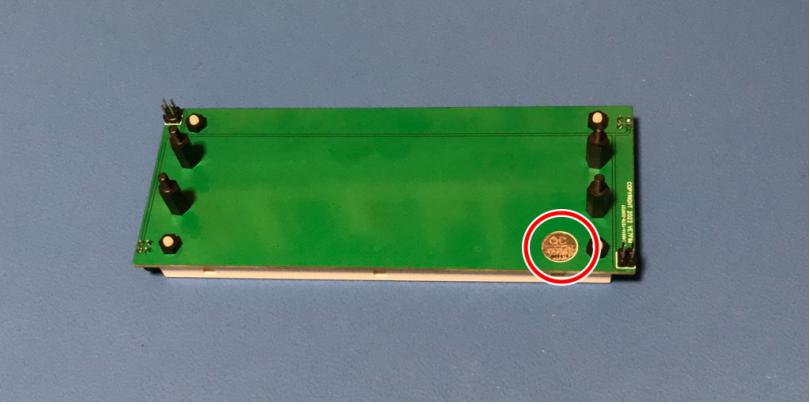
Step #	Description	Signature/Stamp
1	<p>Connect the 1011A to a baseboard, and connect power. Using a 1510-0201 and a 1510-0301 board, verify 5V and 3.3V for each breadboard power rail. If test does not pass, write down the unexpected behaviour in the "Signature/Stamp" column on the right.</p>  <p>Fig. 33: Powered 1011-0101 PCB with illuminated 1510-0201 and 1510-0301 boards</p>	Stamp or sign here

## 240 5.3 QC PASS

241 Only perform these steps if all QC checks have passed.

242 This test process takes 1 minutes.

Table 13: 1011A QC approval

Step #	Description	Signature/Stamp
1	<p>Using the tweezers, affix QC Passed sticker in location shown below, then write down the serial number from the QC sticker below the "Signature/Stamp" in the column to the right.</p> 	<div style="text-align: center;">Stamp or sign here</div>
2	<p>Take two photographs, one of the front of the 1011A, and one of the back of the 1011A.</p>	<div style="text-align: center;">Stamp or sign here</div>

## 243 5.4 QC FAIL

244 Only perform these steps if any QC check have failed.

245 This test process takes 2 minutes.

Table 14: 1011A QC fail

Step #	Description	Signature/Stamp
1	<p>Place the 1011A module in the anti-static bag.</p> 	<input type="text"/> Stamp or sign here
2	<p>Take an A4 plastic bag, and place the 1011A, along with this document, in the "QC Fail" bin</p> <p style="text-align: center;">FPO</p>	<input type="text"/> Stamp or sign here

Fig. 35: 1011A in anti-static bag.

Fig. 36: 1011A in QC Fail bin.

## 246 Section 6

### 247 Packaging

#### 248 6.1 1011A packing

- 249 This packaging process takes 3 minutes.

Table 15: 1011A packaging

Step #	Description	Signature/Stamp
6.1.1	Place the 1011A module in the anti-static bag.  	Stamp or sign here
6.1.2	Place four nylon nuts in a small anti-static bag, and add the bottom of the bag to the bag the 1011A module is in.  	Stamp or sign here

Fig. 37: 1011A in anti-static bag.

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Table 15 – continued from previous page

Step #	Description	Signature/Stamp
6.1.3	Seal the anti-static bag with a 1011A sticker.	
	Fig. 39: 1011A in anti-static bag with sticker.	
6.1.4	Using the Sharpie pen, Write down the serial number of the 1011A on the sticker, at the end of the line listing the 1011A.	
	Fig. 40: Example photographs of the sealed bag with the serial number written on the sticker	
6.1.5	Place 1011A bag in the box on top of the bottom foam padding.	
	Fig. 41: 1011A in box.	
6.1.6	Take a photograph of the 1011A in the box.	

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Table 15 – continued from previous page

Step #	Description	Signature/Stamp
6.1.7	Using the ESD tape, secure the lid of the box.  	Stamp or sign here
6.1.8	Affix a 1011A sticker to the lid of the box.  	Stamp or sign here
6.1.9	Using the Sharpie pen, Write down the serial number of the 1011A on the sticker, at the end of the line listing the 1011A.  	Stamp or sign here
6.1.10	Take a photograph of the sealed 1011A box.	Stamp or sign here

## <sup>250</sup> Section 7

### <sup>251</sup> Clean-up

#### <sup>252</sup> 7.1 Consumables

<sup>253</sup> This packaging process takes 5 minutes.

Table 16: Consumables cleanup

Step #	Description	Signature/Stamp
1	If the ESD gloves have contacted solder paste, or are soiled, they shall be disposed of in the standard waste bin.	
2	If there is unused solder wire on the spool, it shall be returned to stores.	
3	Loose component packaging shall be disposed of in the standard waste bin.	

#### <sup>254</sup> 7.2 Tools

<sup>255</sup> This cleanup process takes 5 minutes.

Table 17: Tools cleanup

Step #	Description	Signature/Stamp
1	All tools shall be returned to the assembly tools container, and returned to the stores supply shelf.  If any tools are damaged or worn, return the container to stores, and let the manager know which tool is damaged or worn.	

continues on next page

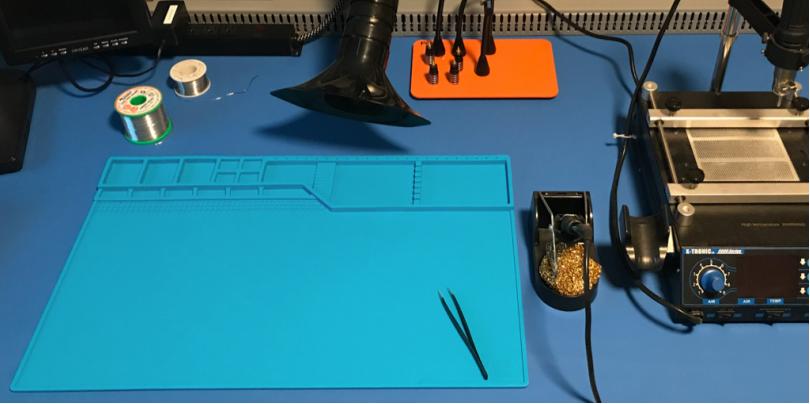
Table 17 – continued from previous page

Step #	Description	Signature/Stamp
2	Remove this document from the springback binder.	 Stamp or sign here
3	Print a new copy of this document, and insert it into the springback binder that this document was originally in.	 Stamp or sign here
4	Return the springback binder with the newly printed document to the 1011A section of the store supply shelf.	 Stamp or sign here

## 256 7.3 Workspace

257 This packaging process takes 5 minutes.

Table 18: Workspace cleanup

Step #	Description	Signature/Stamp
1	<p>Make sure that the workspace is clean and as it was when you started the assembly.</p>  <p>Fig. 45: Clean assembly workstation</p>	Stamp or sign here

## **258 Section 8**

# **259 Record keeping**

### **260 8.1 1011A record keeping**

- 261 This packaging process takes 5 minutes.

Table 19: 1011A record keeping

Step #	Description	Signature/Stamp
1	<p>Write the serial number, the date, and your first and last name in large print on the bottom of the front cover of this document.</p> <div style="text-align: center; margin-top: 10px;">    <b>FPO</b> </div>	<div style="text-align: center; margin-top: 10px;">            Stamp or sign here       </div>
2	Create a new folder under the 1011A folder, named with the serial number.	<div style="text-align: center; margin-top: 10px;">            Stamp or sign here       </div>
3	Copy all photos taken during the assembly process into the newly created folder in step #2.	<div style="text-align: center; margin-top: 10px;">            Stamp or sign here       </div>
4	Remove this document from the binding clamps, scan the document, and save the scanned PDF into the newly created folder in step #2, with the name "1011A-SNAAAAAA.pdf", where AAAAAA is replaced with the serial number.	<div style="text-align: center; margin-top: 10px;">            Stamp or sign here       </div>

continues on next page

Table 19 – continued from previous page

Step #	Description	Signature/Stamp
5	Three-hole punch the document, then file it at the end of the current month's assembly records binder.	 Stamp or sign here
6	Add an entry to the assembly records binder, "<Date> - 1011A - SN# AAAAAAA - <Your Name>", where <Date> is replaced with today's date in ISO-8601 YYYY-MM-DD, where AAAAAAA is replaced with the serial number of the 1011A, and where <Your Name> is replaced with your first and last name.	 Stamp or sign here

262 **Section 9**

263 **Process improvement**

264 **9.1 Feedback**

265 Please submit an issue to the [Protonema Issue Repository](http://www.github.com/dslik/protonema/issues) (<http://www.github.com/dslik/protonema/issues>) if you  
266 encounter any of the below situations:

- 267 • Error in this document
- 268 • Unclear directions
- 269 • Suggested process improvements
- 270 • Results of QC failure investigations
- 271 • Tool change suggestions

272 Qualtiy processes and documentation is a team effort. This document would not exist without the participation and  
273 contributions of the entire assebly team.

274 Thank you for reading this assembly instructions document.

275 End of document.

276

## **Part II**

277

# **1011A Annexes**

## 278 Section 10

### 279 Printed Circuit Boards

#### 280 10.1 1011-0101 PCB

Table 20: 1011-0101 PCB



Fig. 47: 1011-0101 PCB Front

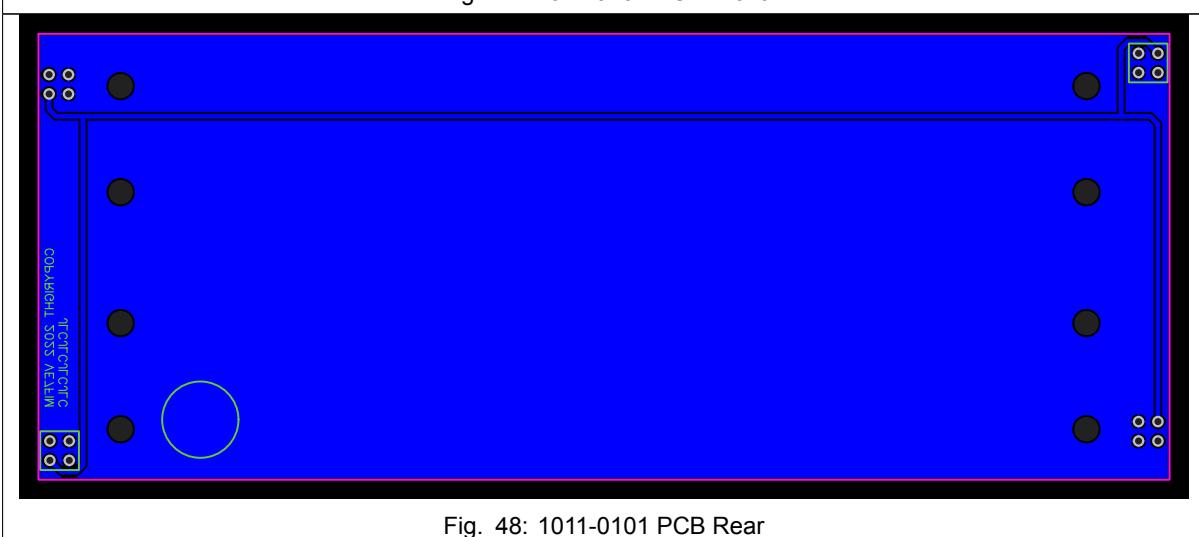


Fig. 48: 1011-0101 PCB Rear

281

## Section 11

282

### Bill of materials

283

#### 11.1 1011A Horizontal Breadboard Stamp

284

The parts required to assemble a 1011A are listed in [Table 21](#).

Table 21: 1011A parts

Reference Designation	Qty	Description	Manufacturer	Manufacturer Part Number	Supplier	Cost
1011-0101	1	Stamp PCB	JLCPCB	Y276-2154951A	JL-CPCB	\$1.26 CAD
X1	1	630 Tie-Point Solderless Breadboard	Global Specialties	GS-630A	Mouser	\$11.22
J1, J4	2	Straight 2x4 2.54mm Black Pin Headers	Molex	0010897041	Digikey	\$1.36 CAD
J2, J3	3	2.54mm by 2.54mm Straight 2x2P Female Header	CONNFLY Elec	DS1023-2*2SF11	LCSC	\$0.23 CAD
MP1 - MP8	8	Screw - M3 15mm White Nylon Phillips Socket Flat Head	Order By Description			\$0.66 CAD
MP9 - MP12	4	Standoff - M3 11mm+6 Black Nylon	Order By Description			\$0.30 CAD
MP13 - MP16	4	Nut - M3 Black Nylon	Order By Description			\$0.35 CAD
SK1	1	QC Sticker	Order by Description			\$0.0094 CAD
Total						\$14.98 CAD

285

#### 11.2 1011A Packaging

286

The parts required to package a 1011A are listed in [Table 22](#).

Table 22: 1011A packing parts

Reference Designation	Qty	Description	Manufacturer	Manufacturer Part Number	Supplier	Cost
N/A	1	Static Shielding Bag 5" X 7"	SCS	81757	Digikey	\$0.31 CAD
N/A	1	Static Shielding Bag 1.5" X 2.8" Ziplock	Order by Description			\$0.06 CAD
N/A	1	CORREC-PAK SHIPPER 7 X 5 X 1.5" ID	Conductive Containers, Inc.	3080-1	Digikey	\$8.67 CAD
1011-7001	2	1011A ESD Sticker	Jukebox Print			\$4.00 CAD

continues on next page

Table 22 – continued from previous page

Reference Designation	Qty	Description	Manufacturer	Manufacturer Part Number	Supplier	Cost
Total						\$13.04 CAD

## **287 Section 12**

# **288 Reduction of Hazardous Materials**

**289** Compliance declarations, in BOM order.

290 **12.1 MG Chemicals 4900**

Table 23: MG Chemicals 4900 RoHS Compliance

Declaration for MG Chemicals 4900 -  
<https://www.mgchemicals.com/downloads/msds/01%20English%20Can-USA%20SDS/sds-4900-4917.pdf>



**ISO 9001:2015 Quality Management System**  
 SAI Global File #004008  
 Burlington, Ontario, Canada

**SAC305 NO CLEAN SOLDER WIRE**

**4900-4917**

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, USA)

This product does not contain any of the listed substances.

**Europe**

**RoHS** (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP and complies with European RoHS regulations.

**WEEE** (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

**Section 16: Other Information**

**SDS Prepared by** MG Chemical's Regulatory Department

**Date of Review** 06 March 2020

**Supersedes** 09 July 2019

**Reason for Changes:** Update to the emergency phone number information.

**Reference**

- 1) ACGIH 2017 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2017).
- 2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

*Section continued on the next page*

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Date of Revision: 06 March 2020 / Ver. 3.01

291 **12.2 JLC lead-free PCB**

Table 24: JLC PCB RoHS Compliance

Declaration for JLCPBCB lead-free PCBs - <https://s3.amazonaws.com/helpscout.net/docs/assets/59f1de7804286313cffbb22c/images/5d4d09562c7d3a036965d6a3/ROHS-Certificate-of-Compliance.jpg>

ROHS-Certificate-of-Compliance.jpg 566x800 pixels

2022-08-16, 23:45



<https://s3.amazonaws.com/helpscout.net/docs/assets/59f1de7804286313cffbb22c/images/5d4d09562c7d3a036965d6a3/ROHS-Certificate-of-Compliance.jpg>

Page 1 of 1

**292 12.3 Global Specialties GS-630A**

Table 25: Global Specialties GS-630A

Declaration for Global Specialties GS-630A - N/A	
GS-630A Global Specialties   Mouser Canada	2022-10-10, 18:06
<hr/>	
<b>RoHS Information</b> 	
<p><b>RoHS 2011/65/EU amended by 2015/863 Compliant</b></p> <p>According to the manufacturer, this product is RoHS Compliant with RoHS Directive 2011/65/EU and as amended by Directive 2015/863, and without material exemptions.</p> <p>Please see the Environmental Documents section of this product for any Manufacturer information on RoHS.</p> <p>The RoHS Compliance of any product so designated is based upon evidence from the producer (manufacturer) that the part number complies with the RoHS Directive. Mouser Electronics has taken all reasonable steps to confirm producers' statements and other evidence regarding the absence of the restricted substances to support the manufacturers' claim of compliance.</p> <p>To the best of our knowledge, the below referenced product is RoHS compliant per the producer's documentation.</p> <p><b>Date:</b> 2022-10-10 <b>Mouser Part #:</b> 510-GS-630A <b>Mfr.'s Part #:</b> GS-630A <b>Mfr.:</b> Global Specialties <b>Description:</b> PCBs &amp; Breadboards SOLDERLESS BREADBRD 630TIE-PTS BUS STRIP</p> <p>This information is valid when RoHS Compliance is indicated on your packing list from Mouser Electronics, Inc.</p> <p>Mouser Electronics, Inc.</p>	
<p><a href="https://www.mouser.ca/ProductDetail/Global-Specialties/GS-630A?qs=MLitCLRbWszNhHPpVHoSLw%3D%3D">https://www.mouser.ca/ProductDetail/Global-Specialties/GS-630A?qs=MLitCLRbWszNhHPpVHoSLw%3D%3D</a></p>	
Page 1 of 1	

293 **12.4 Molex 0010897041**

Table 26: Molex 0010897041 RoHS Compliance

Declaration for Molex 0010897041 - [https://www.molex.com/datasheets/rohspdf/0010897041\\_rohs.pdf](https://www.molex.com/datasheets/rohspdf/0010897041_rohs.pdf)**RoHS Certificate of Compliance**

07/11/2022

Molex is committed to managing the use of chemical substances in accordance with governmental regulations, industry standards, and customer-specific requirements in order to protect the environment. For each part listed, this document provides:

- EU RoHS Compliance Status.** EU RoHS status is declared per Directive 2011/65/EU and its subsequent amendments, including the Directive EU 2015/863 which additionally prohibited four phthalates. Homogeneous materials of parts that are compliant to this legislation have less than 0.1% by weight each of lead, mercury, hexavalent chromium, PBB, PBDE, DBP, BBP, DIBP, DEHP, and 0.01% by weight of cadmium. In situations where an exemption applies, the preceding limits, corresponding to the exempted substance(s), may be higher.

Molex's sole liability for incorrectly certifying a product shall be either replacement of the Molex product or, alternatively and in the sole discretion of Molex, return of the purchase price paid for the relevant Molex product.

For additional information regarding Molex's environmental initiatives and further explanation of this information, please visit [www.molex.com](http://www.molex.com)

Haim Eliyahu  
Director, Global Product Stewardship

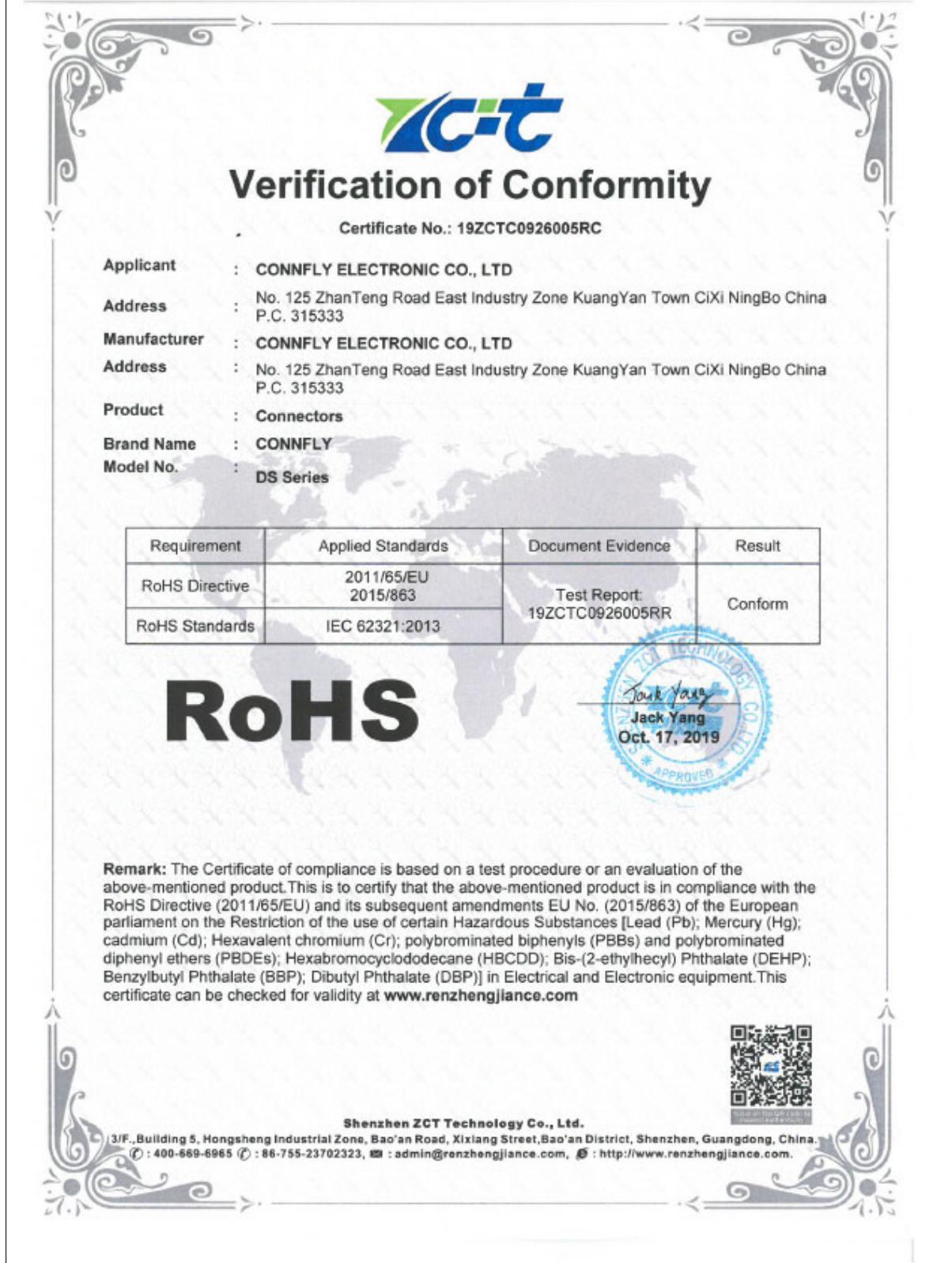
**Table A**

Molex Part Number	Part Description	RoHS Compliance Status
0010897041	2.54mm Pitch C-Grid Breakaway Header, Dual Row, Vertical, High Temperature, 4 Circuits, Tin (Sn) Plating, 2.72mm PC Tail Length	Compliant

294 **12.5 Connfly DS1023-2\*2SF11**

Table 27: Connfly DS1023-2\*2SF11 Compliance

Declaration for Connfly DS1023-2\*2SF11 -  
<http://en.connfly.group/static/upload/image/ico/RoHS□□□Connectors□.jpg>



295 **12.6 M3 16mm Nylon Screw**

Table 28: M3 15mm Nylon Screw RoHS Compliance

Declaration for M3 15mm Nylon Screw - N/A
 <p>合格证 品名: 尼龙螺丝 型号: M3*15 数量: 5000 (沉头) 材料: PA66 ROHS</p> <p>15</p>

296 **12.7 M3 11mm Nylon Standoff**

Table 29: M3 11mm Nylon Standoff RoHS Compliance

Declaration for M3 11mm Nylon Standoff - N/A

**12.8 M3 Nylon Bolt**

297

Table 30: M3 Nylon Bolt RoHS Compliance

Declaration for M3 Nylon Bolt - N/A
<p>物料标签   PRODUCT QUALIFIED CARD</p> <p>产品名称: 六角螺帽</p> <p>规格型号: M3</p> <p>数    量: 1000 只</p> <p>产品编码: Z05BK0201/0775/0000/M03</p> <p>材    质: PA66 ROHS</p> <p>2022.1.16</p>