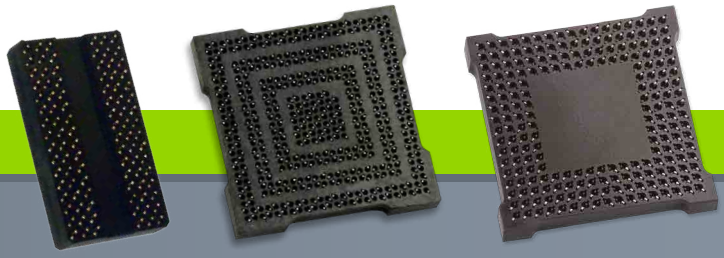
Grypper
Grypper G40
Grypper G80

High performance net zero footprint engineering test sockets

IC PACKAGE INSERTION AND REMOVAL GUIDE



Before You Begin

ABOUT THIS GUIDE

Welcome to the Grypper Test Socket IC Package Insertion and Removal Guide. This guide contains information regarding the proper IC package insertion and removal techniques for Grypper products.

NOTE The information contained in this document is considered a general guideline only.

NOTATIONAL CONVENTIONS

This manual uses the following conventions:

NOTE Note is used to indicate important information about the product that is not hazard related.

CAUTION Caution is used to indicate the presence of a hazard which **will** or **can** cause minor personal injury or property damage if the warning is ignored.

WARNING Warning is used to indicate the presence of a hazard which **can** cause severe personal injury, death or substantial property damage if the warning is ignored.

DANGER Danger is used to indicate the presence of a hazard which **will** cause severe personal injury, death or substantial property damage if the warning is ignored.

WHERE TO GET MORE INFORMATION

More information is available from these sources:

Ironwood Electronics test socket support team stands ready to assist our valued test socket customers. Our primary socket support team is based at our Eagan, Minnesota, USA office and is available at 1-952-229-8200 from 8:00AM - 4:30PM CST. If you require after hours support or are interested in regional support, please view our worldwide locations page.

World Wide Web: Ironwood Electronics maintains an active site on the World Wide Web at www.ironwoodelectronics.com. The site contains current information about the company and locations of sales offices, new and existing
products, contacts for sales, service, and technical support information. You can also send e-mail to Ironwood Electronics using the web site. Requests for sales, service, and technical support information receive prompt response.

When requesting technical support through the website or e-mail, please be sure to include all nomenclature engraved on the test socket, and a detailed description of the problem. This information will allow us to serve you better.

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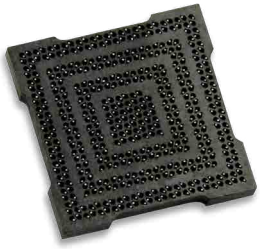
Chapter 1

Overview

COMPONENT TERMINOLOGY

Grypper products test sockets consist of one standard part: the test socket assembly.

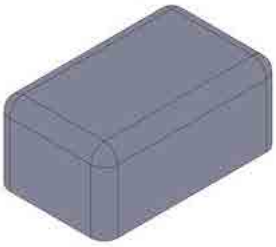
Grypper test socket assembly: without solder balls



Grypper G40 test socket assembly: solder balls attached

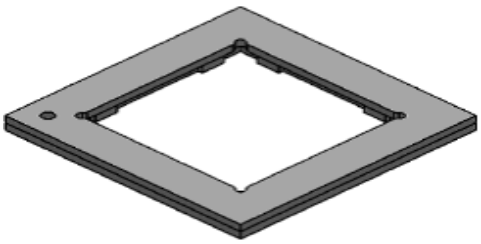
Grypper G80 test socket assembly: without solder balls

Additional components used with your test socket include the device press and the device extraction tool. The Alignment frame is an option and is recommended for finer pitch (0.50 pitch and finer) and devices with solder balls of 0.40 diameter or smaller.



Device press

Device extraction tool



Alignment frame

SUPPLIES REQUIRED

1. Loadboard/PCB with test socket
2. Alignment frame (provided with G40 product)
3. Device press (optional)
4. Device extraction tool (optional)
5. IC package
6. Vacuum pen (optional)
7. Compressed air source (dry and clean)
8. Lint-free cloth
9. Eye protection
10. 10x magnification minimum (optional)

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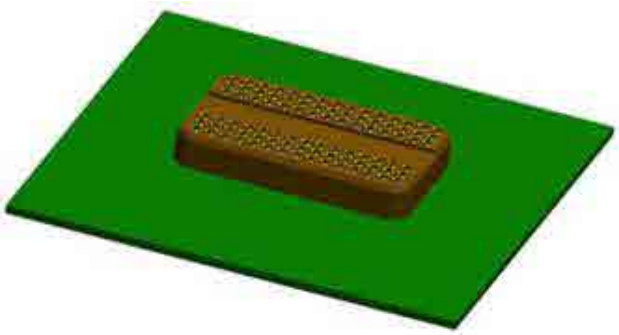
Chapter 2

IC Package Insertion and Removal Procedure

Before installing the IC package, the test socket must be mounted to the loadboard/ PCB.

WARNING Inserting the IC package into the Grypper test socket prior to attaching the test socket to the loadboard/PCB may damage the test socket.

See the Grypper G40 Test Socket Attachment and Removal Guide (PN 700001-0001) for details.

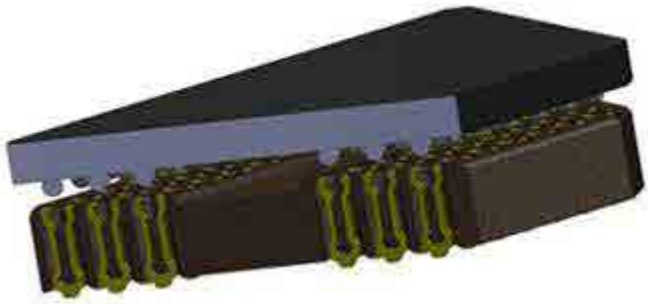


IC PACKAGE INSERTION

A pre-attachment bake (desiccation) ensures that the test sockets are moisture-free.

WARNING Always use eye protection when working with compressed air.

1. Use compressed air to remove any loose debris from test socket.
2. Orient the ball pattern on the IC package to align with the contacts pattern on the test socket.



3. Gently place the IC package on the top of the test socket.

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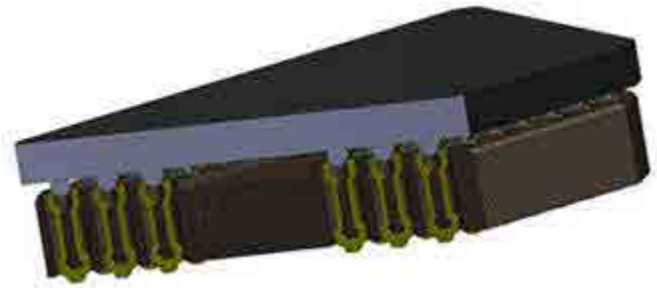
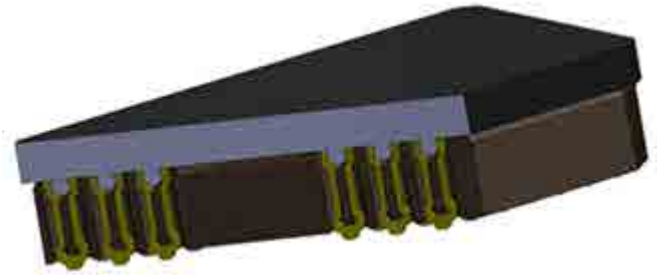
4. Use your finger to gently move the IC package in both the x and y directions to ensure that the solder balls on the IC package are aligned with the contacts on the test socket. The IC package should settle into position.



5. Use 10x minimum magnification to visually verify that the solder balls are in the proper location.
6. Provide adequate support to the bottom (opposite the test socket side) of the loadboard/PCB to prevent flexing.
7. Place the device press on the IC package (optional).

8. Use your thumb to apply downward pressure (in the z direction) on the IC package press until you hear or feel a “snap”.



NOTE

If you cannot attain adequate force to fully seat the package, an arbor press can be used. Exercise caution, however, to prevent damage to test system components.

9. Remove the device press from the IC package.

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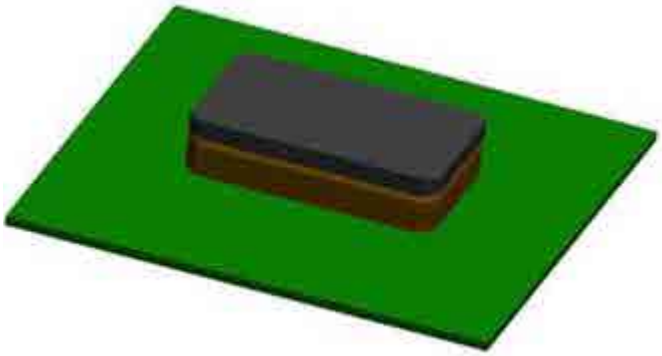
10. Use 10x minimum magnification to visually verify that the IC package is fully seated in the test socket.
11. The loadboard/PCB, test socket and IC package are now ready for testing.

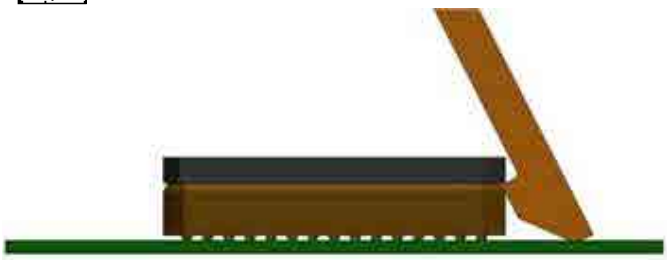


IC PACKAGE REMOVAL

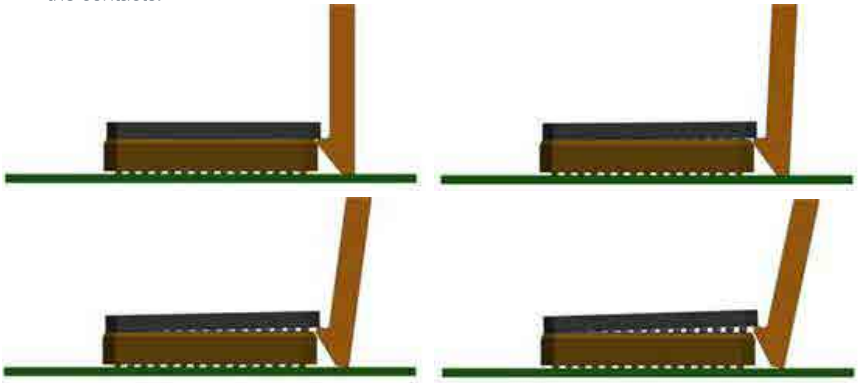
1. Locate the device extraction tool provided with the test socket.
2. Orient the tip of the device extraction tool toward the loadboard/PCB.
3. Insert the tip of the tool into one of the test socket sides so it interfaces with the lower edge of the IC package.

NOTE

Each end of the device extraction tool is geometrically different. The shorter end of the extraction tool is typically used for IC packages exhibiting a solder ball pitch of 0.40 and 0.50mm, while the longer end is used for IC packages exhibiting a solder ball pitch >0.50mm.



4. Gently rotate the top of the extraction tool away from the test socket to lift the IC package away from the contacts.



NOTE

To prevent potential damage to the IC package, place your hand slightly above the IC package to capture it, if necessary, when it releases from the contacts.

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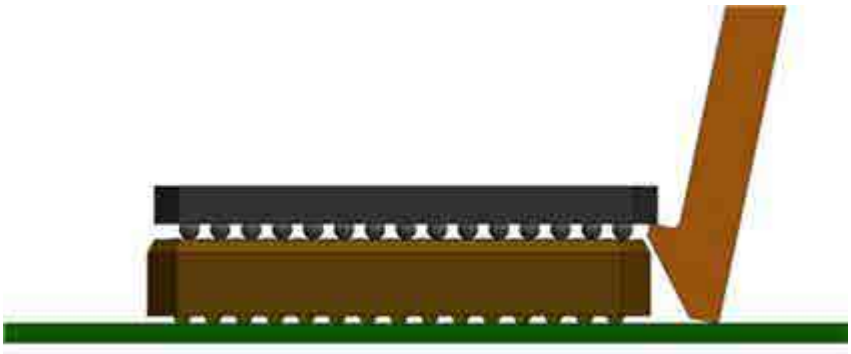

For larger IC packages it may be necessary to repeat these steps on the opposite side of the test socket to fully release the IC package.

5. Use a vacuum pen to remove the IC package from the test socket.

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Via Regina Pacis, 54/c - 41049 SASSUOLO (MO) Italy
Tel. +39 0536 811.616 r.a. - Fax +39 0536 811.500
www.bce.it - E-mail: bce@bce.it