

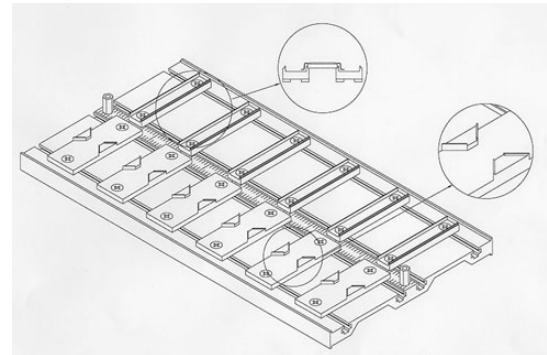
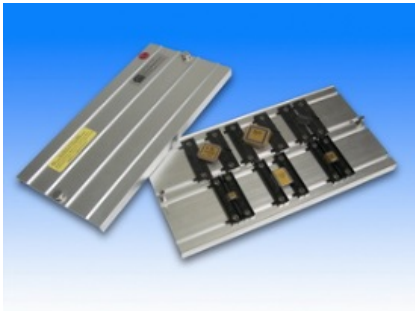


Fancort's Line of Adjustable Matrix Trays
Options for Non-Standard Ceramic FPGA's
&
Metal Cased Hybrid SMD's
for
Shipping, Storage and Automation

Introduction

Introducing a new concept in matrix trays for the handling of fine pitch components, flat packs, quad packs and MCMs. These adjustable trays from Fancort offer a very cost effective alternative to molded trays by eliminating tooling charges, minimum purchase quantities and lack of flexibility. Fancort matrix trays have adjustable static dissipative, injection molded supports which are held parallel and slide easily in two tracks. Packages nest between two supports without contact to the leads; quadpacks are held on two opposite corners and flatpacks are held on two opposite sides. To change the set-up, slide the supports to the correct body size and lock the screws. Custom versions are available.

Here is a photo of a typical demo tray set-up with the ability to hold 5 CQFP's/Quad Packs on one side and 5 CFP/Flat Packs on the other side.



How They Work

Holding, safe guarding and transporting formed ceramic FPGA's and or metal cased hybrid SMD's can be a challenging and daunting task. The completed formed SMD can be either top brazed, side exit or bottom brazed configurations. They can be very thin and/or very thick; have leads on one, two, three or four sides of each device. Metal cased devices can have very fragile glass to metal seals that cannot be touched for fear of cracking glass and hybrid devices losing their hermetic seal rendering it unusable. The devices are all sensitive to ESD so proper precautions of this outside influence also needs to be addressed and the formed devices isolated when in the trays.

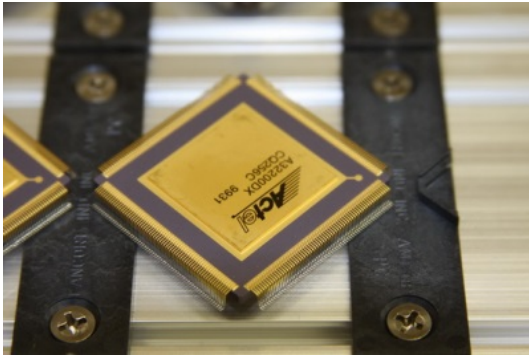
Fancort's Adjustable Matrix Trays offer a sound safe solution for all these devices and their special needs. Standard trays hold up to 10 formed Quadpacks or 10 Flatpacks depending on the tray ordered. All Adjustable Matrix Trays meet the following criteria, basic overall specifications and feature the following construction.

- Aluminum construction, consisting of the base plate and top cover
- Moveable plastic slides that are molded in PPA with carbon fiber, with a surface resistivity of $10E5-1-E7$ ohm/cm
- Supports are non-sloughing and tolerate $170^{\circ}C$
- ESD foam with conductive film in the cover for cushioning and component thickness variations
- Special reusable egg-crate shipping box

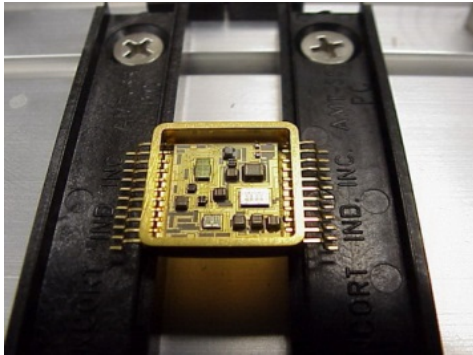
Photo of a closed matrix tray in its Fancort egg-crate shipping box, a photo of a formed and tinned FPGA 256 in an adjustable AMT-6x12QP and AMT-6x12FP



Egg-Crate Container



AMT-6x12QP



AMT-6x12FP

Examples and P/N's for Standard Adjustable Matrix Trays:

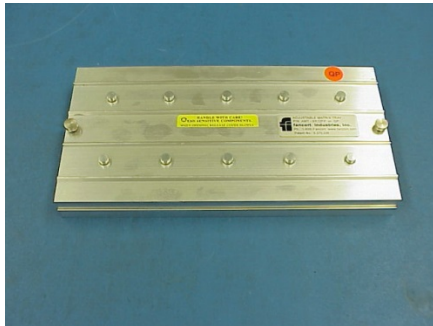
Description	Part Number
Tray to hold up to 10 Quad Packs	AMT-6x12QP
Tray to hold up to 10-20 Flat Packs	AMT-6x12FP

Holding Bottom Brazed Parts

Bottom Brazed Formed SMT Devices present their own challenges and require special trays and handling. These special trays have spring plungers to hold the SMT devices in a “dead” bug style, versus the standard trays that hold the formed devices in a more natural “live” bug SMT position. Normally these trays, depending on the device package size, will hold 6-10 formed Bottom Brazed devices using the same overall features as our standard trays.

- Aluminum construction, consisting of the base plate and top cover with 10 spring plungers
- Moveable plastic slides that are molded in PPA with carbon fiber, with a surface Resistivity of 10E5-10E7 ohm/cm
- Supports are non-sloughing and tolerate 170°C
- Special reusable egg-crate shipping box

Photos of special bottom brazed Adjustable Matrix Trays for Quad Packs in this case.



Description	Part Number
Tray to hold 6-10 Quad Packs with Bottom Brazed Leads	AMT-6x12QP-B
Tray to hold 6-10 Flat Packs with Bottom Brazed Leads	AMT-6x12FP-B

Pick and Place and Automation

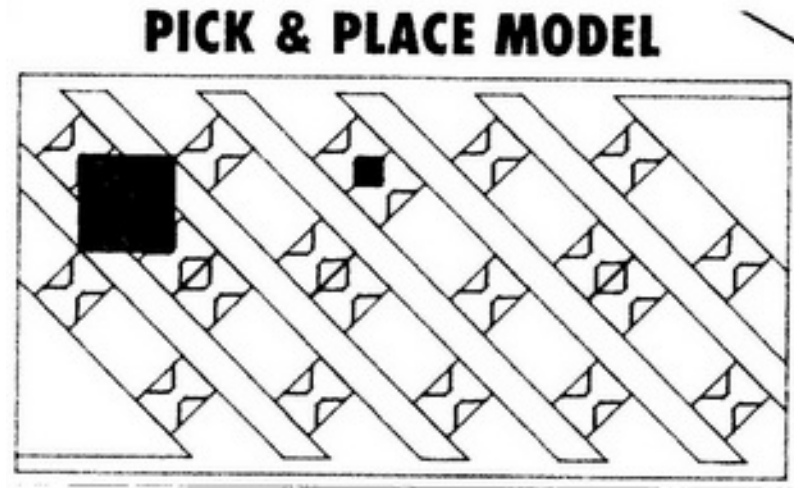
Special pick and place trays for use in automation for square quad packs, only.

Optional Pick and Place Model:

- Quads only, must be square
- Orients devices in accurately registered X-Y positions
- Interface with standard pick and place machines, e.g. Zevatech, Fuji, Quad, etc.
- Overall height of .400", less cover
- Aluminum construction consisting of a base plate and top cover, including an Allen wrench to allow for the adjustment of slides to match the application
- Special reusable egg-crate box



AMT-6x12QP-A



Description	Part Number
Tray to hold up to 10 Quad Packs with Top Brazed or Side-Exit Leads	AMT-6x12QP-A

Common Options and Special Trays

- All aluminum construction, consisting of the base plate and top cover
- ESD foam with conductive film in the cover for cushioning and component thickness variations
- Special reusable egg-crate shipping box
- Note: Can also be configured and/or machined for other pin counts and or rectangular parts

Photo of a 352 lead FPGA in a dedicated Fancort Matrix Tray:

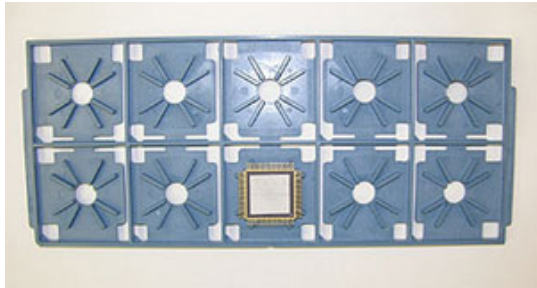


Description	Part Number
Spacers for any Fancort Matrix Trays, thickness and size TBD	AMT-SP or AMT-SP/BB
Flat Pack slides with SS hardware	AMT-SS
Quad Pack slides with SS hardware	AMT-QP
Dedicated 352 lead FPGA Tray that will hold 6 formed parts	AMT-6x12QP-SP

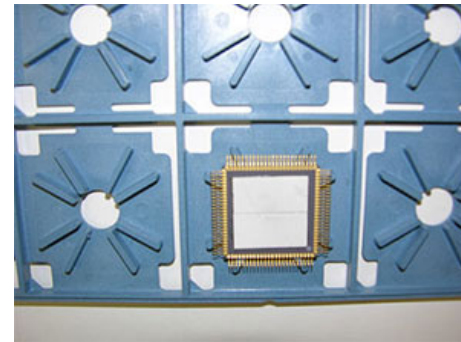
JEDEC-Style Machined Trays

Plastic machined JEDEC-style trays, normally used in higher quantities, are less expensive, and are used for storage and transportation. Proper planning also needs to be considered. These are not off the shelf, need to be fabricated and are dedicated to the application they were made for and cannot be changed. Each tray, when ordered in our forming services, will be supplied in a Fancort egg-crate shipping box.

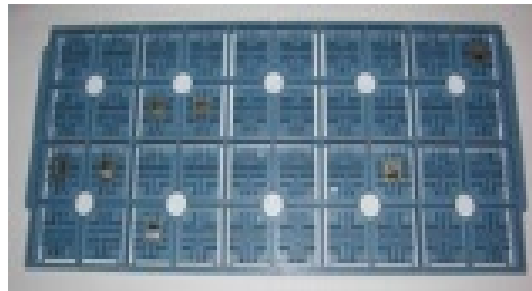
- Molded JEDEC Plastic Trays
- Minimum quantity – 10 pieces
- Set-up charge, plus tray cost, plus machining.
- Trays stack like standard plastic JEDEC trays.



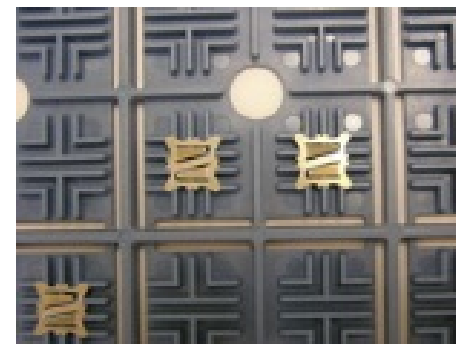
Flat Pack Tray AMTP-FP



Quad Pack Tray AMTP-QP



40 Up Plastic Tray



Close-Up 40 Up Plastic Tray