

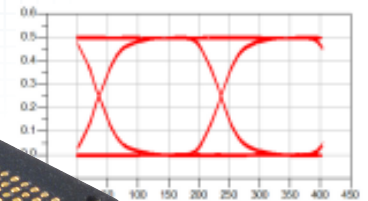
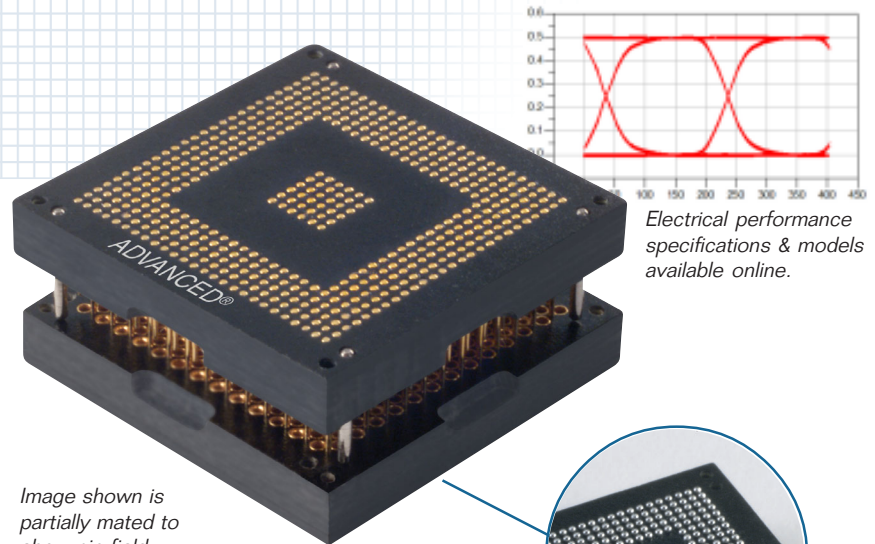
0.50mm Pitch BGA Socket Adapter System



www.advanced.com

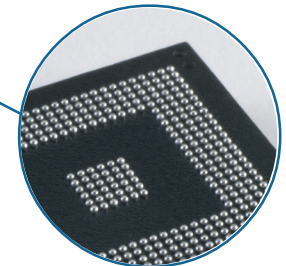
The new 0.50mm pitch BGA Socket Adapter System from Advanced is a breakthrough in fine pitch socket technology. This new patent pending design utilizes male and female pins in an interstitial pattern – offering the reliability of screw-machined terminals with multi-finger contacts in a compact SMT socket.

At only 2.00mm larger than the device package, this new design is perfect for development and validation of BGA and LGA devices, production level socketing, and SMT board to board connector applications.



Electrical performance specifications & models available online.

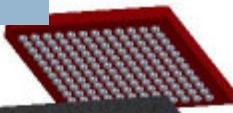
Image shown is partially mated to show pin field.



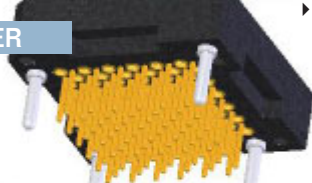
Solder ball terminals for superior SMT processing.

How It Works

DEVICE



ADAPTER



▶ Reflow solder device to Adapter.

SOCKET



▶ Reflow solder Socket to PC Board.

▶ Adapter matches footprint of BGA/LGA device and plugs into mating socket using unique male/female terminals in an interstitial pattern (patent pending).

▶ Socket matches footprint of BGA/LGA device. Use alignment pins to align Device/Adapter assembly during insertion into board-mounted Socket.

Features

- Superior electrical performance – very low signal attenuation up to 2.5GHz
- Advanced's field-proven screw-machined terminals with multi-finger contacts, arranged in an interstitial male/female pin pattern are gold plated for gold/gold interconnect
- Small overall size & same footprint as device – only 2.00mm larger than device
- No external hold-downs required
- Standard eutectic Tin/Lead solder balls or new lead-free Tin/Silver/Copper solder ball terminals for RoHS Compliant applications
- Unique alignment pins protect pin field and aid in hand placement with optional stand-offs available
- Sockets and Adapters are provided with protective covers which facilitate automated pick & place
- Available in any 0.50mm pitch BGA or LGA footprint



ADVANCED
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0.50mm Pitch BGA Socket Adapter System



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Performance

Superior Electrical Performance

Even with adjacent Aggressor excitation, our socket system provides a Differential Data path of +/- 175mV @ 100psec and a Single-ended Data path of +/- 125mV @ 140psec.

Patent pending hybrid design ensures that adjacent terminal electromagnetic coupling is trivial; greatly reducing NeXT & FeXT, while creating a pseudo-matched impedance environment; stabilizing the Insertion & Return Loss response rates.

Differential Insertion Loss

-0.10dB @ 1.2 GHz
-0.50dB @ 2.3 GHz

Differential Return Loss

-15.0dB @ 1.2 GHz
-10.0dB @ 2.3 GHz

Insertion/Extraction Force

35g avg. Insertion & 30g Withdrawal (per pin)

Additional electrical performance, signal integrity simulation data and models available online.

Specifications

Body Size

Device + 0.079/(2.00mm)

Mated Height

0.214/(5.44mm)* approx. (*will vary based on reflow profile, paste volume and PC board pad size)

Insulator

FR-4 Glass Epoxy, U.L. Rated 94V-0

Terminal

Brass - Copper Alloy (C36000) ASTM-B-16

Contact

Beryllium Copper
(C17200) ASTM-B-194

Solder Ball

Standard: 63Sn/37Pb (not RoHS Compliant)
Lead-free: 95.5Sn/4.0Ag/0.5Cu

Terminal Plating

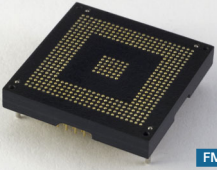

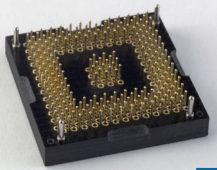


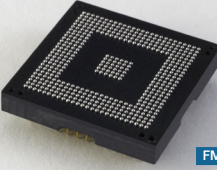


Gold over Nickel
Gold per MIL-G-45204
Nickel per QQ-N-290

Note: Alignment pins are Nickel plated.

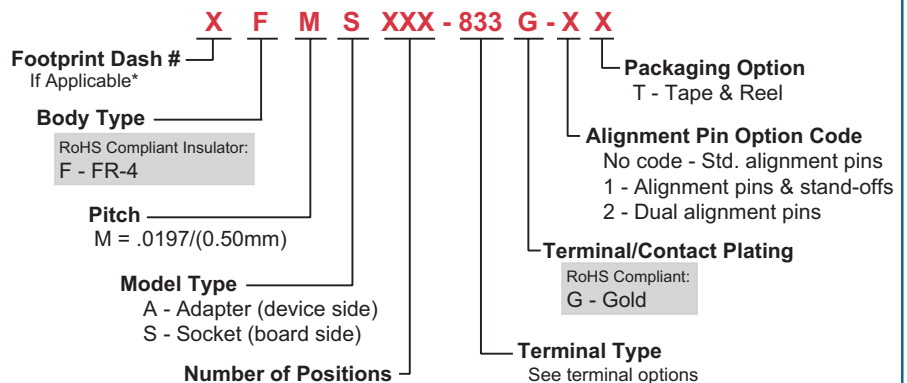
Operating Temperature Range

-40°C to 140°C (-40°F to 284°F)

Table of Models

FOR BGA DEVICE SOCKETING		TERMINAL OPTIONS
	Adapter (A) with Standard Terminals Mates with Socket for: <ul style="list-style-type: none"> BGA device socketing 	 Type -834 Gold plated pad
	Socket (S) with SMT Terminals Mates with Adapter for: <ul style="list-style-type: none"> BGA/LGA socketing Board to board connector 	 Type -833 Sn/Ag/Cu Solder Ball  Type -832 Sn/Pb Solder Ball
FOR LGA SOCKETING & BOARD TO BOARD		TERMINAL OPTIONS
	Adapter (A) with SMT Terminals Mates with Socket (S) for: <ul style="list-style-type: none"> LGA socketing Board to board connector 	 Type -833 Sn/Ag/Cu Solder Ball  Type -832 Sn/Pb Solder Ball

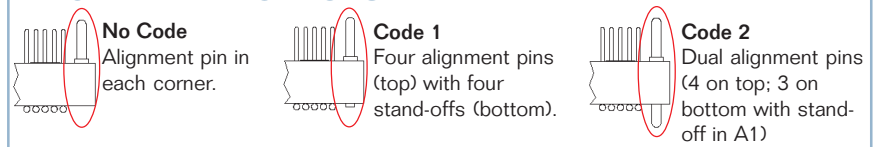
How To Order



*See footprints online or submit device mechanical specs.

Note: If no packaging code is indicated, parts are supplied in standard trays.
Both sockets and adapters are supplied with protective covers.
Extraction Tool is available separately; order P/N 8794.

ALIGNMENT PIN OPTIONS



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