

## Table of Models

	<p>Description: <b>Standard Adapter (A)</b>                  Material: FR-4 Fiberglass Epoxy Board                  Index: -40°C to 140°C (-40°F to 284°F)                  Note: Mates with Standard Socket (S)</p>	<p>Insulator Size:                  BGA device body                  +.079/(2.00mm)</p>
	<p>Description: <b>Extraction Slot Adapter (AX)</b>                  Material: FR-4 Fiberglass Epoxy Board                  Index: -40°C to 140°C (-40°F to 284°F)                  Note: Mates with Extraction Socket (SB)</p>	<p>Insulator Size:                  BGA device body                  +.157/(4.00mm)</p>

## Features:

- Soldering BGA Device to adapter subjects BGA to less thermal stress than soldering BGA directly to a PCB due to the adapter's lower mass.
- Uses same footprint as BGA device.
- Custom adapters available for heat sink attachment.
- Gold plated screw-machined terminals for superior durability.
- Unique SMT Adapter provides reliable solution for mounting or socketing LGA or re-worked BGA devices.
- SMT Adapters mate with our BGA Sockets for LGA to BGA conversion or SMT Board to Board applications.

## Specifications:

### Terminals:

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

### Solder Ball:

Standard: 63Sn/37Pb  
 Lead-free: 95.5Sn/4.0Ag/0.5Cu

### Plating:

G - Gold over Nickel

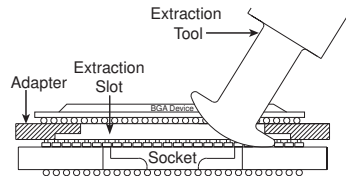
Gold per ASTM-B-488  
 Nickel per QQ-N-290

## Options

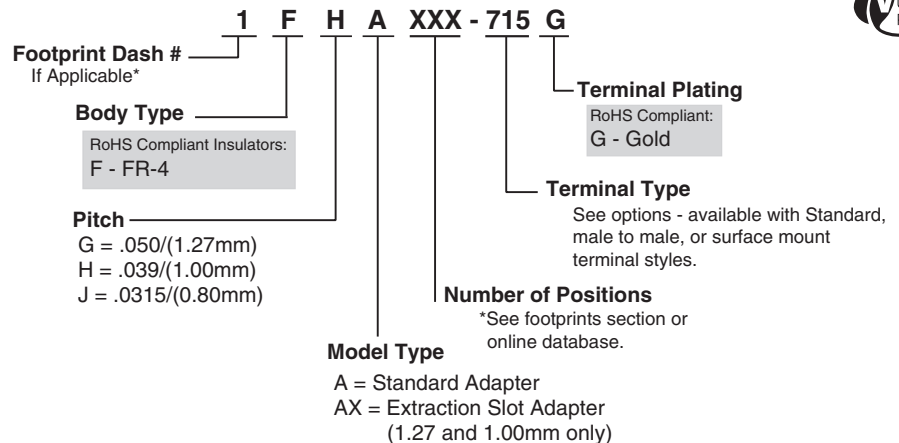


### Extraction Tool

- Insert "T" bar end of tool into extraction slot adapter.
- Slide tool to end of slot and pry adapter from socket.
- Repeat in additional slots until adapter is separated from socket.
- Works with LCP or FR-4 sockets.



## How To Order



Note: See pages 4-5 for 0.50mm and 0.65mm pitch. Consult factory for custom 0.75mm pitch designs. For SMT Adapters, select Model Type A or AX and appropriate SMT Terminal Type from page 7.



5 Energy Way, West Warwick, RI 02893 USA  
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 info@advanced.com | www.advanced.com  
 Catalog 16 rev. Sept. 07

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inch/(mm)

# Ball Grid Array (BGA) Adapters

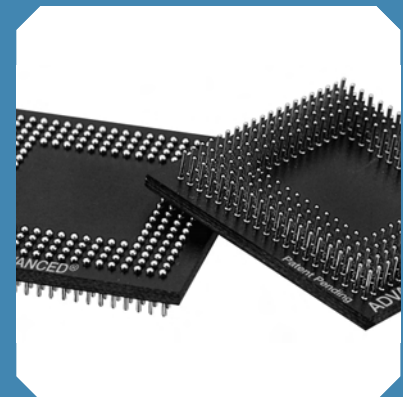
For use with BGA Sockets on pages 8-9



# BGA Adapters

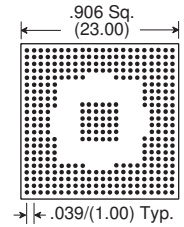
Additional standard and custom terminals available. See Terminals section or consult factory.

	Standard Terminals			
Standard	<b>Type -638</b> 1.27mm pitch 	<b>Type -715</b> 1.00mm pitch 	<b>Type -700</b> 0.80mm pitch 	
	<b>Type -721</b> 1.27mm pitch 	<b>Type -735</b> 1.00mm pitch 	<b>Type -732</b> 0.80mm pitch 	
Male to Male	<b>Tin/Lead: Type -720</b> <b>Lead-free: Type -823</b> 1.27mm pitch 	<b>Tin/Lead: Type -737</b> <b>Lead-free: Type -824</b> 1.00mm pitch 	<b>Tin/Lead: Type -736</b> <b>Lead-free: Type -829</b> 0.80mm pitch 	
	<b>SMT (Surface Mount)</b> <b>Tin/Lead: Type -720</b> <b>Lead-free: Type -823</b> 1.27mm pitch 	<b>Tin/Lead: Type -737</b> <b>Lead-free: Type -824</b> 1.00mm pitch 	<b>Tin/Lead: Type -736</b> <b>Lead-free: Type -829</b> 0.80mm pitch 	



## Footprints:

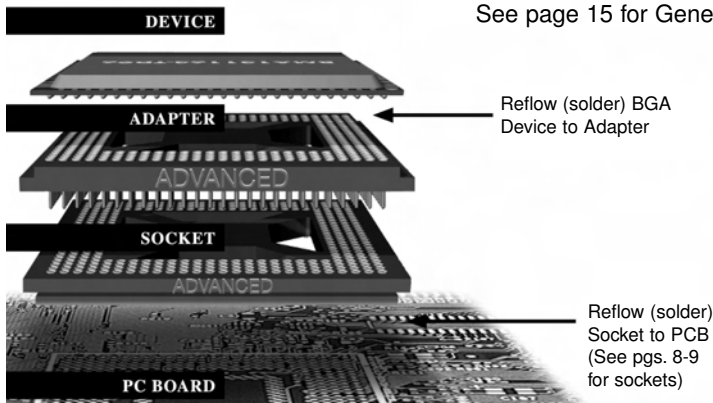
360 Pins  
Footprint Number 360-2



22 x 22 rows

- Footprint specific insulators drilled to exact device pattern.
- Over 1000 footprints available - see page 88, search online or submit your device specs.
- Use our Build-A-Part feature or search in our online BGA Socket Finder™ at [www.bgasockets.com](http://www.bgasockets.com).

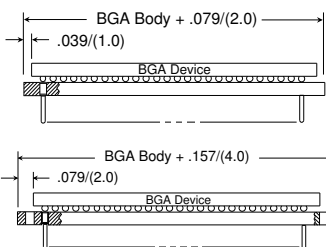
## How It Works



See page 15 for Generic Reflow Profiles.

- Either Tin/Lead or Lead-free device packages can be attached to our RoHS Compliant Adapters.
- PC boards can be processed with Tin/Lead BGA sockets in standard profiles or lead-free BGA sockets in RoHS Compliant, high temperature profiles.

## Dimensional Information



### Standard Adapter (A)

- Mates with Standard Socket (S)
- Adapter size equals BGA Device body + .079/(2.00)

### Extraction Slot Adapter (AX)

- Slots allow AIC extraction tool (sold separately) to easily remove device/adapter assembly from socket
- Mates with Extraction Socket (SB)
- Adapter size equals BGA Device body + .157/(4.00)

## Available Online:

- RoHS Qualification Test Report
- Technical articles
- Test data
- Signal Integrity Performance
- CAD Drawings
- BGA Footprints

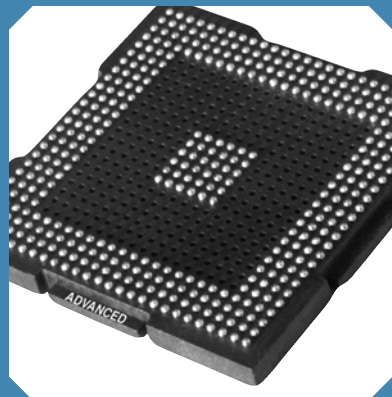


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inch/(mm)

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# BGA Adapter Sockets



## Features:

- Advanced® exclusive solder ball terminals offer superior SMT processing.
- Same footprint as BGA device.
- Proven long-term performance in vigorous temperature cycling applications - solder ball terminal absorbs TCE mismatch.
- Closed bottom socket terminal for 100% anti-wicking of solder.
- Gold contacts allow gold/gold interconnections to Adapter pins.
- Low insertion force socket with multi-fingered high reliability Beryllium Copper contacts.
- Coplanarity consistently under .006 inch industry standard.
- Custom designs available.

## Specifications:

### Terminals:

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

### Contacts:

Beryllium Copper  
(C17200) ASTM-B-194

### Solder Ball:

Standard: 63Sn/37Pb  
Lead-free: 95.5Sn/4.0Ag/0.5Cu

### Plating:

G - Gold over Nickel  
Gold per ASTM-B-488  
Nickel per QQ-N-290

# Ball Grid Array (BGA) Adapter Sockets

For use with BGA Adapters on pages 6-7

## Table of Models

	Description: <b>Standard Socket (S)</b> Mat'l: High Temp. Liquid Crystal Polymer (LCP)* Index: -60°C to 260°C (-76°F to 500°F)	Insulator Size: Same size as BGA device body
	Description: <b>Extraction Socket (SB)</b> Mat'l: High Temp. Liquid Crystal Polymer (LCP)* Index: -60°C to 260°C (-76°F to 500°F)	Insulator Size: 1.27mm Pitch: BGA device body +.079/(2.00)  1.00mm Pitch: BGA device body +.138/(3.50)

RGS/RGSB replaces MGS/MGSB, MHS/MHSB replaces FHS/FHSB.

\* Some sizes may only be available in FR-4. See How To Order section or consult factory.

## Options



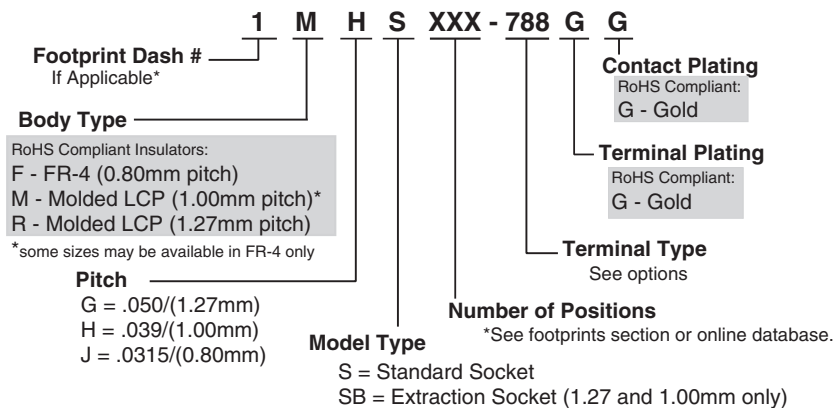
### Tape and Reel Packaging

- Conforms to EIA-481 Standard.
- Pick-up tape included.
- Add -TR to end of part number when ordering.
- Custom packaging available
- If -TR is not specified, standard tray packs are used.



- Extraction tool (P/N 8125) is available separately.
- Works with Extraction Slot Adapters and LCP or FR-4 sockets.

## How To Order



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Note: See pages 4-5 for 0.50mm and 0.65mm pitch.



Distribución de componentes  
eléctricos y electrónicos

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inch/(mm)

# Ball Grid Array (BGA) Adapter Sockets

For use with BGA Adapters on pages 6-7

Additional standard and custom terminals available.  
See Terminals section or consult factory.

## Standard Terminals

SMT (Surface Mount)

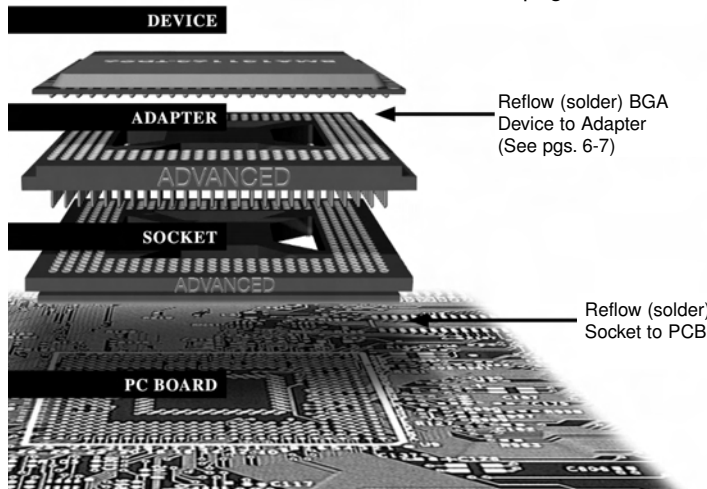
Tin/Lead: Type -636 Lead-free: Type -819 1.27mm pitch	Tin/Lead: Type -790 Lead-free: Type -788 1.00mm pitch	Tin/Lead: Type -702 Lead-free: Type -828 0.80mm pitch
PATENTED	PATENTED	PATENTED

Thru-Hole

Type -673 1.27mm pitch	Type -789 1.00mm pitch	Type -731 0.80mm pitch

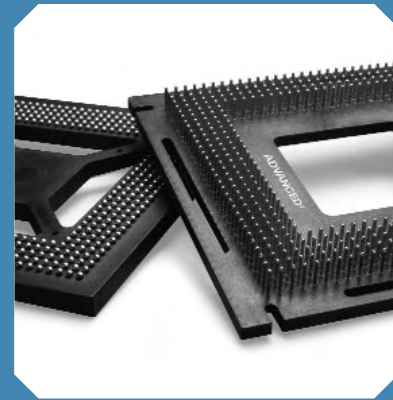
## How It Works

See page 15 for Generic Reflow Profiles.



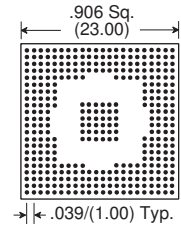
- Either Tin/Lead or Lead-free device packages can be attached to our RoHS Compliant Adapters.
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# BGA Adapter Sockets



## Footprints:

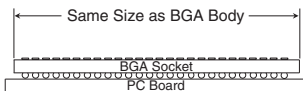
360 Pins  
Footprint Number 360-2



22 x 22 rows

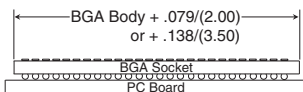
- Full grid molded insulators populated to exact device pattern.
- Over 1000 footprints available - see page 88, search online or submit your device specs.
- Use our Build-A-Part feature or search in our online BGA Socket Finder™ at [www.bgasockets.com](http://www.bgasockets.com).

## Dimensional Information



### Standard Socket (S)

- Mates with Standard Adapter (A)
- Socket size same as BGA device body
- Use with SMT Adapter for LGA and reworked BGA device socketing (or board to board applications)



### Extraction Socket (SB)

- Mates with Extraction Slot Adapter (AX)
- Socket size equals BGA body + .079/(2.00) for 1.27mm pitch or BGA body + .138/(3.50) for 1.00mm pitch
- Protects valuable PCB during device/adaptor extraction - tool never touches PCB
- Available in 1.00 and 1.27mm pitch only



inch/(mm)

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