Flip-Top™ BGA Sockets
0.50mm Pitch

Features
- Model shown accommodates BGA packages up to 12mm sq. (22 x 22 rows) with larger sizes available upon request.
- Precision machined spring probes offer high bandwidth with very low insertion loss.
- Compact size (small keepout zone) enables use on design boards.

Specifications
Guide Box:
High Temp. Glass Filled Thermoplastic (PPS)
Screws: 18-8 Stainless Steel

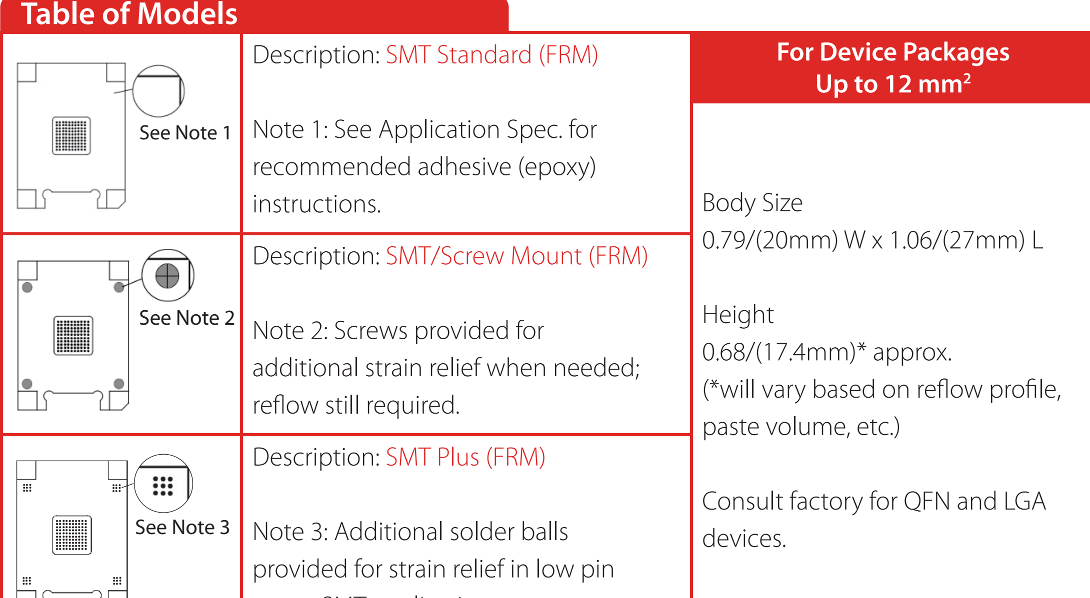
Base Socket:
FR-4 Glass Epoxy, U.L. Rated 94V-0

Lid, Latch, Heat Sink & Support Plate:
Anodized Aluminum

Spring Probe Terminals:
Crown-point Plunger: Tool Steel, Gold Plated
Spring: Stainless Steel, Gold Plated
Terminal: Brass (C36000), Gold Plated

Solder Ball (Board Interface)
Lead-free: 96.5Sn/3.0Ag/0.5Cu (SAC305)
Tin/Lead: 63Sn/37Pb

Table of Models

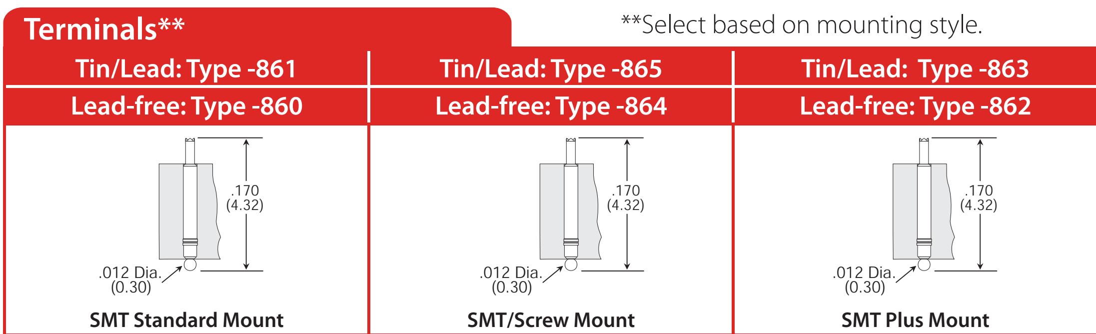


		For Device Packages Up to 12 mm²
See Note 1	Description: SMT Standard (FRM) Note 1: See Application Spec. for recommended adhesive (epoxy) instructions.	Body Size 0.79/(20mm) W x 1.06/(27mm) L Height 0.68/(17.4mm)* approx. (*will vary based on reflow profile, paste volume, etc.) Consult factory for QFN and LGA devices.
See Note 2	Description: SMT/Screw Mount (FRM) Note 2: Screws provided for additional strain relief when needed; reflow still required.	
See Note 3	Description: SMT Plus (FRM) Note 3: Additional solder balls provided for strain relief in low pin count SMT applications.	

Consult factory for 0.65mm and 0.80mm pitch models.

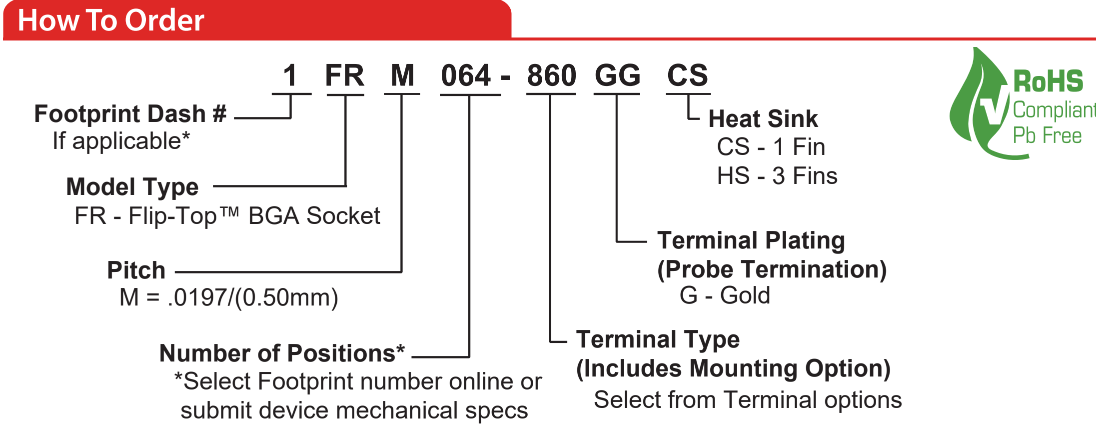
Terminals**

**Select based on mounting style.



Tin/Lead: Type -861	Tin/Lead: Type -865	Tin/Lead: Type -863
Lead-free: Type -860	Lead-free: Type -864	Lead-free: Type -862
.170 (4.32) .012 Dia. (0.30)	.170 (4.32) .012 Dia. (0.30)	.170 (4.32) .012 Dia. (0.30)
SMT Standard Mount	SMT/Screw Mount	SMT Plus Mount

How To Order



- 4-point crown tip spring probes accurately align device solder balls, leaving only minimal witness marks to preserve the solder ball integrity.
- Device mechanical specifications are required prior to ordering to ensure accuracy of device-specific chip support plate.
- Sockets are packaged in foam-lined cartons.

ADVANCED INTERCONNECTIONS®
5 Energy Way, West Warwick, RI 02893 USA
Tel: 800.424.9850 | 401.823.5200
info@advanced.com | www.advanced.com

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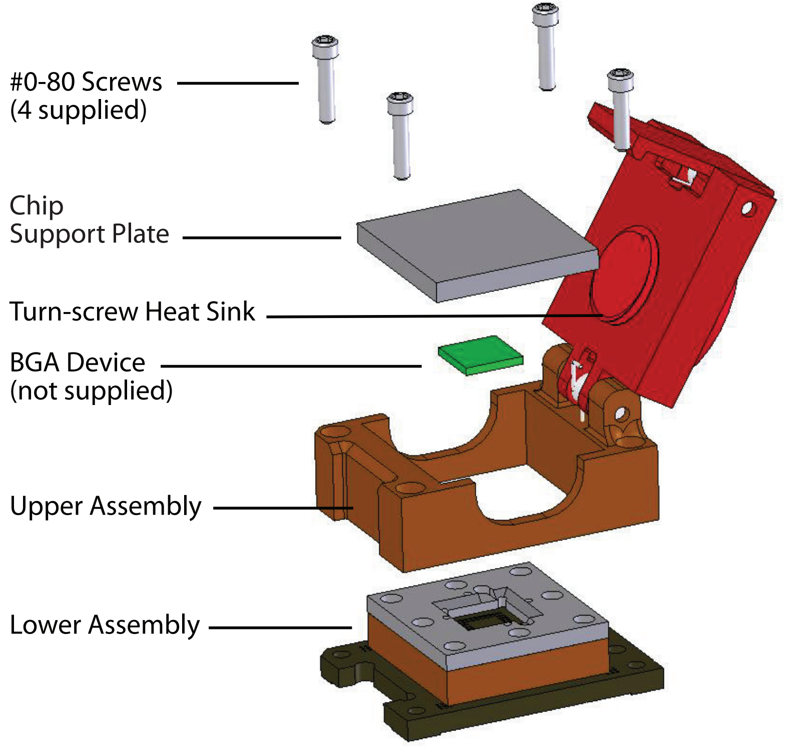
Flip-Top™ BGA Sockets
0.50mm Pitch

SELWYN electronics

How It Works



Step 1: Solder lower assembly to PC board, apply epoxy if required.

Step 2: Attach upper assembly using four supplied screws.

Step 3: Insert BGA device by hand or with the aid of a vacuum pen (recommended).

Step 4: Place device-specific chip support plate (supplied) over device, close lid, and screw down heat sink actuator for device engagement.

Performance

Durability
Actuation cycles: 500 minimum

Current Carrying Capacity
2.8 Amps Max.

Probe Contact Force
18 g (per position)

Probe Contact Resistance
80 mOhms

	Differential	Single-Ended
Return Loss*	-10db @ 2.6 GHz -15db @ 1.3 GHz	-10db @ 8.0 GHz -15db @ 3.5 GHz
Insertion Loss*	-0.6db @ 2.6 GHz -0.2db @ 1.3 GHz	-2.1db @ 8.0 GHz -0.9db @ 3.5 GHz

*Complete Signal Intergity (SI) simulation report available.

BGA Test Sockets

Design your own BGA Adapter or Socket using our online tools or submit your device mechanical specs and we will provide the matching part numbers.

BGA Footprint Finder
www.advanced.com/bga

- Thousands of footprints available online
- Search by pitch, device size, etc.
- Select matching image for footprint dash number

Build-A-Part™ Product Configurator
www.advanced.com/bap

- Build a complete part number online
- Built-in footprint selector
- Download a product drawing (PDF)
- Check Stock
- Request a Quote
- Print a Spec Sheet

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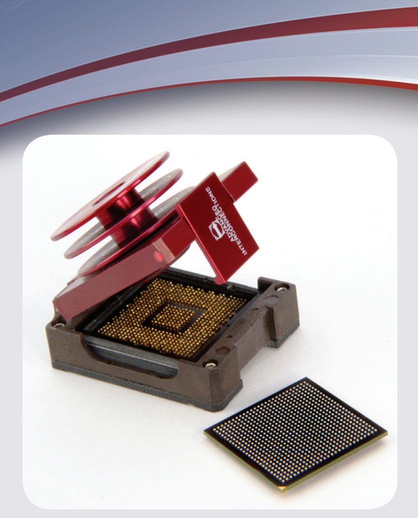
Flip-Top™ BGA Sockets
1.27mm and 1.00mm Pitch



Features
- Designed to save space on new and existing PC boards in test, development, programming and production applications.
- No external hold-downs or soldering of BGA device required.
- AIC exclusive solder ball terminals offer superior processing.
- Uses same footprint as BGA device.
- Available with integral, finned heat sink or coin screw clamp assembly.

Specifications
Terminals:
Brass - Copper Alloy (C36000)

Contacts:
Beryllium Copper (C17200)

Plating:
G - Gold over Nickel

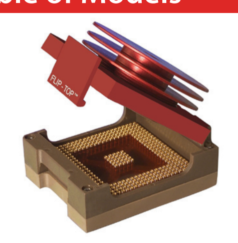
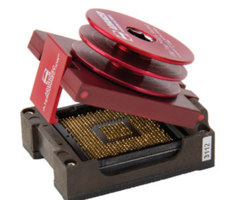
Terminal Support:
Polyimide Film

Spring Material:
Stainless Steel

Lid, Latch, Heat Sink/Coin Screw and Support Plate Material:
Aluminum

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

Table of Models

	Description: 1.27mm pitch Socket (FRG) Material: Guide Box: Molded PPS Base: High Temp. Liquid Crystal Polymer (LCP)	Socket Size: 3.00mm wider and 10.00mm longer than BGA device (for packages larger than 15.00mm square).*
	Description: 1.00mm pitch Socket (FRH) Material: Guide Box: Molded PPS Base: FR-4 Glass Filled Epoxy	Socket Size: 3.00mm wider and 10.00mm longer than BGA device (for packages larger than 15.00mm square).*

* For device packages smaller than 15.00mm square, the socket size is X = .709/(18.00) and Y = .984/(25.00).

How It Works

SMT models are shipped un-assembled to ease solderability.
Thru-hole models are shipped fully assembled.

1. Lower assembly (base) is soldered to PC board with no external hold-down mechanism. Thru-hole models may be soldered to PC board or plugged into a mating socket.
2. Upper assembly inserts easily to lower assembly by aligning guide posts and installing four (supplied) screws.
3. Finned heat sink or coin screw is screwed down to flush with bottom of lid.
4. Lid opens easily by pressing latch.

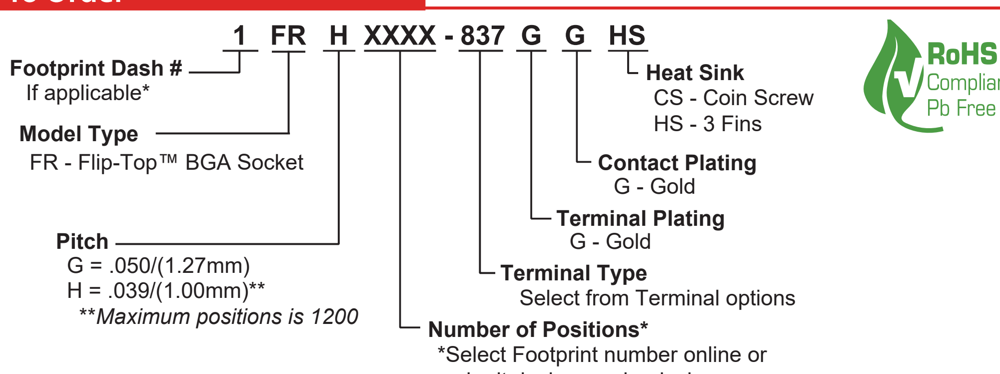
Chip support plate (supplied)
BGA or LGA device
Upper assembly
Lower assembly

Generic Reflow Profiles available online.

5. BGA device is inserted by aligning A1 position with chamfered corner of Flip-Top™ socket. Place support plate on top of device, close lid, engage heat sink or coin screw, and socket is ready for use.

Detailed Installation and General Usage Instructions are provided with product.

How To Order



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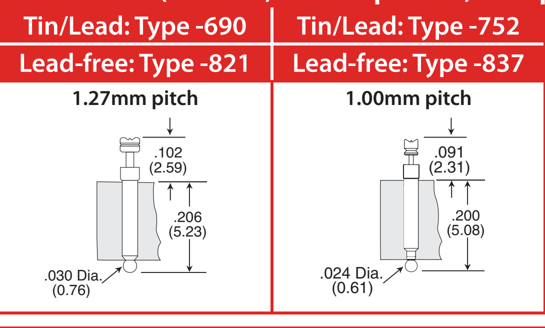
1.27mm and 1.00mm Pitch

BGA Test Sockets

Terminals (for test, development, and production applications)

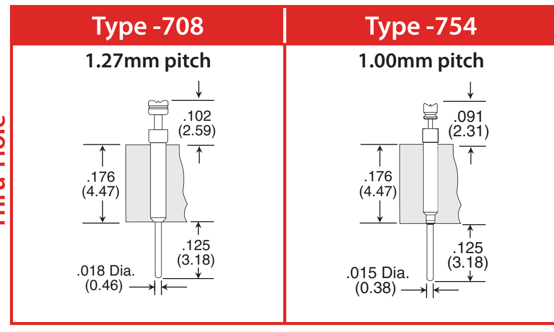
SMT (Surface Mount)

Tin/Lead: Type -690	Tin/Lead: Type -752
Lead-free: Type -821	Lead-free: Type -837
1.27mm pitch	1.00mm pitch



Thru-Hole

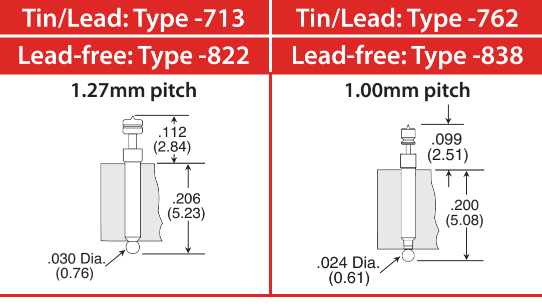
Type -708	Type -754
1.27mm pitch	1.00mm pitch



Terminals (for LGA or de-balled BGA device applications)

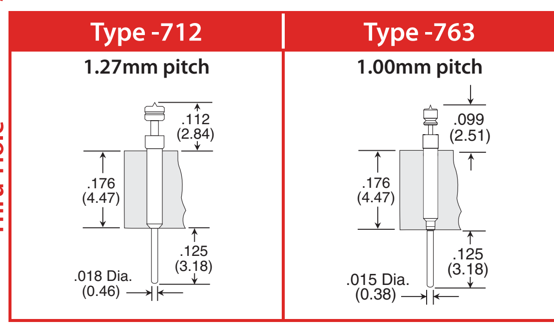
SMT (Surface Mount)

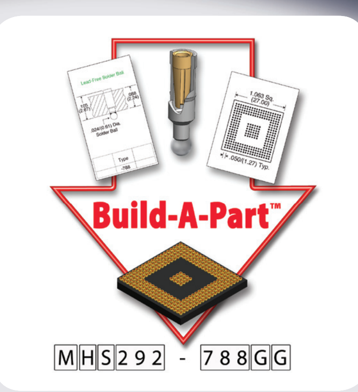
Tin/Lead: Type -713	Tin/Lead: Type -762
Lead-free: Type -822	Lead-free: Type -838
1.27mm pitch	1.00mm pitch



Thru-Hole

Type -712	Type -763
1.27mm pitch	1.00mm pitch





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