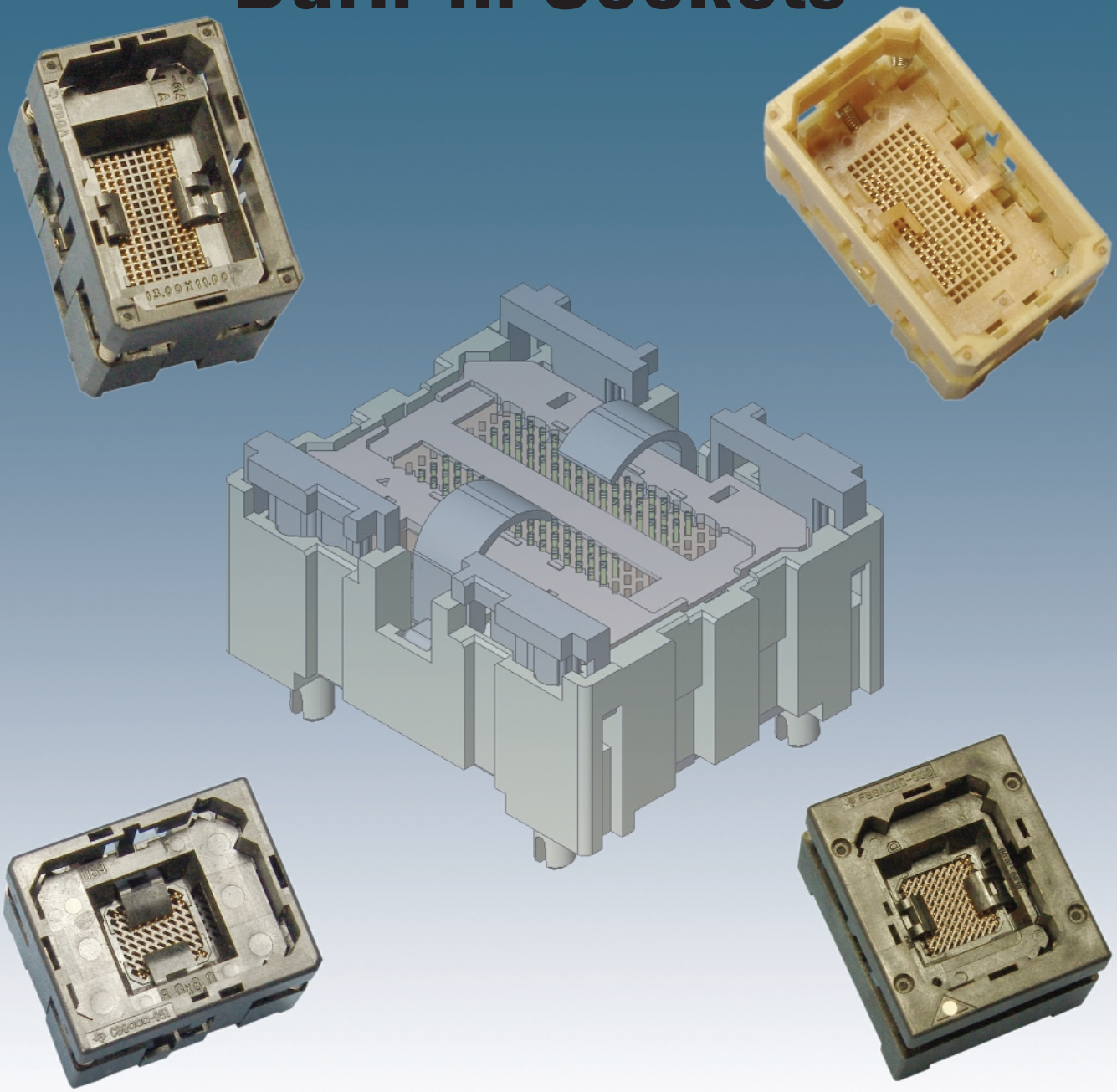
Texas Instruments

Technology for Innovators™

Interconnection Business

MEMORY
Burn-in Sockets



Reliable. Compact. Innovative.

Innovators in Socket Technology

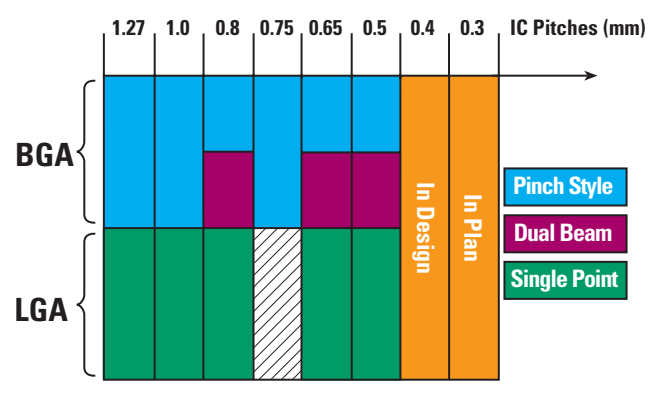
Texas Instruments Interconnection is your partner in developing solutions.

- We provide proven solutions to our customers, worldwide.
- TI delivered more than 8 million memory sockets in 2004.
- The Interconnection team works on next generation sockets to meet the newest requirements of our customers' rapidly growing markets.

Product Roadmap

The future is clear – More I/O at smaller sizes

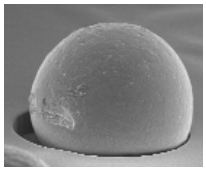
- Using the latest 3D design tools such as SolidWorks and non-linear FEA, the Interconnection engineers create new designs to meet your schedule.
- The availability of on-site model shops and rapid prototyping facilities allows the creation of prototypes so customers can evaluate new designs and concepts in days instead of weeks.
- A comprehensive technical service laboratory with advanced thermal analysis capabilities and wind tunnels allows TI to evaluate the thermal characteristics of the sockets.



Moore's Law continues to be validated as semiconductor companies drive more function in smaller form factors. The back-end packaging and assembly teams support this drive with the development of new package formats for SIP, stacked die and stacked packages. Suppliers of burn-in sockets are challenged to develop sockets for these new packages with higher I/O. Texas Instruments Interconnection team eliminates the burn-in socket selection process by partnering with our customers to understand their needs and provide the optimal solution.

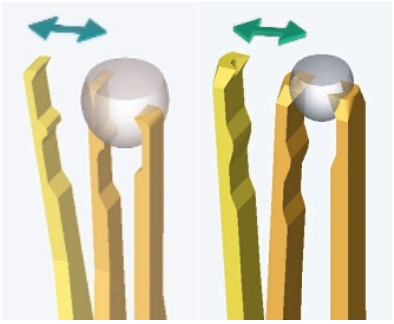
Product Features

Three primary contact designs have been developed to satisfy customer requirements for reliable electrical and mechanical interconnect. These contacts leave small "witness marks" on the solder ball and are available for Pb/Sn and Pb-free solder balls. The contacts, which open to allow package insertion, touch the solder ball above the equator when closed.



Witness mark left by TI contact

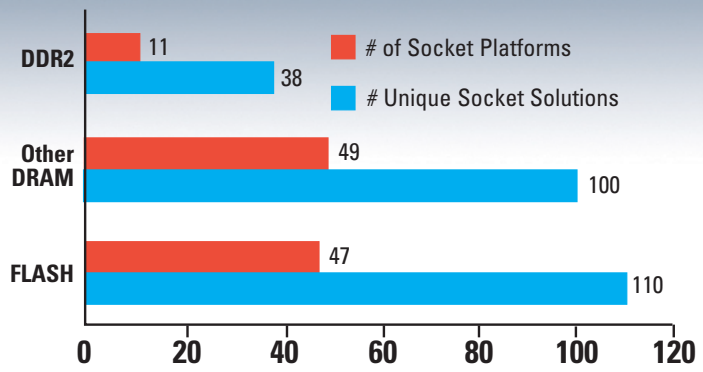
- Various contact designs
- Lower resistance contacts
- Customized plating options



Offset contact **Inline contact**

Delivering World Class Solutions

Providing customers with solutions, TI Interconnection creates burn-in sockets for the semiconductor electronics industry to ensure the quality and reliability of the packaged device. TI engineers work with customers to provide a burn-in socket which maximizes the customers' burn-in system capacity for the lowest overall cost of ownership. TI offers a portfolio of sockets to serve memory manufacturers.



Design Features

- Open-top, auto-load actuated socket
- Small socket outline maximizes burn-in board density and process throughput
- Multiple package outlines and heights
- Custom options: adapter-less, coverless, lead lengths, plating options, color options

BGA Memory Socket Platforms (Series)

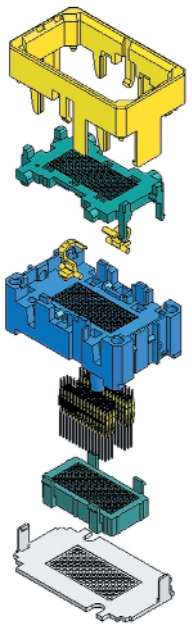
Memory Portfolio

- Extensive product offering
- Numerous pitches available
- Socket outlines maximize board density

			CBGxxx-A100	CBGxxx-A110		
			CBGxxx-051	CBGxxx-A118		
			CBGxxx-056	FBGAxxx-A104		
			CBGxxx-057	FBGAxxx-A105		
			CBGxxx-063	FBGAxxx-003		
			CBGxxx-073	FBGAxxx-012		
		CLGxxx-012	CBGxxx-077	FBGAxxx-014	CBGxxx-A111	
		CBGxxx-A109	CBGxxx-095	FBGAxxx-022	CBGxxx-020	
		CBGxxx-052	CBGxxx-103	FBGAxxx-023	CBGxxx-042	CBGxxx-A85
		CBGxxx-069		FBGAxxx-025	CBGxxx-035	CBGxxx-A120
		CBGxxx-087	CBGxxx-A70	FBGAxxx-037	CBGxxx-050	CBGxxx-A87
	CBGxxx-049	FBGAxxx-027	CBGxxx-A98	FBGAxxx-040	FBGAxxx-021	CBGxxx-079	CBGxxx-086
	CBGxxx-059	FBGAxxx-030	CBGxxx-A99	FBGAxxx-044	FBGAxxx-041	CBGxxx-101	CBGxxx-A94
Pitch	**1.27mm**	**1.0mm**	**0.8mm**		**0.75mm**	**0.65mm**	**0.5mm**
Min. Outline	19.5x24x17	27.5x32.5x17	22x18x15.9		19x18x15.4	19x19x15.8	26x19.5x18.1
Max. Outline	33.2x28.4	46.2x46.2x18.4	35x35x23		30x26.5x17.3	28x26x19	40x40x19.6

Socket Attributes

- Proven contact
- Small socket outline
- Numerous socket platforms
- Removable adapter



Typical Memory Socket Ratings	
Current	0.25A to 0.5A per pin @ 125°C
Contact Style	Varies based on Pb or Pb-free solder balls (10 - 20 gms/pin)
Actuation Force	1 Kg to 3.5 Kg (typ)
Pkg. Insertion Force	ZIF
Inductance	Approx. 6nH @ 50 MHz
Contact Resistance	Initial: 100 mOhm (max) @ 10mA; 10K cycles: 1 Ohm (max) @ 10mA
Insulation Resistance	1000 Mohms @ 500 VDC
Dielectric Withstand Voltage	For 1 minute @ 500 VAC
Temperature Rating	-55°C to 150°C

Texas Instruments Interconnection Business Global Marketing and Sales Contacts

China
Sadatoshi Yamamoto
Novel Plaza – 11th Floor
128 Nanjing Road
West Huangpu District
Shanghai 200003,
China
+86.21.6350.9566
sadatoshi@ti.com

Europe
Mike Mainvielle
34 Forest Street, MS 1-10
Attleboro, MA 02703
USA
+1.508.236.1983
mainvielle@ti.com

Europe
Tamas Kerekes
Loc. Castelfranco 132
05026 Montecastrilli (TR),
Italy
+39.0744.949157
tamas@n-plus-t.com

Japan
Toyokazu Ezura
Nishi-Shinjuku Mitsui
Building
6-24-1 Nishi-Shinjuku
Shinjuku-ku
Tokyo, 160-8366 Japan
+81.3.4331.2477
ezura@ti.com

Korea
Ki-Hwan Nam
67-1 Sakok-Ri, Ewol-Myon
JinCheon-Kun
Chung Cheong Buk-Do
Korea 365-820
+82.434.539.6362
knam1@ti.com

Taiwan
Han Way Liew
28F, 216, Sec 2
Tun Hua S. Road
Taipei 106
Taipei R.O.C.
+866.2.2376.2808
hanway.liew@ti.com

Singapore
MS Lim
+65.6833.6050
mslim@ti.com

Vincent Toh
+65.6833.6108
vincenttoh@ti.com

83 Clemenceau Ave.
07-05/08 Shell House
UE Square
Singapore 239920

USA - Northeast
Beverly Wilkins
34 Forest Street MS 1-10
Attleboro, MA 02703
USA
+1.508.236.5216
bwilkins@ti.com

USA - West/Southwest
Thomas Sutton
2825 North First Street
San Jose, CA 95134
USA
+1.408.383.2391
tsutton@ti.com

USA - Southwest
Greg McCaskill
12500 TI Blvd
Dallas, TX 75243
USA
+1.214.480.1854
gregmc@ti.com

Printed in U.S.A., 4/05, 1K

TEXAS INSTRUMENTS

www.ti-burninsockets.com