

Intel Patent Sales –
IAM Lot 17 (Packaging – Contacts BGA)

Lot 17 Description: Lot 17 includes 20 patent assets. The patents in Lot 17 relate to various ball-grid array (BGA) technologies for IC packaging, including corner-attach heat sinks for BGA packages, methods of sort testing solder-bumped wafers, and package substrates with stepped solder mask openings for stress-reduction. The patents also relate to BGA direct socketing and packaging layers with moisture barrier structures. [Uploaded 30 January 2017.]

	Patent #	Granted or Pending	Country Code	Title
1.	5898219	Granted	US	CUSTOM CORNER ATTACH HEAT SINK DESIGN FOR A PLASTIC BALL GRID ARRAY INTEGRATED CIRCUIT PACKAGE
2.	6110762	Granted	US	METHOD OF MANUFACTURING A CUSTOM CORNER ATTACH HEAT SINK DESIGN FOR A PLASTIC BALL GRID ARRAY INTEGRATED CIRCUIT PACKAGE
3.	5917702	Granted	US	CORNER HEAT SINK WHICH ENCLOSES AN INTEGRATED CIRCUIT OF A BALL GRID ARRAY INTEGRATED CIRCUIT PACKAGE
4.	6162652	Granted	US	PROCESS FOR SORT TESTING C4 BUMPED WAFERS
5.	5889655	Granted	US	INTEGRATED CIRCUIT PACKAGE SUBSTRATE WITH STEPPED SOLDER MASK OPENINGS
6.	6097609	Granted	US	DIRECT BGA SOCKET
7.	100385661	Granted	CN	METHOD AND APPARATUS FOR ENCODING INFORMATION IN AN IC PACKAGE
8.	60046381.8	Granted	DE	METHOD AND APPARATUS FOR ENCODING INFORMATION IN AN IC PACKAGE
9.	1240668	Granted	EP	METHOD AND APPARATUS FOR ENCODING INFORMATION IN AN IC PACKAGE

	Patent #	Granted or Pending	Country Code	Title
10.	1240668	Granted	GB	METHOD AND APPARATUS FOR ENCODING INFORMATION IN AN IC PACKAGE
11.	1046191	Granted	HK	METHOD AND APPARATUS FOR ENCODING INFORMATION IN AN IC PACKAGE
12.	153365	Granted	TW	METHOD AND APPARATUS FOR ENCODING INFORMATION IN AN IC PACKAGE
13.	7416918	Granted	US	DIRECT BUILD-UP LAYER ON AN ENCAPSULATED DIE PACKAGE HAVING A MOISTURE BARRIER STRUCTURE
14.	100530608	Granted	CN	DIRECT BUILD-UP LAYER ON AN ENCAPSULATED DIE PACKAGE HAVING A MOISTURE BARRIER STRUCTURE
15.	60148523.8	Granted	DE	DIRECT BUILD-UP LAYER ON AN ENCAPSULATED DIE PACKAGE HAVING A MOISTURE BARRIER STRUCTURE
16.	1317773	Granted	EP	DIRECT BUILD-UP LAYER ON AN ENCAPSULATED DIE PACKAGE HAVING A MOISTURE BARRIER STRUCTURE
17.	1317773	Granted	GB	DIRECT BUILD-UP LAYER ON AN ENCAPSULATED DIE PACKAGE HAVING A MOISTURE BARRIER STRUCTURE
18.	1317773	Granted	NL	DIRECT BUILD-UP LAYER ON AN ENCAPSULATED DIE PACKAGE HAVING A MOISTURE BARRIER STRUCTURE
19.	1-2006-00363	Granted	PH	DIRECT BUILD-UP LAYER ON AN ENCAPSULATED DIE PACKAGE HAVING A MOISTURE BARRIER STRUCTURE
20.	97375	Granted	SG	DIRECT BUILD-UP LAYER ON AN ENCAPSULATED DIE PACKAGE HAVING A MOISTURE BARRIER STRUCTURE