64- BGA (13 x 11 mm)
Pb-Free Package

PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	LAA	**Body Size (mil/mm)**	13 X 11 mm
Package Weight – Site 1	B1: 268.6013 mg	**Package Weight – Site 2**	B1: 271.4910 mg
Package Weight – Site 3		**Package Weight – Site 4**	

SUMMARY

The 64-BGA package is compliant to RoHS. Cypress (Legacy Spansion Part) ordering part numbers containing an “F” or “H” (e.g. S29GL064A90F**F**IR30, SS29GL064S70F**H**I030) meet the Directive of 2002/95/ EC (Rohs) requirement.

ASSEMBLY Site 1: Cypress Bangkok (SB)
Package Qualification Report # 153705 (Note 1)

I. DECLARATION OF PACKAGED UNITS

A. BANNED SUBSTANCES

Materials from Level A of the EIA/JIG/JGPSSI/EICTA Material Composition Declaration Guide and EU RoHS. Listed in the table below are materials that are neither contained nor intentionally added to this product.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	Material Analysis report
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Napthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

Note 1: Qualification reports are available at www.cypress.com. Access them by doing a Search on the Report #.
Note 2: Report available from Cypress Sales Offices or Distributors.
Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered “non-existent in the product”. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information
Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data

B. MATERIAL COMPOSITION (Note 3)
Using Copper-Palladium wire material

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Aluminum Hydroxide	7440-50-8	12.8271	15.0390%	47,755	4.7755%
		Copper	7440-57-5	26.1381	30.6453%	97,312	9.7312%
		Gold	7440-02-0	0.3974	0.4659%	1,480	0.1480%
		Nickel	9003-36-5	1.8327	2.1487%	6,823	0.6823%
		Epoxy Resin	21645-51-2	18.9361	22.2014%	70,499	7.0499%
		SiO2 Glass Cloth	65997-17-3	25.1609	29.4996%	93,674	9.3674%
Solder Ball	External Plating	Tin	7440-31-5	43.9998	96.4999%	163,811	16.3811%
		Silver	7440-22-4	1.3679	3.0001%	5,093	0.5093%
		Copper	7440-50-8	0.2280	0.5000%	849	0.0849%
Die Attach	Adhesive	Silica	Trade secret	0.0096	4.0000%	36	0.0036%
		Organic filler	Trade secret	0.0480	20.0000%	179	0.0179%
		Acrylic resin	Trade secret	0.1080	45.0000%	402	0.0402%
		Diluent	Trade secret	0.0600	25.0000%	223	0.0223%
		Elastomer	Trade secret	0.0120	5.0000%	45	0.0045%
		Organic peroxide	Trade secret	0.0024	1.0000%	9	0.0009%
Die	Circuit	Silicon	7440-21-3	7.6527	100.0000%	28,491	2.8491%
Wire	Interconnect	Copper	7440-50-8	0.3121	98.7034%	1,162	0.1162%
		Palladium	7440-05-3	0.0041	1.2966%	15	0.0015%
Mold Compound	Encapsulation	Silica (fused)	60676-86-0	110.0787	85.0000%	409,822	40.9822%
		Carbon Black	1333-86-4	0.3238	0.2500%	1,205	0.1206%
		Epoxy resin	Trade secret	17.9364	13.8500%	66,777	6.6777%
		Phosphoric organic catalyst	Trade secret	0.3885	0.3000%	1,446	0.1446%
		Metal Oxides	Trade secret	0.7770	0.6000%	2,893	0.2893%

Package Weight (mg): 268.6013 **% Total: 100.0000**

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Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information
Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data

II. DECLARATION OF PACKAGING INDIRECT MATERIALS

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-COVT-R
	Carrier tape	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-TRAY-R
Others	Moisture Barrier bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-MBBG-R
	Shielding bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-SBAG-R
	Protective Band	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PROB-R
	Shipping and inner/ pizza box	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-ABOX-R
	Desiccant	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-DESS-R

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Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data

ASSEMBLY Site 2: C Powertech Technology LTD – (PTI-Suzhou)
Package Qualification Report # 153606 (Note 1)

I. DECLARATION OF PACKAGED UNITS

A. BANNED SUBSTANCES

Materials from Level A of the EIA/JIG/JGPSSI/EICTA Material Composition Declaration Guide and EU RoHS. Listed in the table below are materials that are neither contained nor intentionally added to this product.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	Material Analysis report
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Napthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

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Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data

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64- BGA (13 x 11 mm) Pb-Free Package

B. MATERIAL COMPOSITION (Note 3)
Using Copper-Palladium wire material

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Fiber Glass	65997-17-3	15.6470	17.2876%	28307	2.8307%
		Copper	7440-50-8	44.7360	49.4266%	997	0.0997%
		Cured Epoxy resin blend	Trade Secret	8.0840	8.9316%	74	0.0074%
		Silica	60676-86-0	6.5630	7.2511%	967	0.0967%
		Gold	7440-57-5	1.7600	1.9445%	1297	0.1297%
		Nikel	7440-02-0	13.7200	15.1585%	324	0.0324%
Solder Ball	External Plating	Tin	7440-31-5	51.8800	96.5051%	162	0.0162%
		Silver	7440-22-4	1.6100	2.9949%	57634	5.7634%
		Copper	7440-50-8	0.2688	0.5000%	164779	16.4779%
Die Attach	Adhesive	Acrylate monomer	Trade Secret	0.2625	35.1641%	29776	2.9776%
		Bismaleimide resin	Trade Secret	0.3520	47.1534%	24174	2.4174%
		Carbocyclic acrylate	Trade Secret	0.0880	11.7883%	6483	0.6483%
		Peroxide	Trade Secret	0.0440	5.8942%	50536	5.0536%
Die	Circuit	Silicon	7440-21-3	7.6850	100.0000%	26336	2.6336%
Wire	Interconnect	Copper	7440-50-8	0.2707	93.1201%	25577	2.5577%
		Palladium	7440-05-3	0.0200	6.8799%	759	0.0759%
Mold Compound	Encapsulation	Epoxy Resin	Trade secret	7.1500	6.0338%	365058	36.5058%
		Phenol Resin	Trade secret	6.9440	5.8599%	18748	1.8748%
		Carbon black	1333-86-4	0.2060	0.1738%	191093	19.1093%
		Amorphous silica	Trade secret	99.1100	83.6371%	5930	0.5930%
		Crystal silica	Trade secret	5.0900	4.2954%	990	0.0990%

Package Weight (mg): **271.4910** **% Total:** **100.0000**

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Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data

III. DECLARATION OF PACKAGING INDIRECT MATERIALS

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-COVT-R
	Carrier tape	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-TRAY-R
Others	Moisture Barrier bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-MBBG-R
	Shielding bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-SBAG-R
	Protective Band	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PROB-R
	Shipping and inner/ pizza box	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-ABOX-R
	Desiccant	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-DESS-R

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Document History Page

Document Title: 64-BGA (13X11MM) PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
Document Number: 002-03790

Rev.	ECN No.	Orig. of Change	Description of Change
**	4939291	CHAL	New document
*A	5141722	CHAL	Added package weight for Site 2, PTI Suzhou.
*B	5508003	HLR	Changed Cypress Logo.

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Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data