



172-FBGA (15 x 15 mm) Non Pb-Free Package

PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)

Cypress Package Code	BB	Body Size (mil/mm)	15 x 15 mm
Package Weight – Site 1	439.0026 mg	Package Weight – Site 2	N/A

SUMMARY

The 172-FBGA is a Non Pb-Free package. Standard components (Non Pb-Free) currently in production are RoHS 5 compliant. Standard components may contain Pb, but do not contain the other 5 substances (above allowable levels).

ASSEMBLY Site 1 – Package Qualification Report #s 005006(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 are listed in section 1A. Materials from this list may be contained or intentionally added to this product, as it is not considered Pb-Free or RoHS compliant.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	As per MSDS
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	15,204	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	
Azo colorants	0	0	
Ozone Depleting Substances	0	0	
Polychlorinated Biphenyls (PCBs)	0	0	
Polychlorinated Naphthalenes	0	0	
Radioactive Substances	0	0	
Shortchain Chlorinated Paraffins	0	0	
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	
Tributyl Tin Oxide (TBTO)	0	0	
Formaldehyde	0	0	

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” or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

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

B. MATERIAL COMPOSITION (Note 3)

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	SiO ₂	60676-86-0	15.5837	11.0000%	35,498	3.5498
		Acrylic	29690-82-2	14.1670	10.0000%	32,271	3.2271
		Epoxy	68541-56-0	11.3336	8.0000%	25,817	2.5817
		Bisphenol	13676-54-5	21.2505	15.0000%	48,406	4.8406
		Triazol	25722-66-1	24.7923	17.5000%	56,474	5.6474
		Cu	7440-50-8	51.5395	36.3800%	117,401	11.7401
		Ni	7440-02-0	2.1251	1.5000%	4,841	0.4841
		Au	7440-57-5	0.7934	0.5600%	1,807	0.1807
		Br	7726-95-6	0.0850	0.0600%	194	0.0194
Solder Ball	External Plating	Sn	7440-31-5	11.3652	63.0000%	25,889	2.5889
		Pb	7439-92-1	6.6748	37.0000%	15,204	1.5204
Die Attach	Adhesive	Ag	7440-22-4	19.1803	76.6600%	43,691	4.3691
		Epoxy Resin	-----	1.3611	5.4400%	3,100	0.3100
		Functionalized Ester	-----	1.3611	5.4400%	3,100	0.3100
		Diester	-----	3.1200	12.4700%	7,107	0.7107
Die	Circuit	Si	7440-21-3	22.7000	100.0000%	51,708	5.1708
Wire	Interconnect	Au	7440-57-5	7.2000	100.0000%	16,401	1.6401
Mold Compound	Encapsulation	Silica Fused	60676-86-0	150.7766	67.2000%	343,453	34.3453
		Epoxy Resin	-----	22.4370	10.0000%	51,109	5.1109
		Phenolic Resin	-----	11.2185	5.0000%	25,555	2.5555
		Silica	7631-86-9	33.6555	15.0000%	76,664	7.6664
		Antimony Pentoxide	1314-60-9	1.2340	0.5500%	2,811	0.2811
		Brominated Compound	-----	1.2340	0.5500%	2,811	0.2811
		Silica Quartz	14808-60-7	1.1219	0.5000%	2,555	0.2555
		Carbon Black	1333-86-4	1.1219	0.5000%	2,555	0.2555
		Silica Cristobalite	14464-46-1	1.1219	0.5000%	2,555	0.2555
		Antimony Trioxide	1309-64-4	0.4487	0.2000%	1,022	0.1022

Package Weight (mg): **439.0026**

% 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.

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

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Document History Page

Document Title: 172-FBGA 15X15MM NON PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)

Document Number: 001-05410

Rev.	ECN No.	Orig. of Change	Description of Change
**	402752	GFJ	New document
*A	2584298	HLR	Added the CAS number for Br and Antimony Pentoxide. Changed CAS number of Au. Changed the value of Pb on the Declaration of Packaged Units. Added the %weight of homogenous on material composition table. Completed the RoHS substance on Indirect Material table.
*B	2791449	HLR	Change the reference Package QTP No. to 005006. Deleted 044501, 021801 and 021113.
*C	3447000	HLR	Updated the material composition table to reflect 4 decimal places on values. Removed tube material on declaration of packaging table.

Distribution: WEB

Posting: None

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