



172 – FBGA (15x15x1.5 mm) Non Pb-Free Package

PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)

Cypress Package Code	BB	Body Size (mil/mm)	15x15x1.5 mm
Package Weight – Site 1	772.3964 mg	Package Weight – Site 2	N/A

SUMMARY

The 172-FBGA (15x15x1.5 mm) 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 # 052208 (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	25.5707	33,106	
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	21.1992	11.0000%	27,446	2.7446%
		Acrylic	Proprietary, 29690-82-2,	19.2720	10.0000%	24,951	2.4951%
		Epoxy	68541-56-0, 25068-38-6	15.4176	8.0000%	19,961	1.9961%
		Bisphenol	13676-54-5	28.9080	15.0000%	37,426	3.7426%
		Triazol	25722-66-1	33.7260	17.5000%	43,664	4.3664%
		Cu	7440-50-8	70.1308	36.3900%	90,796	9.0796%
		Ni	7440-02-0	2.8908	1.5000%	3,743	0.3743%
		Au	7440-57-5	1.0600	0.5500%	1,372	0.1372%
Solder Ball	External Plating	Br	7726-95-6	0.1156	0.0600%	150	0.0150%
		Sn	7440-31-5	43.5393	63.0000%	56,369	5.6369%
Die Attach 1	Adhesive	Pb	7439-92-1	25.5707	37.0000%	33,106	3.3106%
		Fused silica	60676-86-0	57.0132	54.0000%	73,813	7.3813%
		Diester	Proprietary	29.0345	27.5000%	37,590	3.7590%
		Epoxy Resin	Proprietary	5.8069	5.5000%	7,518	0.7518%
		Functionalized esters	Proprietary	10.5580	10.0000%	13,669	1.3669%
Die Attach 2	Adhesive	Polymeric resin	Proprietary	3.1674	3.0000%	4,101	0.4101%
		Proprietary Filler	9002-84-0	15.3811	43.0000%	19,913	1.9913%
		Bismaleimide	Proprietary	12.5195	35.0000%	16,209	1.6209%
		Methacrylates	Proprietary	5.3583	14.9800%	6,937	0.6937%
		Divinyl Ether	Proprietary	1.7885	5.0000%	2,316	0.2316%
Die	Circuit	Polymer	Proprietary	0.7190	2.0100%	931	0.0931%
Wire	Interconnect	Si	7440-21-3	54.4900	100.0000%	70,547	7.0547%
Mold Compound	Encapsulation	Au	7440-57-5	18.6100	100.0000%	24,094	2.4094%
		Silica (fused)	60676-86-0	263.5468	89.0000%	341,207	34.1207%
		Epoxy resin	Proprietary	16.2866	5.5000%	21,086	2.1086%
		Phenolic resin	Proprietary	16.2866	5.5000%	21,086	2.1086%

Package Weight (mg): **772.3964**

% 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 15x15x1.5mm Non Pb-Free PMDD
Document Number: 001-06040

Rev.	ECN No.	Orig. of Change	Description of Change
**	413957	YXP	New specification
*A	2614542	HLR DCon	Changed Cypress Logo. Changed CAS number of Gold and Lead. Added CAS Number for Bromine. Deleted Ion Impurities on Goldwire. Added the %weight of homogenous on material composition table. Completed the RoHS substance on Indirect Material table Replaced CML with WEB in distribution list.
*B	3094037	HLR	Removed Tube type on Indirect Materials table.
*C	3473282	HLR	Updated the material composition table to reflect 4 decimal places on values

Distribution: WEB

Posting: None

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