



48 – FBGA (7 x 8.5 x 1.2 mm) Non Pb-Free Package

PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)

Cypress Package Code	BF	Body Size (mil/mm)	7 x 8.5 x 1.2 mm
Package Weight – Site 1	143.1100 mg	Package Weight – Site 2	N/A

SUMMARY

The 48-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 # 011102 (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	2.11	14,744	
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 Homogeneous Material	PPM	% Weight of Substance per Package
Substrate	Base Material	SiO ₂	60676-86-0	5.2600	10.9927%	36,755	3.6755%
		Acrylic	Proprietary, 29690-82-2	4.7800	9.9895%	33,401	3.3401%
		Epoxy	68541-56-0, 25068-38-6	3.8300	8.0042%	26,763	2.6763%
		Bisphenol	13676-54-5	7.1800	15.0052%	50,171	5.0171%
		Triazol	25722-66-1	8.3700	17.4922%	58,487	5.8487%
		Cu	7440-50-8	17.4200	36.4054%	121,725	12.1725%
		Ni	7440-02-0	0.7200	1.5047%	5,031	0.5031%
		Au	7440-57-5	0.2600	0.5434%	1,817	0.1817%
Solder Ball	External Plating	Br	7726-95-6	0.0300	0.0627%	210	0.0210%
		Sn	7440-31-5	3.6000	63.0473%	25,156	2.5156%
Die Attach	Adhesive	Pb	7439-92-1	2.1100	36.9527%	14,744	1.4744%
		Silver	7440-22-4	11.8500	76.5010%	82,803	8.2803%
		Epoxy Resin	Proprietary	0.8500	5.4874%	5,939	0.5939%
		Functionalized Ester	Proprietary	0.8500	5.4874%	5,939	0.5939%
Die	Circuit	Diester	Proprietary	1.9400	12.5242%	13,556	1.3556%
Wire	Interconnect	Si	7440-21-3	12.9000	100.0000%	90,140	9.0140%
Mold Compound	Encapsulation	Au	7440-57-5	1.8800	100.0000%	13,137	1.3137%
		Silica (fused)	60676-86-0	41.5000	70.0066%	289,987	28.9987%
		Epoxy resin	Proprietary	7.4100	12.5000%	51,778	5.1778%
		Phenolic resin	Proprietary	2.9600	4.9933%	20,683	2.0683%
		Silica	7631-86-9	2.9600	4.9933%	20,683	2.0683%
		Mixed siloxanes	Proprietary	1.1900	2.0074%	8,315	0.8315%
		Brominated compound	Proprietary	1.1900	2.0074%	8,315	0.8315%
		Silica (quartz)	14808-60-7	0.5900	0.9953%	4,123	0.4123%
		Carbon black pigment	1333-86-4	0.3000	0.5061%	2,096	0.2096%
		Silica (Cristobalite)	14464-46-1	0.5900	0.9953%	4,123	0.4123%
		Antimony Trioxide	1309-64-4	0.5900	0.9953%	4,123	0.4123%

Package Weight (mg): **143.1100**

% Total: **100.0000%**

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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
Tube	Plastic Tube	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	End Plug	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	End Pin	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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: 48 - FBGA (7X8.5X1.2MM) NON PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
Document Number: 001-05597

Rev	ECN No.	Orig. of Change	Description of Change
**	405951	YXP	New specification
*A	2583782	MAHA	1. Updated Cypress logo. 2. Added percent weight per homogeneous material and weight of substance per package in the material composition table for Assembly site 1. 3. Deleted ion impurities on the material composition table of assembly site 1. 4. Added the CAS number of bromine. 5. Changed the CAS number of gold. 6. Updated and added Lead, Cr+VI, PBB and PBDE on the Declaration of Packaging/Indirect Materials table for assembly site 1.
		DCON	Changed CML to WEB in distribution list.
*B	3055960	MAHA	Added the weight of Lead on Table A.
*C	3438812	MAHA	Expressed the weight by mg, package weight, % weight of substance per Homogeneous material, and % weight of substance per package in four decimal places.
*D	3818165	JARG	Corrected Material Composition Table to meet 100.0000% on values.

Distribution: WEB

Posting: None

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