



**48-FBGA (6 x 8x 1.2 mm)
Pb-Free Package**

PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	BK	Body Size (mil/mm)	6 x 8 x 1.2 mm
Package Weight – Site 1	102.5997 mg	Package Weight – Site 2	N/A

SUMMARY

The 48-BGA Pb-Free package is compliant to RoHS. Cypress Ordering Part Numbers containing an “X” (e.g. CY7C1328G-133AXI, CY2308SXC-1HT) meet the Directive 2002/95/EC (RoHS) requirement.

**ASSEMBLY Site 1: Advanced Semiconductor Engineering Taiwan (ASET)
Package Qualification Report # 131806 (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 (Note2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-BK48M-ASET
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 Naphthalenes	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” 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.



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B. MATERIAL COMPOSITION (Note 3)

Using Au wire with SnAgCu-Ni Solder Ball

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	Cured Resin	Trade Secret	7.2520	28.0000%	70,682	7.0682%
		Glass Fabrics	Trade Secret	5.6980	22.0000%	55,536	5.5536%
		Copper Foil	7440-50-8	7.7700	30.0000%	75,731	7.5731%
		Diethylene Glycol Monoethyl Ether Acetate	Trade Secret	1.2950	5.0000%	12,622	1.2622%
		Acetophenone Derivative	Trade Secret	1.2950	5.0000%	12,622	1.2622%
		Silica Crystalline	60676-86-0	1.2950	5.0000%	12,622	1.2622%
		Solvent naptha	-----	1.2950	5.0000%	12,622	1.2622%
Solder Ball	External Plating	Sn	7440-31-5	0.2635	98.2500%	2,568	0.2568%
		Ag	7440-22-4	0.0032	1.2000%	31	0.0031%
		Cu	7440-50-8	0.0013	0.5000%	13	0.0013%
		Ni	7440-02-0	0.0001	0.0500%	1	0.0001%
Die Attach	Adhesive	Epoxy Resin	Trade Secret	1.4169	87.5000%	13,810	1.3810%
		Dapsone	80-08-0	0.1214	7.5000%	1,184	0.1184%
		Treated fumed Silica	67762-90-7	0.0405	2.5000%	395	0.0395%
		Substituted Silane	Trade Secret	0.0405	2.5000%	395	0.0395%
Die	Circuit	Si	7440-21-3	28.3382	100.0000%	276,201	27.6201%
Wire	Interconnect	Au	7440-57-5	1.5204	99.9900%	14,819	1.4819%
		Ion Impurities	Trade Secret	0.0002	0.0100%	1	0.0001%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	39.8962	88.7500%	388,854	38.8854%
		Epoxy Resin	Trade Secret	2.6972	6.0000%	26,289	2.6289%
		Phenol Resin	26834-02-6	2.2477	5.0000%	21,907	2.1907%
		Carbon Black	1333-86-4	0.1124	2.5000%	1,095	0.1095%

Package Weight (mg): **102.5997**

% 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.



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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
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 (6X8X1.2MM) PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
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Rev.	ECN No.	Orig. of Change	Description of Change
**	4076821	YUM	New document.
*A	5398423	HLR	Changed Cypress Logo. Changed the substances with "-----" to "Trade Secret".
		SLLO	Removed Distribution and Posting from the document history page.

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