48- UFBGA (4.3 x 4.3 x 0.6 mm)
Pb-Free Package

PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	BU	**Body Size (mil/mm)**	4.3x4.3x 0.6mm
Package Weight – Site 1	B1 : 20.2292 mg		

SUMMARY

The 48L-BGA package is compliant to RoHS. Cypress Ordering Part Numbers containing an "X" (e.g. CY7C1328G-133A**XI**, CY2308S**X**C-1HT) meet the Directive 2002/95/EC (RoHS) requirement.

ASSEMBLY Site1: Advanced Semiconductor Engineering Taiwan (ASET)
Package Qualification Report QTP# 142004 (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	CoA-BU48-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 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

B1. MATERIAL COMPOSITION (Note 3)
Using CuPd 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	SiO2	60676-86-0	0.9100	11.0571	44,984	4.4984
		Acrylic	Trade Secret	0.8200	9.9635	40,535	4.0535
		Epoxy	Trade Secret	0.6600	8.0194	32,626	3.2626
		Bisphenol	13676-54-5	1.2300	14.9453	60,803	6.0803
		Triazol	25722-66-2	1.4400	17.497	71,184	7.1184
		Cu	7440-50-8	3.0000	36.452	148,300	14.8300
		Ni	7440-02-0	0.1200	1.4581	5,932	0.5932
		Au	7440-57-5	0.0500	0.6075	2,472	0.2472
Solder Ball	External Plating	Sn	7440-31-5	2.2500	98.5	111,225	11.1225
		Ag	7440-22-4	0.0200	1	989	0.0989
		Cu	7440-50-8	0.0100	0.5	494	0.0494
Die Attach	Adhesive	Modified epoxy resin	Trade Secret	0.6300	62.5745	31,143	3.1143
		Epoxy resin	Trade Secret	0.1800	17.8784	8,898	0.8898
		Daspone	80-08-0	0.0400	3.973	1,977	0.1977
		Treated fumed silica	67762-90-7	0.0200	1.9865	989	0.0989
		Substituted silane	Trade Secret	0.0200	1.9865	989	0.0989
		Elastomeric polymer	Trade Secret	0.0584	5.8006	2,887	0.2887
		Epoxy resin	Trade Secret	0.0584	5.8006	2,887	0.2887
Die	Circuit	Si	7440-21-3	1.8100	100	89,475	8.9475
Wire	Interconnect	Cu	7440-50-8	1.0830	98.009	53,536	5.3536
		Pd	7440-05-3	0.0220	1.991	1,088	0.1088
Mold Compound	Encapsulation	SiO_2	60676-86-0	4.9000	84.5206	242,224	24.2224
		Epoxy Resin	Trade Secret	0.4300	7.4171	21,256	2.1256
		Phenol Resin	Trade Secret	0.4300	7.4171	21,256	2.1256
		Carbon Black	1333-86-4	0.0374	0.6451	1,849	0.1849

Package Weight (mg): 20.2292 **% Total: 100.0000**

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

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
	Bubble Pack	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-BUBP-R

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

Document History Page

Document Title: 48-UFBGA (4.3X4.3X0.6MM) PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
Document Number: 001-93320

Rev.	ECN No.	Orig. of Change	Description of Change
**	4434097	JVP	Initial Release
*A	4852417	MRB DCON	Deleted QTP # 123605 and replaced by Package QTP 142004. Removed Distribution: WEB and Posting: None in the document history page.
*B	5349280	HLR	Changed Cypress Logo. Changed the substances with "------------- " to "Trade Secret".

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