



# 676 – FBGA (27 x 27 x 1.6 mm) Non Pb-Free Package

## PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)

<b>Cypress Package Code</b>	BB	<b>Body Size (mil/mm)</b>	27 x 27 x 1.6 mm
<b>Package Weight – Site 1</b>	2,062.9293 mg	<b>Package Weight – Site 2</b>	N/A

### SUMMARY

The 676-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 # 011707 (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	48,711	
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 Napthalenes	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](http://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 <sub>2</sub>	60676-86-0	66.8888	11.0000%	32,424	3.2424
		Acrylic	Proprietary, 29690-82-2	60.8080	10.0000%	29,477	2.9477
		Epoxy	68541-56-0, 25068-38-6	48.6464	8.0000%	23,581	2.3581
		Bisphenol	13676-54-5	91.2120	15.0000%	44,215	4.4215
		Triazol	25722-66-1	106.4140	17.5000%	51,584	5.1584
		Cu	7440-50-8	221.2803	36.3900%	107,265	10.7265
		Ni	7440-02-0	9.1212	1.5000%	4,421	0.4421
		Au	7440-57-5	3.3444	0.5500%	1,621	0.1621
		Br	7726-95-6	0.3040	0.0500%	147	0.0147
Solder Ball	External Plating	Sn	7440-31-5	171.1017	63.0000%	82,941	8.2941
		Pb	7439-92-1	100.4883	37.0000%	48,711	4.8711
Die Attach	Adhesive	Silver	7440-22-4	81.2201	76.5000%	39,371	3.9371
		Epoxy Resin	Proprietary	5.8394	5.5000%	2,831	0.2831
		Functionalized Ester	Proprietary	5.8394	5.5000%	2,831	0.2831
		Diester	Proprietary	13.2713	12.5000%	6,433	0.6433
Die	Circuit	Si	7440-21-3	95.7200	100.0000%	46,400	4.6400
Wire	Interconnect	Au	7440-57-5	22.0300	100.0000%	10,679	1.0679
Mold Compound	Encapsulation	Silica (fused)	60676-86-0	710.9154	74.1000%	344,615	34.4615
		Epoxy resin	Proprietary	95.9400	10.0000%	46,507	4.6507
		Phenolic resin	Proprietary	47.9700	5.0000%	23,253	2.3253
		Mixed Siloxanes	Proprietary	47.9700	5.0000%	23,253	2.3253
		Antimony Pentoxide	1314-60-9	7.6752	0.8000%	3,721	0.3721
		Brominated epoxy resin	Proprietary	19.1880	2.0000%	9,301	0.9301
		Silica (quartz)	14808-60-7	9.5940	1.0000%	4,651	0.4651
		Carbon black pigment	1333-86-4	5.2767	0.5500%	2,558	0.2558
		Silica (Cristobalite)	14464-46-1	9.5940	1.0000%	4,651	0.4651
		Antimony Trioxide	1309-64-4	5.2767	0.5500%	2,558	0.2558

**Package Weight (mg):** **2,062.9293**

**% Total:** **100.0000**

Note 1: Qualification reports are available at [www.cypress.com](http://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.

## **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

Note 1: Qualification reports are available at [www.cypress.com](http://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.



**676 – FBGA (27 x 27 x 1.6 mm)  
Non Pb-Free Package**

---

---

## Document History Page

Document Title: 676 - FBGA 27X27X1.6MM NON PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)

Document Number: 001-05551

Rev.	ECN No.	Orig. of Change	Description of Change
**	405290	YXP	New specification
*A	2584298	HLR	Added the CAS number for Br. Changed CAS number of Au. Deleted the Ion Impurities on Goldwire material. Added the %weight of homogenous on material composition table. Completed the RoHS substance on Indirect Material table.
*B	3447033	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

Note 1: Qualification reports are available at [www.cypress.com](http://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.