



**60 – FBGA 8 x 20 x 1.2 mm
Non Pb-Free Package**

PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	BA	Body Size (mil/mm)	8 x 20 x 1.2 mm
Package Weight – Site 1	B1: 330.4800 mg B2: 329.8503 mg	Package Weight – Site 2	N/A

SUMMARY

The 60 – 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: Advanced Semiconductor Engineering Taiwan (ASET)
Package Qualification Report #s 094705, 120612 (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	2.71	8,200	
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.

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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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**B1. MATERIAL COMPOSITION (Note 3)
Using Gold wire material**

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	SiO2	60676-86-0	13.7400	10.4900	41,576	4.1576%
		Acrylic	29690-82-2	12.0500	9.2000	36,462	3.6462%
		Epoxy	68541-56-0	8.0400	6.1400	24,328	2.4328%
		Bisphenol	13676-54-5	19.6200	14.9800	59,368	5.9368%
		Triazol	25722-66-1	23.5500	17.9800	71,260	7.1260%
		Cu	7440-50-8	51.4500	39.2800	155,683	15.5683%
		Ni	7440-02-0	1.8200	1.3900	5,507	0.5507%
		Au	7440-57-5	0.6400	0.4900	1,937	0.1937%
Solder Ball	External Plating	Br	7726-95-6	0.0700	0.0600	212	0.0212%
		Sn	7440-31-5	4.6100	63.0000	13,949	1.3949%
Die Attach	Adhesive	Pb	7439-92-1	2.7100	37.0000	8,200	0.8200%
		Ag	7440-22-4	9.2400	77.0000	27,959	2.7959%
		Epoxy Resin	-----	0.6300	5.2500	1,906	0.1906%
		Functionalized Ester	-----	0.6300	5.2500	1,906	0.1906%
Die	Circuit	Diester	-----	1.5000	12.5000	4,539	0.4539%
Wire	Interconnect	Si	7440-21-3	39.0000	100.0000	118,010	11.8010%
Mold Compound	Encapsulation	Au	7440-57-5	1.1800	99.9900	3,571	0.3571%
		Silica Fused	60676-86-0	124.6000	89.0000	377,027	37.7027%
		Epoxy Resin 1	93705-66-9	6.3000	4.5000	19,063	1.9063%
		Epoxy Resin 2	-----	2.8000	2.0000	8,473	0.8473%
		Phenol Resin	106466-55-1	6.3000	4.5000	19,063	1.9063%

Package Weight (mg): 330.4800

% 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.

**B2. MATERIAL COMPOSITION (Note 3)
Using Copper-Palladium wire material**

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	SiO2	60676-86-0	13.7400	10.4903%	41,655	4.1655%
		Acrylic	29690-82-2	12.0500	9.1999%	36,532	3.6532%
		Epoxy	68541-56-0	8.0400	6.1383%	24,375	2.4375%
		Bisphenol	13676-54-5	19.6200	14.9794%	59,482	5.9482%
		Triazol	25722-66-1	23.5500	17.9798%	71,396	7.1396%
		Cu	7440-50-8	51.4500	39.2808%	155,980	15.5980%
		Ni	7440-02-0	1.8200	1.3895%	5,518	0.5518%
		Au	7440-57-5	0.6400	0.4886%	1,940	0.1940%
Solder Ball	External Plating	Br	7726-95-6	0.0700	0.0534%	212	0.0212%
		Sn	7440-31-5	4.6100	63.000%	13,976	1.3976%
Die Attach	Adhesive	Pb	7439-92-1	2.7100	37.000%	8,216	0.8216%
		Epoxy Resin	Trade Secret	0.8400	7.0000%	2,547	0.2547%
		Bismaleimide monomer	Trade Secret	3.6600	30.5000%	11,096	1.1096%
		Acrylate monomer	Trade Secret	1.2000	10.0000%	3,638	0.3638%
		Acrylic resin	Trade Secret	0.3600	3.0000%	1,091	0.1091%
Die	Circuit	Silica fused	60676-86-0	5.9400	49.5000%	18,008	1.8008%
Wire	Interconnect	Si	7440-21-3	39.0000	100.000%	118,235	11.8235%
		Copper	7440-50-8	0.5358	97.3626%	1,624	0.1624%
Mold Compound	Encapsulation	Palladium	7440-05-3	0.0145	2.6374%	44	0.0044%
		Silica (fused)	60676-86-0	121.6880	86.9200%	368,919	36.8919%
		Epoxy resin	Trade Secret	9.0860	6.4900%	27,546	2.7546%
		Phenolic resin	Trade Secret	9.0860	6.4900%	27,546	2.7546%
		Carbon black pigment	1333-86-4	0.1400	0.1000%	424	0.0424%

Package Weight (mg): 329.8503

% 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	< 2.0	< 2.0	< 2.0	< 2.0	< 50.00	< 45.00	CoA-COVT-R
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	< 50.00	< 45.00	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	< 0.0005	< 0.0005	CoA-TRAY-R
Others	Moisture Barrier Bag	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	CoA-MBBG –R

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Document History Page

Document Title: 60 - FBGA 8X20X1.2MM NON PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
Document Number: 001-58400

Rev.	ECN No.	Orig. of Change	Description of Change
**	2828360	VFR	New specification
*A	3146147	MAHA	Added the weight of Lead on Table A.
*B	3477356	MAHA	Recalculated PPM values. Revised the PPM value of Lead on Table A. Expressed the weight by mg, package weight, % weight of substance per Homogeneous material, and % weight of substance per package in four decimal places.
*C	3612565	UDR	Added B2 on Site 1 with reference QTP # 120612.
*D	3903954	HLR	Added CAS number for Bromine Substance. Removed Tube type on Indirect Materials table.
*E	4063962	YUM	Added assembly site name in the assembly heading.
*F	4086966	YUM	Corrected the Body Size from "8X20" to "8X20X1.2".
*G	5173327	HLR	Changed the substances with "-----" to "Trade Secret
		DCON	Removed Distribution: WEB and Posting: None in the document history page.

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