32L – TQFP (7x7x1.0mm) Pb-Free Package

PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	AZ and AE	Body Size (mil/mm)	7X7X1.0 mm
Package Weight – Site 1	134.0000 mg	Package Weight – Site 2	133.4077 mg

SUMMARY

The 32L- TQFP Pb-Free package is compliant to RoHS. Cypress Ordering Part Numbers containing an "X" (e.g. CY7C1328G-133A**X**I, CY2308S**X**C-1HT) meet the Directive 2002/95/EC (RoHS) requirement.

ASSEMBLY Site 1: Amkor Technology Seoul Korea
Package Qualification Report #034602 and 101703 (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-AZ32-Amkor Seoul
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.

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
Leadframe	Base Material	Cu	7440-50-8	42.6495	97.4400%	318,280	31.8280%
		Cr	7440-47-3	0.1313	0.3000%	980	0.0980%
		Sn	7440-31-5	0.1094	0.2500%	817	0.0817%
		Zn	7440-66-6	0.0788	0.1800%	588	0.0588%
		Ag	7440-22-4	0.8010	1.8300%	5,978	0.5978%
Lead Finish	External Plating	Pure Sn	7440-31-5	2.5300	100.0000%	18,881	1.8881%
Die Attach	Adhesive	Ag	7440-22-4	0.1900	20.0000%	1,418	0.1418%
		Epoxy Resin	--------------------	0.6700	70.5300%	5,000	0.5000%
		Anhydride	--------------------	0.0900	9.4700%	671	0.0671%
Die	Circuit	Si	7440-21-3	3.4600	100.0000%	25,821	2.5821%
Wire	Interconnect	Au	7440-57-5	1.1100	100.0000%	8,284	0.8284%
Mold Compound	Encapsulation	Multi-aromatic Resin	--------------------	9.4507	11.5000%	70,527	7.0527%
		SiO2	60676-86-0	72.3102	87.9900%	539,628	53.9628%
		Carbon Black	1333-86-4	0.4191	0.5100%	3,127	0.3127%

Package Weight (mg): 134.0000 **% 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.

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	<5.0	<5.0	CoA-COVT-R
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-CART-R
	Plastic Reel	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-PLRL-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	---------	---------	CoA-TRAY-R
Others	Shielding bag	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-SBAG –R
	Moisture Barrier bag	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-MBBG-R
	Protective Band	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-PROB-R
	Shipping and Inner Box	< 10.0	< 4.0	< 4.0	< 5.0	---------	-----------	CoA-ABOX-R
	Dessicant	< 10.0	< 2.0	< 2.0	< 1.0	< 3.0	< 3.0	CoA-DESS-R
	Bubble Pack	< 2.0	< 2.0	< 2.0	< 2.0	< 100.0	< 90.0	CoA-BUBP-R

ASSEMBLY Site 2: Advanced Semiconductor Engineering Taiwan (ASET)
Package Qualification Report # 120201 (Note 1)

II. 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-AZ32- 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

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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
Leadframe	Base Material	Cu	7440-50-8	41.2751	94.3000%	309,391	30.9391%
		Ni	7440-02-0	1.0943	2.5000%	8,202	0.8202%
		Si	7440-21-3	0.2189	0.5000%	1,640	0.1640%
		Mg	7439-95-4	0.0438	0.1000%	328	0.0328%
		Ag	7440-22-4	1.1380	2.6000%	8,530	0.8530%
Lead Finish	External Plating	Sn	7440-31-5	2.5300	100.0000%	18,964	1.8964%
Die Attach	Adhesive	Ag	7440-22-4	0.7420	78.1000%	5,562	0.5562%
		Epoxy resin A	9003-36-5	0.0380	4.0000%	285	0.0285%
		Epoxy resin B	Trade Secret	0.0380	4.0000%	285	0.0285%
		Diluent A	Trade Secret	0.0380	4.0000%	285	0.0285%
		Diluent A	Trade Secret	0.0380	4.0000%	285	0.0285%
		Phenolic Hardener	Trade Secret	0.0475	5.0000%	356	0.0356%
		Dicyandiamide	461-58-5	0.0029	0.3000%	21	0.0021%
		Organic peroxide	Trade Secret	0.0057	0.6000%	43	0.0043%
Die	Circuit	Si	7440-21-3	3.4600	100.0000%	25,936	2.5936%
Wire	Interconnect	Copper	7440-50-8	0.5176	100.0000%	3,880	0.3880%
Mold Compound	Encapsulation	Epoxy resin A	Trade Secret	4.1090	5.0000%	30,800	3.0800%
		Epoxy,Cresol Novolac	29690-82-2	4.1090	5.0000%	30,800	3.0800%
		Phenol resin	Trade Secret	4.1090	5.0000%	30,800	3.0800%
		Metal Hydroxide	Trade Secret	4.1090	5.0000%	30,800	3.0800%
		Carbon Black	1333-86-4	0.2465	0.3000%	1,848	0.1848%
		Silica Fused A	60676-86-0	57.0329	69.4000%	427,510	42.7510%
		Silica Fused B	7631-86-9	8.2180	10.0000%	61,601	6.1601%
		Silica,crystalline	14808-60-7	0.2465	0.3000%	1,848	0.1848%

Package Weight (mg): **133.4077** **% 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.

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	<5.0	<5.0	CoA-COVT-R
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-CART-R
	Plastic Reel	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-PLRL-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	---------	---------	CoA-TRAY-R
Others	Shielding bag	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-SBAG –R
	Moisture Barrier bag	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-MBBG-R
	Protective Band	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-PROB-R
	Shipping and Inner Box	< 10.0	< 4.0	< 4.0	< 5.0	---------	-----------	CoA-ABOX-R
	Dessicant	< 10.0	< 2.0	< 2.0	< 1.0	< 3.0	< 3.0	CoA-DESS-R
	Bubble Pack	< 2.0	< 2.0	< 2.0	< 2.0	< 100.0	< 90.0	CoA-BUBP-R

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Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

Document History Page

Document Title: 32L-TQFP (7x7x1.0mm) PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET

Document Number: 001-04357

Rev.	ECN No.	Orig. of Change	Description of Change
**	391439	GFJ	New document
*A	2247086	MAHA	1. Updated Cypress logo. 2. Changed “CoA-32AZ-M” to “CoA-AZ32-M”. 3. Added “% weight of substance per Homogeneous Material” and “% Weight of Substance per Package” on the Material Composition table. 4. Completed the RoHS Substances namely: Lead, Cadmium, Mercury, Chromium VI, PBB and PBDE on Declaration of Packaging Indirect Materials table. 5. Added Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.
*B	2808317	MLA	Add AE package code (same site, same material set as AZ). Add second QTP# as reference.
*C	3242150	HLR	Removed Tube based on Indirect Packaging Materials.
*D	3600532	HLR	Updated Assembly Site 1 to reflect 4 decimal places on values of material composition table.
*E	3662880	COPI	Added PMDD for Assembly Site 2 – ASE Taiwan Copper Qualification under QTP # 120201.
*F	3784788	JARG	Changed Site from M to L on Assembly Site 1. Changed Document Title from 32L-TQFP PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET to 32L-TQFP (7x7x1.0mm) PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
*G	4033441	YUM	Added assembly site name in the Assembly heading. Changed Assembly Code to Assembly Site Name.

Distribution: WEB

Posting: None

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