PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	VZ	**Body Size (mil/mm)**	300 mils
Package Weight – Site 1	889.9801 mg	**Package Weight – Site 2**	857.9800 mg
Package Weight – Site 3	857.9800 mg		

SUMMARY

The 28L-SOJ Pb-Free package is compliant to RoHS. Cypress Ordering Part Number containing an “X” (e.g. CY7C1328G-133A**X**I, CY2308S**X**C-1HT) meet the of Directive 2002/95/EC (RoHS) requirement.

ASSEMBLY Site 1: Cypress Manufacturing Limited (CML)
Package Qualification Report # 030802 (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-VZ28-CML
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	PPM	%Weight of Substance per package
Leadframe	Base Material	Cu	7440-50-8	233.0735	95.3500%	261,886	26.1886%
		Fe	7439-89-6	2.4444	1.0000%	2,747	0.2747%
		P	7723-14-0	1.5889	0.6500%	1,785	0.1785%
		Zn	7440-66-6	7.3332	3.0000%	8,240	0.8240%
Lead Finish	External Plating	Ni	7440-02-0	0.1834	96.5200%	206	0.0206%
		Pd	7440-05-3	0.0033	1.7400%	4	0.0004%
		Au	7440-57-5	0.0033	1.7400%	4	0.0004%
Die Attach	Adhesive	Ag	7440-22-4	0.4700	79.6600%	528	0.0528%
		Proprietary bismaleimide	----------------	0.0500	8.4700%	56	0.0056%
		Proprietary polymer	----------------	0.0401	6.8000%	45	0.0045%
		Methacrylate	-----------------	0.0100	1.6900%	11	0.0011%
		Acrylate ester	----------------	0.0100	1.6900%	11	0.0011%
		Organic peroxide	----------------	0.0100	1.6900%	11	0.0011%
Die	Circuit	Si	7440-21-3	8.8000	100.0000%	9,888	0.9888%
Wire	Interconnect	Au	7440-57-5	0.9600	100.0000%	1,079	0.1079%
Mold Compound	Encapsulation	Solid Epoxy Resin	----------------	50.8000	8.0000%	57,080	5.7080%
		Phenol Resin	----------------	50.8000	8.0000%	57,080	5.7080%
		Antimony Trioxide	1309-64-4	6.3500	1.0000%	7,135	0.7135%
		Carbon Black	1333-86-4	6.3500	1.0000%	7,135	0.7135%
		Fused Silica	60676-86-0	508.0000	80.0000%	570,799	57.0799%
		Crystalline Silica	14808-60-7	12.7000	2.0000%	14,270	1.4270%

Package Weight (mg): 889.9801 **% Total: 100.0000**

II. DECLARATION OF PACKAGING INDIRECT MATERIALS

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tube	Plastic Tube	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-PLTB-R
	End Plug	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-EPLG-R
Tape and Reel	Carrier Tape	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-CART-R
Others	Moisture Barrier Bag	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-MBBG-R
	Dessicant	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-DESS-R
	HIC	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-HIC-R
	Bubble Pack	<5.0	<5.0	<5.0	<5.0	<10.0	<10.0	CoA-BUBB-R
	Carton Label	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-CRTN-R
	Inner Label	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-LBL-R
	Shielding Bag	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-SBAG-R

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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

ASSEMBLY Site 2: Cypress Manufacturing Limited (CML)
Package Qualification Report # 054502 (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-VZ28-CML
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	PPM	%Weight of Substance per package
Leadframe	Base Material	Cu	7440-50-8	291.5286	97.4100%	339,785	33.9785
		Fe	7439-89-6	7.1827	2.4000%	8,372	0.8372
		P	7723-14-0	0.2095	0.0700%	244	0.0244
		Zn	7440-66-6	0.3591	0.1200%	419	0.0419
Lead Finish	External Plating	Ni	7440-02-0	3.5809	96.5200%	4,174	0.4174
		Pd	7440-05-3	0.0646	1.7400%	75	0.0075
		Au	7440-57-5	0.0646	1.7400%	75	0.0075
Die Attach	Adhesive	Ag	7440-22-4	0.1360	80.0000%	159	0.0159
		Proprietary bismaleimide	--------------	0.0153	9.0000%	18	0.0018
		Proprietary polymer	--------------	0.0085	5.0000%	10	0.0010
		Methacrylate	--------------	0.0034	2.0000%	4	0.0004
		Acrylate ester	--------------	0.0034	2.0000%	4	0.0004
		Organic peroxide	--------------	0.0034	2.0000%	4	0.0004
Die	Circuit	Si	7440-21-3	2.3800	100.0000%	2,774	0.2774
Wire	Interconnect	Au	7440-57-5	1.5900	100.0000%	1,853	0.1853
Mold Compound	Encapsulation	Fused Silica	60676-86-0	490.2565	89.0000%	571,408	57.1408
		Phenol Resin	--------------	27.5425	5.0000%	32,102	3.2102
		Epoxy Resin	--------------	33.0510	6.0000%	38,522	3.8522

Package Weight (mg): 857.9800 **% Total: 100.0000**

II. DECLARATION OF PACKAGING INDIRECT MATERIALS

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tube	Plastic Tube	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-PLTB-R
	End Plug	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-EPLG-R
Tape and Reel	Carrier Tape	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-CART-R
Others	Moisture Barrier Bag	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-MBBG-R
	Dessicant	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-DESS-R
	HIC	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-HIC-R
	Bubble Pack	<5.0	<5.0	<5.0	<5.0	<10.0	<10.0	CoA-BUBB-R
	Carton Label	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-CRTN-R
	Inner Label	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-LBL-R
	Shielding Bag	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-SBAG-R

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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

ASSEMBLY Site 3: Jiangsu Changjiang Electronics Technology (JCET)
Package Qualification Report # 104811/ 104812 (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-VZ28-. JCET
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 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	PPM	%Weight of Substance per package
Leadframe	Base Material	Cu	7440-50-8	291.5286	97.4100%	339,785	33.9785
		Fe	7439-89-6	7.1827	2.4000%	8,372	0.8372
		P	7723-14-0	0.2095	0.0700%	244	0.0244
		Zn	7440-66-6	0.3591	0.1200%	419	0.0419
Lead Finish	External Plating	Ni	7440-02-0	3.5809	96.5200%	4,174	0.4174
		Pd	7440-05-3	0.0646	1.7400%	75	0.0075
		Au	7440-57-5	0.0646	1.7400%	75	0.0075
Die Attach	Adhesive	Ag	7440-22-4	0.1360	80.0000%	159	0.0159
		Proprietary bismaleimide	--------------	0.0153	9.0000%	18	0.0018
		Proprietary polymer	--------------	0.0085	5.0000%	10	0.0010
		Methacrylate	--------------	0.0034	2.0000%	4	0.0004
		Acrylate ester	--------------	0.0034	2.0000%	4	0.0004
		Organic peroxide	--------------	0.0034	2.0000%	4	0.0004
Die	Circuit	Si	7440-21-3	2.3800	100.0000%	2,774	0.2774
Wire	Interconnect	Au	7440-57-5	1.5900	100.0000%	1,853	0.1853
Mold Compound	Encapsulation	Fused Silica	60676-86-0	490.2565	89.0000%	571,408	57.1408
		Phenol Resin	--------------	27.5425	5.0000%	32,102	3.2102
		Epoxy Resin	--------------	33.0510	6.0000%	38,522	3.8522

Package Weight (mg): 857.9800 **% Total: 100.0000**

II. DECLARATION OF PACKAGING INDIRECT MATERIALS

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tube	Plastic Tube	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-PLTB-R
	End Plug	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-EPLG-R
Tape and Reel	Carrier Tape	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-CART-R
Others	Moisture Barrier Bag	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-MBBG-R
	Dessicant	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-DESS-R
	HIC	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-HIC-R
	Bubble Pack	<5.0	<5.0	<5.0	<5.0	<10.0	<10.0	CoA-BUBB-R
	Carton Label	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-CRTN-R
	Inner Label	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	CoA-LBL-R
	Shielding Bag	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-SBAG-R

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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: 28L-SOJ PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
Document Number: 001-03012

Rev.	ECN No.	Orig. of Change	Description of Change
**	385301	EML	New document
*A	1178023	MRB	1. Updated Cypress Logo 2. Added on the material composition the percent weight per homogeneous material and weight of substance 3. Updated and added Lead, Cr+VI, PBB and PBDE on the Declaration of Packaging/Indirect Materials. Added note 4: the package were based on Engineering calculation and performed on a package family basis 4. Change the value of Pd on leadframe
*B	2712133	HLR	Added Assembly Site 2. QTP No. 054502 Replaced CML with WEB
*C	2737817	MAHA	Corrected the CAS number of Proprietary bismaleimide for assembly sites 1 and 2.
*D	2763952	MAHA	Corrected the CAS number of carbon black for assembly site 1.
*E	3167760	REYD	Added Assembly Site 3 – JCET.
*F	3298123	HLR	Sunset Due – No Change
*G	3666168	HLR	Updated the material composition table of Assembly Sites 1, 2 and 3 to reflect 4 decimal places on values.
*H	4032168	YUM	Added Assembly site name in the Assembly heading in site 1, 2 and 3. Changed the Assembly Code to Assembly Site Name for Assembly Sites 1, 2, and 3.

Distribution: WEB

Posting: None

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