

PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)

Cypress Package Code	VZ	Body Size (mil/mm)	400 mils
Package Weight – Site 1	B1: 1,370.0300 mg B2: 1,418.0000 mg	Package Weight – Site 2	1,418.0000 mg

SUMMARY

The 36L-SOJ Pb-Free package is compliant to RoHS. Cypress Ordering Part Number containing an “X” (e.g. CY7C1328G-133AXI, CY2308SXC-1HT) meet the of Directive 2002/95/EC (RoHS) requirement.

ASSEMBLY Site 1 – Package Qualification Report # 040803, 063104 (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-VZ36-R CoA-VZ36-R1
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” 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)

B1. NiPdAu with Standard Mold Compound

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Leadframe	Base Material	Cu	7440-50-8	299.3990	95.3500%	218,535	21.8535%
		Fe	7439-89-6	3.1400	1.0000%	2,292	0.2292%
		P	7723-14-0	2.0410	0.6500%	1,490	0.1490%
		Zn	7440-66-6	9.4200	3.0000%	6,876	0.6876%
Lead Finish	External Plating	Ni	7440-02-0	0.1930	96.5200%	141	0.0141%
		Pd	7440-05-3	0.0035	1.7400%	3	0.0003%
		Au	7440-57-5	0.0035	1.7400%	3	0.0003%
Die Attach	Adhesive	Ag	7440-22-4	0.8700	79.0900%	635	0.0635%
		Proprietary Bismaleimide	-----	0.0900	8.1800%	66	0.0066%
		Proprietary Polymer	-----	0.0800	7.2700%	58	0.0058%
		Methacrylate	-----	0.0200	1.8200%	15	0.0015%
		Acrylate ester	-----	0.0200	1.8200%	15	0.0015%
		Organic peroxide	-----	0.0200	1.8200%	15	0.0015%
Die	Circuit	Si	7440-21-3	15.8000	100.0000%	11,533	1.1533%
Wire	Interconnect	Au	7440-57-5	1.1300	100.0000%	825	0.0825%
Mold Compound	Encapsulation	Solid Epoxy Resin	-----	83.0240	8.0000%	60,600	6.0600%
		Phenol Resin	-----	83.0240	8.0000%	60,600	6.0600%
		Antimony Trioxide	1309-64-4	10.3780	1.0000%	7,575	0.7575%
		Carbon Black	1333-86-4	10.3780	1.0000%	7,575	0.7575%
		Fused Silica	60676-86-0	830.2400	80.0000%	606,001	60.6001%
		Crystalline Silica	14808-60-7	20.7560	2.0000%	15,150	1.5150%
Package Weight (mg):				1,370.0300	% 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" 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.

B2. NiPdAu with Green Mold Compound

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Leadframe	Base Material	Cu	7440-50-8	384.8182	97.4100%	271,381	27.1381%
		Fe	7439-89-6	9.4812	2.4000%	6,686	0.6686%
		P	7723-14-0	0.2765	0.0700%	195	0.0195%
		Zn	7440-66-6	0.4741	0.1200%	334	0.0334%
Lead Finish	External Plating	Ni	7440-02-0	5.9456	96.5200%	4,193	0.4193%
		Pd	7440-05-3	0.1072	1.7400%	76	0.0076%
		Au	7440-57-5	0.1072	1.7400%	76	0.0076%
Die Attach	Adhesive	Ag	7440-22-4	0.3520	80.0000%	248	0.0248%
		Proprietary Bismaleimide	-----	0.0396	9.0000%	28	0.0028%
		Proprietary Polymer	-----	0.0220	5.0000%	16	0.0016%
		Methacrylate	-----	0.0088	2.0000%	6	0.0006%
		Acrylate ester	-----	0.0088	2.0000%	6	0.0006%
		Organic peroxide	-----	0.0088	2.0000%	6	0.0006%
Die	Circuit	Si	7440-21-3	6.0900	100.0000%	4,295	0.4295%
Wire	Interconnect	Au	7440-57-5	2.3800	100.0000%	1,678	0.1678%
Mold Compound	Encapsulation	Silica	60676-86-0	897.0132	89.0000%	632,590	63.2590%
		Phenol Resin	-----	50.3940	5.0000%	35,539	3.5539%
		Epoxy Resin	-----	60.4728	6.0000%	42,647	4.2647%
Package Weight (mg):				1,418.0000	% 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)
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	< 5.0	< 5.0	< 5.0	< 10.0	< 50.0	< 45.0	CoA-PLRL-R
Tube	Plastic Tube	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	CoA-PLTB-R
	End Plug	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	CoA-EPLG-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

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" 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.

ASSEMBLY Site 2 – Package Qualification Report # 110907 (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-VZ36-JT
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" 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
Leadframe	Base Material	Cu	7440-50-8	384.8182	97.4100%	271,381	27.1381%
		Fe	7439-89-6	9.4812	2.4000%	6,686	0.6686%
		P	7723-14-0	0.2765	0.0700%	195	0.0195%
		Zn	7440-66-6	0.4741	0.1200%	334	0.0334%
Lead Finish	External Plating	Ni	7440-02-0	5.9456	96.5200%	4,193	0.4193%
		Pd	7440-05-3	0.1072	1.7400%	76	0.0076%
		Au	7440-57-5	0.1072	1.7400%	76	0.0076%
Die Attach	Adhesive	Ag	7440-22-4	0.3520	80.0000%	248	0.0248%
		Proprietary Bismaleimide	-----	0.0396	9.0000%	28	0.0028%
		Proprietary Polymer	-----	0.0220	5.0000%	16	0.0016%
		Methacrylate	-----	0.0088	2.0000%	6	0.0006%
		Acrylate ester	-----	0.0088	2.0000%	6	0.0006%
		Organic peroxide	-----	0.0088	2.0000%	6	0.0006%
Die	Circuit	Si	7440-21-3	6.0900	100.0000%	4,295	0.4295%
Wire	Interconnect	Au	7440-57-5	2.3800	100.0000%	1,678	0.1678%
Mold Compound	Encapsulation	Silica	60676-86-0	897.0132	89.0000%	632,590	63.2590%
		Phenol Resin	-----	50.3940	5.0000%	35,539	3.5539%
		Epoxy Resin	-----	60.4728	6.0000%	42,647	4.2647%
Package Weight (mg):				1,418.0000	% 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)
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	< 5.0	< 5.0	< 5.0	< 10.0	< 50.0	< 45.0	CoA-PLRL-R
Tube	Plastic Tube	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	CoA-PLTB-R
	End Plug	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	CoA-EPLG-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

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" 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.

Document History Page

Document Title: 36L-SOJ PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)
Document Number: 001-03014

Rev.	ECN No.	Orig. of Change	Description of Change
**	385301	EML	New document
*A	1176583	HLR	Changed Cypress Logo Added % weight of substance per Homogenous Material and % weight of substance per package on the Material Composition. Completed the RoHS Substances namely; Lead Cadmium, Mercury, Chromium VI, PBB and PBDE on Declaration of Packaging Indirect Materials table. Changed the value of Pd on Leadfinish.
*B	2665051	MAHA Dcon	Added Table B2. NiPdAu with Green Mold Compound for assembly site 1. Added reference QTP 063104 to assembly site 1. Change CML to WEB in distribution list.
*C	3148951	HLR	Changed the value of Mercury and Chromium IV on the table of Banned Substances.
*D	3218997	REYD	Added Assembly Site 2 – JCET
*E	3305135	HLR	Added Note 4 on Footer Section. Deleted Tray and End Pin on Declaration of Indirect Materials Section.
*F	3676963	HLR	Updated the material composition table of Assembly Site 1 and 2 to reflect 4 decimal places on values.

Distribution: WEB

Posting: None

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" 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.