


56L - SSOP Pb-Free Package

PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	SP	Body Size (mil/mm)	300 mil
Package Weight – Site 1	B1: 750 mg B2: 718 mg	Package Weight – Site 2	779 mg

SUMMARY

The 56L-SSOP Pb-Free package is qualified at two assembly sites. Packages from different assembly sites may have different material composition. Cypress Ordering Part Numbers containing an "X" (e.g. CY7C1328G-133AXI, CY2308SXC-1HT) meet the Directive 2002/95/EC (RoHS) requirement.

ASSEMBLY Site 1 – Package Qualification Report #s 023606/063103/043005 (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-SP56-R CoA-SP56-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 Naphthalenes	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.



56L - SSOP Pb-Free Package

B. MATERIAL COMPOSITION (Note 3)

B1: NiPdAu with Standard Molding 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	7440-95-4	143.77	94.15	191,689	19.17
		Si	7440-21-3	1.53	1.00	2,036	0.20
		Mg	7739-95-4	0.99	0.65	1,323	0.13
		Ni	7440-02-0	4.58	3.00	6,108	0.61
		Fe	7439-89-6	0.31	0.20	407	0.04
		Zn	7440-66-6	1.53	1.00	2,036	0.20
Lead Finish	External Plating	Ni	7440-02-0	0.19	96.52	250	0.02
		Pd	7440-05-3	0.01	1.73	13	0.00
		Au	7440-57-5	0.00	1.75	4	0.00
Die Attach	Adhesive	Ag	7440-22-4	0.84	79.25	1,123	0.11
		Proprietary bismaleimide	-----	0.09	8.49	114	0.01
		Proprietary polymer	-----	0.07	6.60	100	0.01
		Methacrylate	-----	0.02	1.89	28	0.00
		Acrylate ester	-----	0.02	1.89	28	0.00
		Organic peroxide	-----	0.02	1.89	28	0.00
Die	Circuit	Si	7440-21-3	14.93	100.00	19,906	1.99
Wire	Interconnect	Au	7440-57-5	1.61	100.00	2,142	0.21
Mold Compound	Encapsulation	Solid Epoxy Resin	-----	46.36	8.00	61,813	6.18
		Phenol Resin	-----	46.36	8.00	61,813	6.18
		Antimony Trioxide	7631-86-9	5.80	1.00	7,727	0.77
		Carbon Black	7440-36-0	5.80	1.00	7,727	0.77
		Fused Silica	129915-35-1	463.60	80.00	618,133	61.81
		Crystalline Silica	68928-70-1	11.59	2.00	15,453	1.55

Package Weight (mg): **750** % Total: **100**

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



56L - SSOP Pb-Free Package

B2. NiPdAu with Green Molding 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	168.68	96.20	234,940	23.494
		Si	7440-21-3	1.14	0.65	1,587	0.159
		Mg	7439-95-4	0.26	0.15	366	0.037
		Ni	7740-02-0	5.26	3.00	7,327	0.733
Lead Finish	External Plating	Ni	7440-02-0	3.52	96.52	4,906	0.491
		Pd	7440-05-3	0.06	1.737	88	0.009
		Au	7440-57-5	0.06	1.743	89	0.009
Die Attach	Adhesive	Ag	7440-22-4	0.85	80.00	1,189	0.119
		Proprietary bismaleimide	-----	0.09	9.00	134	0.013
		Proprietary polymer	-----	0.05	5.00	74	0.007
		Methacrylate	-----	0.02	2.00	30	0.003
		Acrylate ester	-----	0.02	2.00	30	0.003
		Organic peroxide	-----	0.02	2.00	30	0.003
Die	Circuit	Si	7440-21-3	14.93	99.99	20,799	2.080
Wire	Interconnect	Au	7440-57-5	1.81	99.99	2,534	0.253
Mold Compound	Encapsulation	SiO ₂	7631-89-9	463.85	89.00	646,031	64.603
		Epoxy Resin	129915-35-1	31.27	6.00	43,294	4.355
		Phenol resin	26834-02-6	26.05	5.00	36,294	3.629

Package Weight (mg): **718**

% Total: **100**

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



56L - SSOP Pb-Free Package

ASSEMBLY Site 2 – Package Qualification Report # 053502 (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-SP56-T
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.



56L - SSOP Pb-Free Package

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	Copper	7440-95-4	171.26	97.27	219,971	22.00%
		Iron	7439-89-6	4.18	2.37	5,367	0.54%
		Phosphorus	7723-14-0	0.15	0.09	188	0.02%
		Zinc	7440-66-6	0.22	0.12	285	0.03%
		Lead	7439-92-1	0.00	0.00	5	0.00%
		Polyimide	60842-76-4	0.17	0.10	214	0.02%
		NBR	9003-18-3	0.03	0.02	36	0.00%
		Bismaleimide	-----	0.03	0.02	36	0.00%
Lead Finish	External Plating	Phenol resin	-----	0.02	0.01	31	0.00%
		Nickel	7440-02-0	1.58	90.29	2,023	0.20%
		Palladium	7440-05-3	0.14	8.00	185	0.02%
Die Attach	Adhesive	Gold	7440-57-5	0.03	1.71	32	0.00%
		Acrylic resin	-----	0.08	3.00	100	0.01%
		Polybutadiene derivative	-----	0.05	1.87	65	0.01%
		Butadiene copolymer	-----	0.01	0.37	12	0.00%
		Epoxy Resin	-----	0.02	0.75	24	0.00%
		Acrylate	-----	0.04	1.50	47	0.00%
		Peroxide	-----	0.00	0.00	6	0.00%
		Additive	-----	0.01	0.37	18	0.00%
Die	Circuit	Silver (Metal powder)	7440-22-4	0.71	26.59	910	0.09%
Wire	Interconnect	Silicon	7440-21-3	9.86	100.00	12,665	1.27%
		Gold	7440-57-5	1.32	100.00	1,695	0.17%
		Silver	7440-22-4	0.00	0.00	0	0.00%
		Palladium	7440-05-3	0.00	0.00	0	0.00%
		Copper	7440-95-4	0.00	0.00	0	0.00%
		Iron	7439-89-6	0.00	0.00	0	0.00%
Mold Compound	Encapsulation	Epoxy resin(1)	-----	20.60	3.50	26,463	2.65%
		Epoxy resin(2)	-----	11.77	2.00	15,122	1.51%
		Phenol resin	-----	20.60	3.50	26,463	2.65%
		Aromatic Phosphate	-----	8.83	1.50	11,341	1.13%
		Carbon black	1333-86-4	1.18	0.20	1,512	0.15%
		Silica	60676-86-0	525.66	89.3	675,184	67.52%

Package Weight (mg): **779** % Total: **100**

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



56L - SSOP Pb-Free Package

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	<0.0005	<0.0005	CE/2006/16941
	Carrier tape	<2.0	<2.0	<2.0	<2.0	<0.0005	<0.0005	CE/2006/20632
Tube	End Pin	<2.0	<2.0	<2.0	<2.0	<0.0005	<0.0005	KA/2006/10151
HIC	Humidity Indicator	<10.0	< 5.0	< 4.0	< 1.0	< 100.0	< 100.0	CH-8479/LZP/1
Others	Shielding bag	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	5306-0410001

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Document History Page

Document Title: 56L-SSOP Pb-Free PMDD
Document Number: 001-03010

Rev.	ECN No.	Orig. of Change	Description of Change
**	385294	EML	New document
*A	408693	YXP	Edited header table for the package weight, and Summary section to reflect assembly site 2. Added "(PMDD)" on title page. Added PMDD data for assembly site 2. Edited Note 3 on footer section. Added Note 4 on footer section.
*B	596982	QAD/ MRB	Updated Cypress Logo Added CoA-SP56-R1 on Analysis Report Table Divided B into two (2) categories, B: For NiPdAu using Std Mold Compound, and B2: NiPdAu using a Green Molding Compound. Added Table B2 in B for Green Mold Compound using new format (with % weight of substance per homogenous material). Deleted QTP 022102 and replaced QTP 043005 on Assembly site 1. Deleted Declaration of Packaging materials on Assembly site 1. Added on the material composition the percent weight per homogeneous material and weight of substance per package on Assembly site 1 standard molding compound and Assembly site 2. Updated and added Lead, CrIV, PBB and PBDE on the Declaration of Packaging/Indirect Materials.

Distribution: CML

Posting: None

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