



PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	SZ	Body Size (mil/mm)	150 mils
Package Weight – Site 1	B1: 150.0198 mg B2: 150.1999 mg B3: 149.5250 mg	Package Weight – Site 2	B1: 158.9900 mg B2: 152.8306 mg
Package Weight – Site 3	B1: 166.0797 mg B2: 161.2638 mg	Package Weight – Site 4	N/A

SUMMARY

The 16L-SOIC package is qualified at three assembly sites. Packages from different assembly sites are likely to have different materials composition. However, Cypress guarantees that as long as products are being ordered with a Cypress Part Number containing an “X” (e.g. CY7C1328G-133AXI, CY2308SXC-1HT) they meet the requirement of RoHS.

**ASSEMBLY Site 1: Cypress Manufacturing Limited (CML)
Package Qualification Report # 023407, 121408 (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 Link/s
Cadmium and Cadmium Compounds	0	< 5.0	CoA-SZ16-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.



**16L – SOIC 150mils
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
Lead frame	Base Material	Cu	7440-50-8	77.3835	97.4100	515,821	51.5822
		Fe	7439-89-6	1.9066	2.4000	12,709	1.2709
		P	7723-14-0	0.0557	0.0701	371	0.0371
		Zn	7440-66-6	0.0953	0.1199	635	0.0635
Lead Finish	External Plating	Ni	7440-02-0	0.1875	93.7734	1,250	0.1250
		Pd	7440-05-3	0.0095	4.7262	63	0.0063
		Au	7440-57-5	0.0030	1.5004	20	0.0020
Die Attach	Adhesive	Ag	7440-22-4	0.3192	77.9773	2,128	0.2128
		Bismaleimide	-----	0.0450	10.9930	300	0.0300
		Polymer	-----	0.0246	6.0095	164	0.0164
		Methacrylate	-----	0.0083	2.0154	55	0.0055
		Acyate ester	-----	0.0083	2.0154	55	0.0055
		Organic Peroxide	-----	0.0041	0.9894	27	0.0027
Die	Circuit	Si	7440-21-3	5.7300	100.0000	38,195	3.8195
Wire	Interconnect	Au	7440-57-5	0.7237	100.0000	4,824	0.4824
Mold Compound	Encapsulation	Fused Silica	60676-86-0	46.9383	73.9002	312,880	31.2880
		Solid Epoxy Resin	-----	6.3515	10.0000	42,338	4.2338
		Phenol Resin	-----	6.9867	11.0000	46,572	4.6572
		Antimony Trioxide	1309-64-4	0.8257	1.3000	5,504	0.5504
		Crystalline Silica	14808-60-7	1.9054	2.9999	12,701	1.2701
		Carbon Black	1333-86-4	0.5081	0.8000	3,387	0.3387

Package Weight (mg): 150.0198

% Total: 100.0000

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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.



**16L – SOIC 150mils
Pb-Free Package**

B2. NiPdAu using Green Molding Compound

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% Weight of Substance per Homogeneous Material	PPM	% Weight of Substance per package
Lead frame	Base Material	Cu	7440-50-8	59.0846	97.4100	393,373	39.3373
		Fe	7439-89-6	1.4557	2.4000	9,692	0.9692
		P	7723-14-0	0.0425	0.0700	283	0.0283
		Zn	7440-66-6	0.0728	0.1200	485	0.0485
Lead Finish	External Plating	Ni	7440-02-0	0.9115	96.5204	6,069	0.6069
		Pd	7440-05-3	0.0164	1.7370	109	0.0109
		Au	7440-57-5	0.0165	1.7427	110	0.0110
Die Attach	Adhesive	Ag	7440-22-4	0.1595	80.0000	1,062	0.1062
		Proprietary bismaleimide	-----	0.0179	9.0000	119	0.0119
		Proprietary polymer	-----	0.0100	5.0000	66	0.0066
		Methacrylate	-----	0.0040	2.0000	27	0.0027
		Acrylate ester	-----	0.0040	2.0000	27	0.0027
		Organic peroxide	-----	0.0040	2.0000	27	0.0027
Die	Circuit	Si	7440-21-3	2.7905	100.00	18,579	1.8579
Wire	Interconnect	Au	7440-57-5	1.2647	100.00	8,420	0.8420
Mold Compound	Encapsulation	SiO2	60676-86-0	75.0673	89.0000	499,782	49.9782
		Phenol Resin	-----	4.2173	5.0000	28,078	2.8078
		Epoxy Resin	-----	5.0607	6.0000	33,693	3.3693

Package Weight (mg): 150.1999

%Total: 100.0000

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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.



**16L – SOIC 150mils
Pb-Free Package**

B3. NiPdAu using Green Molding Compound and Copper Wire

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% Weight of Substance per Homogeneous Material	PPM	% Weight of Substance per package
Lead frame	Base Material	Cu	7440-50-8	59.0846	97.4100%	395,149	39.5149%
		Fe	7439-89-6	1.4557	2.4000%	9,735	0.9735%
		P	7723-14-0	0.0425	0.0700%	284	0.0284%
		Zn	7440-66-6	0.0728	0.1200%	487	0.0487%
Lead Finish	External Plating	Ni	7440-02-0	0.9115	96.5163%	6,096	0.6096%
		Pd	7440-05-3	0.0164	1.7366%	110	0.0110%
		Au	7440-57-5	0.0165	1.7471%	110	0.0110%
Die Attach	Adhesive	Ag	7440-22-4	0.1595	80.0000%	1,067	0.1067%
		Proprietary bismaleimide	-----	0.0179	9.0000%	120	0.0120%
		Proprietary polymer	-----	0.0100	5.0000%	67	0.0067%
		Methacrylate	-----	0.0040	2.0000%	27	0.0027%
		Acrylate ester	-----	0.0040	2.0000%	27	0.0027%
		Organic peroxide	-----	0.0040	2.0000%	27	0.0027%
Die	Circuit	Si	7440-21-3	2.7905	100.0000%	18,662	1.8662%
Wire	Interconnect	Cu	7440-50-8	0.5898	100.0000%	3,944	0.3944%
Mold Compound	Encapsulation	SiO2	60676-86-0	75.0673	89.0000%	502,038	50.2038%
		Phenol Resin	-----	4.2173	5.0000%	28,205	2.8205%
		Epoxy Resin	-----	5.0607	6.0000%	33,845	3.3845%

Package Weight (mg):

149.5250

%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". 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.



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
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". 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: Amkor Technology Philippines
Package Qualification Report # 033203 / 124706 (Note1)**

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 Link/s
Cadmium and Cadmium Compounds	0	< 5.0	CoA-SZ16- Amkor Philippines
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.



**16L – SOIC 150mils
Pb-Free Package**

**B1: MATERIAL COMPOSITION (Note 3)
USING Au WIRE**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Lead frame	Base Material	Cu	7440-50-8	55.2800	96.5000	34,7700	34.7700%
		Fe	7439-89-6	1.3400	2.3500	8,400	0.8400%
		P	7723-14-0	0.0200	0.0500	100	0.0100%
		Zn	7440-66-6	0.0600	0.1000	400	0.0400%
		Ag	7440-22-4	0.5900	1.0000	3,700	0.3700%
Lead finish	External Plating	Pure Sn	7440-31-5	2.7300	100.0000	17,200	1.7200%
Die Attach	Adhesive	Resin	-----	0.2200	21.0000	1,400	0.1400%
		Ag	7440-22-4	0.7500	70.0000	4,700	0.4700%
		Metal Oxide	-----	0.0300	3.0000	200	0.0200%
		Amine	-----	0.0300	3.0000	200	0.0200%
		Gamma Butyrolactone	-----	0.0300	3.0000	200	0.0200%
Die	Circuit	Si	7440-21-3	3.0400	100.0000	19,100	1.9100%
Wire	Interconnect	Au	7440-57-5	0.3000	100.0000	1,900	0.1900%
Mold Compound	Encapsulation	Epoxy Resin	-----	6.6100	7.0000	41,600	4.1600%
		SiO2	60676-86-0	82.3000	87.0000	517,600	51.7600%
		Phenol Resin	-----	2.8300	3.0000	17,800	1.7800%
		Antimony Trioxide	1309-64-4	2.8300	3.0000	17,800	1.7800%

Package Weight (mg): 158.9900

% 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". 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.



**16L – SOIC 150mils
Pb-Free Package**

**B2: MATERIAL COMPOSITION (Note 3)
USING Cu WIRE**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Lead frame	Base Material	Copper (Cu)	7440-50-8	48.3259	97.1874	316,206	31.6206
		Iron (Fe)	7439-89-6	1.1902	2.3935	7,788	0.7788
		Zinc (Z)	7440-66-6	0.0595	0.1197	389	0.0389
		Phosphorus (P)	7723-14-0	0.0149	0.0299	97	0.0097
		Silver (Ag)	7440-22-4	0.1340	0.2695	877	0.0877
Lead Finish	External Plating	Tin (Sn)	7440-31-5	2.7290	100.0000	17,856	1.7856
Die Attach	Adhesive	Epoxy Resin A	-----	0.0593	7.0000	388	0.0388
		Epoxy Resin B	-----	0.0339	4.0000	222	0.0222
		Silver (Ag)	7440-22-4	0.6518	77.0000	4,265	0.4265
		Lactone	-----	0.0339	4.0000	222	0.0222
		Polyoxypropylenedi amine	-----	0.0339	4.0000	222	0.0222
		2,6-Diglycidyl phenyl allyl ether oligomer	-----	0.0339	4.0000	222	0.0222
Die	Circuit	Silicon	7440-21-3	3.3630	100.0000	22,004	2.2004
Wire	Interconnect	Copper (Cu)	7440-50-8	0.0915	100.0000	599	0.0599
Mold Compound	Encapsulation	Multi-aromatic Resin	-----	7.2057	7.5000	47,148	4.7148
		SiO2 Filler	60676-86-0	82.6253	86.0000	540,633	54.0633
		Carbon Black	1333-86-4	0.4804	0.5000	3,143	0.3143
		Epoxy Cresol Novolac	-----	1.9215	2.0000	12,573	1.2573
		Phenol Resin	-----	3.8430	4.0000	25,146	2.5146

Package Weight (mg): 152.8306

% 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
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

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



**ASSEMBLY Site 3: Orient Semiconductor Electronics Taiwan (OSET)
Package Qualification Report # 050701 / 120409 (Note1)**

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 Link/s
Cadmium and Cadmium Compounds	0	< 5.0	CoA-SZ16-OSET
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". 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.



**16L – SOIC 150mils
Pb-Free Package**

B. MATERIAL COMPOSITION (Note 3)

B1. USING GOLD WIRE

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Lead frame	Base Material	Cu	7440-50-8	48.2567	97.2755	290,564	29.0564
		Fe	7439-89-6	1.1773	2.3733	7,089	0.7089
		P	7723-14-0	0.0414	0.0834	249	0.0249
		Zn	7440-66-6	0.0626	0.1262	377	0.0377
		Pb	7439-92-1	0.0012	0.0023	7	0.0007
		Polyimide	-----	0.0468	0.0944	282	0.0282
		NBR	9003-18-3	0.0078	0.0157	47	0.0047
		Bismaleimide	79922-55-7	0.0078	0.0157	47	0.0047
Lead finish	External Plating	Phenol resin	28453-20-5	0.0066	0.0134	40	0.0040
		Ni	7440-02-0	0.4745	96.5200	2,857	0.2857
		Pd	7440-05-3	0.0086	1.7400	52	0.0052
Die Attach	Adhesive	Au	7440-57-5	0.0086	1.7400	52	0.0052
		Acrylic resin	-----	0.0196	8.5199	118	0.0118
		Polybutadiene derivative	-----	0.0126	5.4874	76	0.0076
		Butadiene copolymer	-----	0.0023	1.0108	14	0.0014
		Epoxy Resin	-----	0.0047	2.0217	28	0.0028
		Acrylate	-----	0.0091	3.9711	55	0.0055
		Peroxide	-----	0.0012	0.5054	7	0.0007
		Additive	-----	0.0035	1.5162	21	0.0021
Die	Circuit	Silver (Metal powder)	7440-22-4	0.1770	76.9675	1,066	0.1066
Wire	Interconnect	Si	7440-21-3	6.1900	100.0000	37,271	3.7271
Mold Compound	Encapsulation	Au	7440-57-5	0.3599	100.0000	2,167	0.2167
		Epoxy resin 1	1158117-90-9	3.8220	3.5000	23,013	2.3013
		Epoxy resin 2	85954-11-6	2.1840	2.0000	13,150	1.3150
		Phenol resin	26834-02-6	3.8220	3.5000	23,013	2.3013
		Aromatic Phosphate	139189-30-3	1.6380	1.5000	9,863	0.9863
		Carbon black	1333-86-4	0.2184	0.2000	1,315	0.1315
Silica	60676-86-0	97.5155	89.3000	587,161	58.7161		

Package Weight (mg): 166.0797

% Total: 100.0000

Note 1: Qualification reports are available at www.cypress.com. Access them by doing a Search on the Report #.

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**16L – SOIC 150mils
Pb-Free Package**

B2. USING COPPER WIRE

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Lead frame	Base Material	Cu	7440-50-8	45.7365	97.4071	283,613	28.3613%
		Fe	7439-89-6	1.1143	2.3733	6,910	0.6910%
		P	7723-14-0	0.0391	0.0833	242	0.0242%
		Zn	7440-66-6	0.0593	0.1262	368	0.0368%
		Pb	7439-92-1	0.0047	0.0101	29	0.0029%
Lead finish	External Plating	Ni	7440-02-0	0.4201	90.4082	2,605	0.2605%
		Pd	7440-05-3	0.0379	8.1633	235	0.0235%
		Au	7440-57-5	0.0066	1.4286	41	0.0041%
Die Attach	Adhesive	Silver	7440-22-4	0.0441	74.0000	273	0.0273%
		Epoxy resin A	9003-36-5	0.0024	4.0000	15	0.0015%
		Epoxy resin B	Trade Secret	0.0036	6.0000	22	0.0022%
		Diluent A	Trade Secret	0.0024	4.0000	15	0.0015%
		Diluent B	Trade Secret	0.0036	6.0000	22	0.0022%
		Phenolic Hardener	Trade Secret	0.0030	5.0000	19	0.0019%
		Dicyandiamide	461-58-5	0.0003	0.5000	2	0.0002%
		Organic peroxide	Trade Secret	0.0003	0.5000	2	0.0002%
Die	Circuit	Si	7440-21-3	1.2971	100.0000	8,043	0.8043%
Wire	Interconnect	Copper	7440-50-8	0.1157	100.0000	717	0.0717%
Mold Compound	Encapsulation	Epoxy resin A	Trade Secret	5.6186	5.0000	34,841	3.4841%
		Epoxy, Cresol Novolac	29690-82-2	5.6186	5.0000	34,841	3.4841%
		Phenol resin	Trade Secret	5.6186	5.0000	34,841	3.4841%
		Metal Hydroxide	Trade Secret	5.6186	5.0000	34,841	3.4841%
		Carbon Black	1333-86-4	0.3371	0.3000	2,090	0.2090%
		Silica Fused A	60676-86-0	77.9869	69.4000	483,598	48.3598%
		Silica Fused B	7631-86-9	11.2373	10.0000	69,683	6.9683%
Silica, crystalline	14808-60-7	0.3371	0.3000	2,090	0.2090%		

Package Weight (mg): 161.2638

% Total: 100.0000

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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	<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
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

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Document History Page

Document Title: 16L - SOIC 150 MILS PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
 Document Number: 001-04308

Rev.	ECN No.	Orig. of Change	Description of Change
**	390185	GFJ	New document
*A	399136	GFJ	Additional Assembly Site with different materials used. Additional packaging indirect materials for Assy Site 2
*B	2521701	HLR	Updated Cypress Logo Added % weight of substance per Homogenous Material and % weight of substance per package on the Material Composition for Assy Site 1, 2 and 3. Added CAS Number for Antimony Trioxide and SiO2 on Assy Site 1 and 2. Completed the RoHS Substances namely; Lead Cadmium, Mercury, Chromium VI, PBB and PBDE on Declaration of Packaging Indirect Materials table for Assy Site 1,2 and 3.
*C	2679529	MAHA Dcon	Corrected the CAS numbers for Nickel, Palladium, and Gold for the lead finish of assembly site 3. Added CAS numbers for NBR, Bismaleimide, and Phenol resin for the lead frame of assembly site 3. Added CAS numbers for Epoxy Resin 1, Epoxy Resin 2, Phenol resin, and Aromatic phosphate for the mold compound of assembly site 3. Changed E-CML to WEB in distribution list.
*D	2792057	MAHA	Corrected the reference QTP for assembly site 2 from 044301 to 033203.
*E	3006383	HLR	Changed the substance Dicyclopentadi to Epoxy resin on Mold Compound for Assembly Site 2.
*F	3274916	HLR	Added material composition using Green Mold Compound on Assembly Site 1. Reference QTP No. 103302.
*G	3388242	MAHA	Expressed the Weight by mg, % weight of substance per Homogenous material, and % weight of substance per package of assembly site 1 table B1, assembly site 2, and assembly site 3 in four decimal places. Recalculated the % weight of substance per Homogenous material of assembly site 1 table B1. Recalculated the PPM values, % weight of substance per package and % weight of substance per Homogenous material of assembly site 3.
*H	3604210	COPI	Added PMDD for Assembly Site 3-B2 – OSE Taiwan Copper Qualification under QTP # 120409.

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**16L – SOIC 150mils
Pb-Free Package**

Document History Page

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 Document Number: 001-04308

Rev.	ECN No.	Orig. of Change	Description of Change
*I	3645620	COPI	Added PMDD B3 for Assembly site 1 – CML RA Copper Qualification under QTP # 121408.
*J	3767019	HLR	Added CAS number of Crystalline Silica and Carbon Black on Assembly Sites 1 and 3.
*K	3925886	VFR	Added B.2 for Site 2: Amkor-M Copper wire qualification, reference QTP # 124706
*L	4032205	YUM	Added assembly site name in the Assembly heading in site 1, 2 and 3. Changed the assembly code to assembly site name in site 1, 2 and 3.

Distribution: WEB

Posting: None

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