

PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	SZ/SW	Body Size (mil/mm)	150 mils
Package Weight – Site 1	B1: 70.0006 mg B2: 69.9606 mg B3: 75.4600 mg B4: 75.7400 mg B5: 72.9999 mg	Package Weight – Site 2	B1: 80.9901 mg B2: 85.3650 mg B3: 88.7576 mg
Package Weight – Site 3	B1: 68.0817 mg B2: 71.9711 mg B3: 88.9922 mg	Package Weight – Site 4	B1: 71.5486 mg B2: 74.2242 mg B3: 76.0001 mg
Package Weight – Site 5	B1: 70.6090 mg		

SUMMARY

The 8L- SOIC package is qualified at four 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, 140805, 142801, 150403 (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- SZ8-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.

B1. MATERIAL COMPOSITION (Note 3)
USING GOLD WIRE

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	7.7401	97.3513%	110,572	11.0572%
		Fe	7439-89-6	0.1900	2.3897%	2,714	0.2714%
		P	7723-14-0	0.0103	0.1295%	147	0.0147%
		Zn	7440-66-6	0.0103	0.1295%	147	0.0147%
Lead Finish	External Plating	Ni	7440-02-0	0.0193	96.9850%	276	0.0276%
		Pd	7440-05-3	0.0003	1.5075%	4	0.0004%
		Au	7440-57-5	0.0003	1.5075%	4	0.0004%
Die Attach	Adhesive	Ag	7440-22-4	0.0234	78.0000%	334	0.0334%
		Bismaleimide	-----	0.0033	11.0000%	47	0.0047%
		Polymer	-----	0.0018	6.0000%	26	0.0026%
		Methacrylate	-----	0.0006	2.0000%	9	0.0009%
		Acylate ester	-----	0.0006	2.0000%	9	0.0009%
		Organic Peroxide	-----	0.0003	1.0000%	4	0.0004%
Die	Circuit	Si	7440-21-3	0.5300	100.0000%	7,571	0.7571%
Wire	Interconnect	Au	7440-57-5	0.0700	100.0000%	1,000	0.1000%
Mold Compound	Encapsulation	Fused Silica	60676-86-0	45.3807	73.9099%	648,290	64.8290%
		Solid Epoxy Resin	-----	6.1400	10.0000%	87,714	8.7714%
		Phenol Resin	-----	6.7479	10.9901%	96,398	9.6398%
		Antimony Trioxide	1309-64-4	0.7982	1.3000%	11,403	1.1403%
		Crystalline Silica	14808-60-7	1.8420	3.0000%	26,314	2.6314%
		Carbon Black	1333-86-4	0.4912	0.8000%	7,017	0.7017%

Package Weight (mg): **70.0006**

% 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.

B2. MATERIAL COMPOSITION (Note 3)
 USING 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
Leadframe	Base Material	Cu	7440-50-8	7.7402	97.3513%	110,635	11.0635%
		Fe	7439-89-6	0.1900	2.3897%	2,716	0.2716%
		P	7723-14-0	0.0103	0.1295%	147	0.0147%
		Zn	7440-66-6	0.0103	0.1295%	147	0.0147%
Lead Finish	External Plating	Ni	7440-02-0	0.0192	96.5203%	275	0.0275%
		Pd	7440-05-3	0.0003	1.7370%	5	0.0005%
		Au	7440-57-5	0.0003	1.7427%	5	0.0005%
Die Attach	Adhesive	Ag	7440-22-4	0.0234	78.0000%	334	0.0334%
		Proprietary bismaleimide	-----	0.0033	11.0000%	47	0.0047%
		Proprietary polymer	-----	0.0018	6.0000%	26	0.0026%
		Methacrylate	-----	0.0006	2.0000%	9	0.0009%
		Acylate ester	-----	0.0006	2.0000%	9	0.0009%
		Organic Peroxide	-----	0.0003	1.0000%	4	0.0004%
Die	Circuit	Si	7440-21-3	0.5300	100.0000%	7,576	0.7576%
Wire	Interconnect	Cu	7440-50-8	0.0300	100.0000%	429	0.0429%
Mold Compound	Encapsulation	Fused Silica	60676-86-0	54.6460	89.0000%	781,096	78.1096%
		Phenol Resin	-----	3.0700	5.0000%	43,882	4.3882%
		Epoxy Resin	-----	3.5305	5.7500%	50,464	5.0464%
		Carbon Black	1333-86-4	0.1535	0.2500%	2,194	0.2194%

Package Weight (mg): **69.9606**
% 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.

B3. MATERIAL COMPOSITION (Note 3)
 USING COPPER-PALLADIUM (Cu-Pd) WIRE

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	14.5448	94.1935%	192,748	19.2748%
		Ni	7440-02-0	0.8166	5.2884%	10,822	1.0822%
		Si	7440-21-3	0.0650	0.4209%	861	0.0861%
		Mg	7439-95-4	0.0150	0.0971%	199	0.0199%
Lead Finish	External Plating	Nickel	7440-02-0	0.7228	99.8894%	9,579	0.9579%
		Palladium	7440-05-3	0.0005	0.0691%	7	0.0007%
		Gold	7440-57-5	0.0003	0.0415%	4	0.0004%
Die Attach	Adhesive	Silver	7440-22-4	0.2628	82.8238%	3,483	0.3483%
		Carbocyclic acrylate	Trade Secret	0.0332	10.4633%	440	0.0440%
		Bismaleimide Resin	Trade Secret	0.0126	3.9710%	167	0.0167%
		Acrylate	Trade Secret	0.0044	1.3867%	58	0.0058%
		Additive	Trade Secret	0.0043	1.3552%	57	0.0057%
Die	Circuit	Silicon	7440-21-3	1.8430	100.0000%	24,424	2.4424%
Wire	Interconnect	Copper	7440-50-8	0.6553	99.9847%	8,684	0.8684%
		Palladium	7440-05-3	0.0001	0.0153%	1	0.0001%
Mold Compound	Encapsulation	Silica - SiO ₂	60676-86-0	49.9629	88.4623%	662,111	66.2111%
		Epoxy Resin	Trade Secret	3.5017	6.2000%	46,405	4.6405%
		Phenol Resin	Trade Secret	3.0147	5.3377%	39,951	3.9951%

Package Weight (mg): 75.4600
% 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.

B4. MATERIAL COMPOSITION (Note 3)

USING AU WIRE and GREEN MOLD COMPOUND

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	0.7546	97.3514%	9,963	0.9963%
		Fe	7439-89-6	0.0185	2.3897%	245	0.0245%
		P	7723-14-0	0.0010	0.1295%	13	0.0013%
		Zn	7440-66-6	0.0010	0.1295%	13	0.0013%
Lead Finish	External Plating	Ni	7440-02-0	0.0121	96.5204%	159	0.0159%
		Pd	7440-05-3	0.0002	1.7370%	3	0.0003%
		Au	7440-57-5	0.0002	1.7427%	3	0.0003%
Die Attach	Adhesive	Ag	7440-22-4	0.1346	78.0000%	1,778	0.1778%
		Proprietary bismaleimide	-----	0.0190	11.0000%	251	0.0251%
		Proprietary polymer	-----	0.0104	6.0000%	137	0.0137%
		Methacrylate	-----	0.0035	2.0000%	46	0.0046%
		Acylate ester	-----	0.0035	2.0000%	46	0.0046%
		Organic Peroxide	-----	0.0017	1.0000%	23	0.0023%
Die	Circuit	Si	7440-21-3	2.4166	100.0000%	31,907	3.1907%
Wire	Interconnect	Gold	7440-57-5	0.4163	100.0000%	5,496	0.5496%
Mold Compound	Encapsulation	Fused Silica	60676-86-0	64.0327	89.0000%	845,427	84.5427%
		Phenol Resin	-----	3.5973	5.0000%	47,496	4.7496%
		Epoxy Resin	-----	4.1369	5.7500%	54,620	5.4620%
		Carbon Black	1333-86-4	0.1799	0.2500%	2,375	0.2375%

Package Weight (mg): **75.7400**

% 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.

B5. MATERIAL COMPOSITION (Note 3)

USING AU WIRE and GREEN MOLD COMPOUND with NiPdAu-Ag

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	8.5182	97.3514%	116,688	11.6688%
		Fe	7439-89-6	0.2091	2.3897%	2,864	0.2864%
		P	7723-14-0	0.0113	0.1295%	155	0.0155%
		Zn	7440-66-6	0.0113	0.1295%	155	0.0155%
Lead Finish	External Plating	Ni	7440-02-0	0.0099	96.5204%	136	0.0136%
		Pd	7440-05-3	0.0002	1.7370%	2	0.0002%
		Au	7440-57-5	0.0001	1.3070%	2	0.0002%
		Ag	7440-22-4	0.0000	0.4357%	1	0.0001%
Die Attach	Adhesive	Ag	7440-22-4	0.1074	78.0000%	1,471	0.1471%
		Proprietary bismaleimide	-----	0.0151	11.0000%	207	0.0207%
		Proprietary polymer	-----	0.0083	6.0000%	113	0.0113%
		Methacrylate	-----	0.0028	2.0000%	38	0.0038%
		Acylate ester	-----	0.0028	2.0000%	38	0.0038%
		Organic Peroxide	-----	0.0014	1.0000%	19	0.0019%
Die	Circuit	Si	7440-21-3	1.9268	100.0000%	26,395	2.6395%
Wire	Interconnect	Gold	7440-57-5	0.4163	100.0000%	5,702	0.5702%
Mold Compound	Encapsulation	Fused Silica	60676-86-0	54.9655	89.0000%	752,952	75.2952%
		Phenol Resin	-----	3.0879	5.0000%	42,301	4.2301%
		Epoxy Resin	-----	3.7055	6.0000%	50,761	5.0761%

Package Weight (mg): **72.9999**

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

**ASSEMBLY Site 2 : Amkor Technology Philippines (P1/P2)
Package Qualification Report # 030301, 103507, 124706 (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-SZ8- Amkor Philippines (P1/P2)
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.

B1. MATERIAL COMPOSITION (Note 3)
USING STANDARD MOLD COMPOUND

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	31.0808	95.8101%	383,760	38.3760%
		Fe	7439-89-6	0.7494	2.3101%	9,253	0.9253%
		P	7723-14-0	0.0097	0.0299%	120	0.0120%
		Zn	7440-66-6	0.0389	0.1199%	481	0.0481%
		Ag	7440-22-4	0.5612	1.7300%	6,929	0.6929%
Leadfinish	External Plating	Pure Sn	7440-31-5	1.3600	100.0000%	16,792	1.6792%
Die Attach	Adhesive	Resin	-----	0.2300	20.9100%	2,840	0.2840%
		Ag	7440-22-4	0.7800	70.9100%	9,631	0.9631%
		Metal Oxide	-----	0.0300	2.7300%	371	0.0371%
		Amine	-----	0.0300	2.7300%	371	0.0371%
		Gamma Butyrolactone	-----	0.0300	2.7300%	371	0.0371%
Die	Circuit	Si	7440-21-3	3.4600	100.0000%	42,721	4.2721%
Wire	Interconnect	Au	7440-57-5	0.1600	100.0000%	1,976	0.1976%
Mold Compound	Encapsulation	Dicyclopentadi	-----	2.9687	6.9900%	36,655	3.6655%
		SiO2	60676-86-0	36.9616	87.0300%	456,371	45.6371%
		Phenol Resin	-----	1.2699	2.9900%	15,679	1.5679%
		Antimony Trioxide	1309-64-4	1.2699	2.9900%	15,679	1.5679%

Package Weight (mg): **80.9901**

% 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.

B2. MATERIAL COMPOSITION (Note 3)
USING GREEN MOLD COMPOUND

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	35.1610	96.6546%	411,890	41.1890%
		Fe	7439-89-6	0.8470	2.3283%	9,922	0.9922%
		P	7723-14-0	0.0110	0.0302%	129	0.0129%
		Zn	7440-66-6	0.0430	0.1182%	504	0.0504%
		Ag	7440-22-4	0.3160	0.8687%	3,702	0.3702%
Leadfinish	External Plating	Pure Sn	7440-31-5	1.3640	100.0000%	15,978	1.5978%
Die Attach	Adhesive	Ag	7440-22-4	1.8650	76.9707%	21,847	2.1847%
		Epoxy Resin A	-----	0.1700	7.0161%	1,991	0.1991%
		Epoxy Resin B	-----	0.0970	4.0033%	1,136	0.1136%
		Lactone	-----	0.0970	4.0033%	1,136	0.1136%
		Polyoxypropylene diamine	-----	0.0970	4.0033%	1,136	0.1136%
		2,6-Diglycidyl phenyl allyl ether oligomer	-----	0.0970	4.0033%	1,136	0.1136%
Die	Circuit	Si	7440-21-3	9.1630	100.0000%	107,339	10.7339%
Wire	Interconnect	Au	7440-57-5	0.1000	100.0000%	1,171	0.1171%
Mold Compound	Encapsulation	SiO ₂	60676-86-0	30.9060	86.0005%	362,047	36.2047%
		Multi-aromatic Resin	-----	2.6950	7.4992%	31,570	3.1570%
		Phenol Resin	-----	1.4370	3.9987%	16,834	1.6834%
		Epoxy Cresol Novolac	29690-82-2	0.7190	2.0007%	8,423	0.8423%
		Carbon Black	1333-86-4	0.1800	0.5009%	2,109	0.2109%

Package Weight (mg): 85.3650

% 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.

B3. MATERIAL COMPOSITION (Note 3)
USING 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
Leadframe	Base Material	Cu	7440-50-8	79.5644	94.7872	896,422	89.6422
		Fe	7439-89-6	1.9599	2.3348	22,082	2.2082
		Zn	7440-66-6	0.1093	0.1302	1,231	0.1231
		P	7723-14-0	0.0327	0.0369	368	0.0368
		Ag	7440-22-4	2.2756	2.7109	25,638	2.5638
Leadfinish	External Plating	Pure Sn	7440-31-5	0.1364	100.0000	1,537	0.1537
Die Attach	Adhesive	Ag	7440-22-4	0.0432	77.0000	487	0.0487
		Epoxy Resin A	-----	0.0039	7.0000	44	0.0044
		Epoxy Resin B	-----	0.0022	4.0000	25	0.0025
		Lactone	-----	0.0022	4.0000	25	0.0025
		Polyoxypropylene diamine	-----	0.0022	4.0000	25	0.0025
		2,6-Diglycidyl phenyl allyl ether oligomer	-----	0.0022	4.0000	25	0.0025
Die	Circuit	Si	7440-21-3	0.1586	100.0000	1,788	0.1788
Wire	Interconnect	Cu	7440-50-8	0.0046	100.0000	52	0.0052
Mold Compound	Encapsulation	SiO ₂	60676-86-0	3.8358	86.0000	43,216	4.3216
		Multi-aromatic Resin	-----	0.3345	7.5000	3,769	0.3769
		Phenol Resin	-----	0.1784	4.0000	2,010	0.2010
		Epoxy Cresol Novolac	29690-82-2	0.0892	2.0000	1,005	0.1005
		Carbon Black	1333-86-4	0.0223	0.5000	251	0.0251

Package Weight (mg): **88.7576**
% 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

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 3: Orient Semiconductor Electronics Taiwan (OSET)
Package Qualification Report # 050701, 111403, 120409 (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-SZ8-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 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.

B1. MATERIAL COMPOSITION (Note 3) Using Hitachi Mold Compound

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	18.1700	97.2700%	266,885	26.6885%
		Fe	7439-89-6	0.4352	2.3300%	6,392	0.6392%
		P	7723-14-0	0.0280	0.1500%	411	0.0411%
		Zn	7440-66-6	0.0187	0.1000%	275	0.0275%
		Pb	7439-92-1	0.0037	0.0200%	54	0.0054%
		Polyimide	-----	0.0168	0.0900%	247	0.0247%
		NBR	9003-18-3	0.0037	0.0200%	54	0.0054%
		Bismaleimide	79922-55-7	0.0037	0.0200%	54	0.0054%
Lead Finish	External Plating	Phenol resin	28453-20-5	0.0019	0.0100%	28	0.0028%
		Ni	7440-02-0	0.1892	90.0900%	2,779	0.2779%
		Pd	7440-05-3	0.0189	9.0100%	278	0.0278%
Die Attach	Adhesive	Au	7440-57-5	0.0019	0.9000%	28	0.0028%
		Acrylic resin	-----	0.0336	8.0000%	494	0.0494%
		Polybutadiene derivative	-----	0.0210	5.0000%	308	0.0308%
		Butadiene copolymer	-----	0.0084	2.0000%	123	0.0123%
		Epoxy resin	-----	0.0084	2.0000%	123	0.0123%
		Acrylate	-----	0.0168	4.0000%	247	0.0247%
		Peroxide	-----	0.0042	1.0000%	62	0.0062%
		Additive	-----	0.0084	2.0000%	123	0.0123%
Die	Circuit	Silver	7440-22-4	0.3192	76.0000%	4,688	0.4688%
Wire	Interconnect	Silicon	7440-21-3	0.6500	100.0000%	9,547	0.9547%
Mold Compound	Encapsulation	Au	7440-57-5	0.1200	100.0000%	1,763	0.1763%
		Epoxy Resin(1)	158117-90-9	1.6800	3.5000%	24,676	2.4676%
		Epoxy Resin(2)	85954-11-6	0.9600	2.0000%	14,101	1.4101%
		Phenol Resin	26834-02-6	1.6800	3.5000%	24,676	2.4676%
		Carbon black	1333-86-4	0.0960	0.2000%	1,410	0.1410%
		Silica	60676-86-0	42.7200	89.0000%	627,481	62.7481%
		Others	-----	0.8640	1.8000%	12,691	1.2691%

Package Weight (mg): **68.0817**

% 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.

B2. MATERIAL COMPOSITION (Note 3)

USING SUMITOMO G631 MOLD COMPOUND and YizBond 9246 DIE ATTACH

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	Copper	7440-50-8	22.8766	97.2910%	317858	31.7858%
		Fe	7439-89-6	0.5716	2.4310%	7941	0.7941%
		Zn	7440-66-6	0.0435	0.1850%	604	0.0604%
		P	7723-14-0	0.0219	0.0930%	304	0.0304%
Leadfinish	External Plating	Ni	7440-02-0	0.0799	96.3400%	1110	0.1110%
		Pd	7440-05-3	0.0019	2.2500%	26	0.0026%
		Au	7440-57-5	0.0011	1.4100%	16	0.0016%
Die Attach	Adhesive	Silver Flake	7440-22-4	0.1514	79.0000%	2103	0.2103%
		Epoxy Acrylate	15625-89-5	0.0144	7.5000%	200	0.0200%
		Substituted Polyamine	68490-66-4	0.0019	1.0000%	27	0.0027%
		Bisphenol F	28064-14-4	0.0144	7.5000%	200	0.0200%
		2-Ethylhexyl Glycidyl Ether	2461-15-6	0.0096	5.0000%	133	0.0133%
Die	Circuit	Si	7440-21-3	3.9404	100.0000%	54750	5.4750%
Wire	Interconnect	Au	7440-57-5	0.1286	100.0000%	1787	0.1787%
Mold Compound	Encapsulation	Epoxy resin A	Trade Secret	2.2057	5.0000%	30647	3.0647%
		Epoxy, Cresol Novolac	29690-82-2	2.2057	5.0000%	30647	3.0647%
		Phenol resin	Trade Secret	2.2057	5.0000%	30647	3.0647%
		Metal Hydroxide	Trade Secret	2.2057	5.0000%	30647	3.0647%
		Carbon Black	1333-86-4	0.1323	0.3000%	1839	0.1839%
		Silica Fused	60676-86-0	30.6151	69.4000%	425381	42.5381%
		Silica Fused	7631-86-9	4.4114	10.0000%	61294	6.1294%
		Silica, crystalline	14808-60-7	0.1323	0.3000%	1839	0.1839%

Package Weight (mg): 71.9711
% 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.

B3. MATERIAL COMPOSITION (Note 3)
 USING 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
Leadframe	Base Material	Cu	7440-50-8	28.5963	97.4798%	321,335	32.1335%
		Fe	7439-89-6	0.6781	2.3117%	7,620	0.7620%
		Zn	7440-66-6	0.0369	0.1256%	414	0.0414%
		P	7723-14-0	0.0243	0.0829%	273	0.0273%
Lead Finish	External Plating	Ni	7440-02-0	0.0958	64.4841%	1,077	0.1077%
		Pd	7440-05-3	0.0516	34.7222%	580	0.0580%
		Au	7440-57-5	0.0012	0.7937%	13	0.0013%
Die Attach	Adhesive	Silver	7440-22-4	0.1251	74.0000%	1,406	0.1406%
		Epoxy resin A	9003-36-5	0.0068	4.0000%	76	0.0076%
		Epoxy resin B	Trade Secret	0.0101	6.0000%	114	0.0114%
		Diluent A	Trade Secret	0.0068	4.0000%	76	0.0076%
		Diluent B	Trade Secret	0.0101	6.0000%	114	0.0114%
		Phenolic Hardener	Trade Secret	0.0085	5.0000%	95	0.0095%
		Dicyandiamide	461-58-5	0.0008	0.5000%	10	0.0010%
		Organic peroxide	Trade Secret	0.0008	0.5000%	10	0.0010%
Die	Circuit	Silicon	7440-21-3	3.6777	100.0000%	41,326	4.1326%
Wire	Interconnect	Copper	7440-50-8	0.0396	100.0000%	445	0.0445%
Mold Compound	Encapsulation	Epoxy resin A	Trade Secret	2.7811	5.0000%	31,251	3.1251%
		Epoxy,Cresol Novolac	29690-82-2	2.7811	5.0000%	31,251	3.1251%
		Phenol resin	Trade Secret	2.7811	5.0000%	31,251	3.1251%
		Metal Hydroxide	Trade Secret	2.7811	5.0000%	31,251	3.1251%
		Carbon Black	1333-86-4	0.1669	0.3000%	1,875	0.1875%
		Silica Fused A	60676-86-0	38.6013	69.4000%	433,760	43.3760%
		Silica Fused B	7631-86-9	5.5622	10.0000%	62,502	6.2502%
		Silica,crystalline	14808-60-7	0.1669	0.3000%	1,875	0.1875%

Package Weight (mg): 88.9922
% 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)
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

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 4: UTAC Thailand Limited (UTL)
Package Qualification Report # 134513, 133302, ***141703, 142502 (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-SZ8-UTAC
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.

B1. MATERIAL COMPOSITION (Note 3)
USING COPPER PALLADIUM WIRE

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	32.4883	97.4425%	454,074	45.4074%
		Fe	7439-89-6	0.7835	2.3500%	10,951	1.0951%
		Zn	7440-66-6	0.0417	0.1250%	582	0.0582%
		P	7723-14-0	0.0275	0.0825%	384	0.0384%
Lead Finish	External Plating	Ni	7440-02-0	0.1453	90.2500%	2,031	0.1031%
		Pd	7440-05-3	0.0134	8.3000%	187	0.0187%
		Au	7440-57-5	0.0023	1.4500%	32	0.0032%
Die Attach	Adhesive	Silver	7440-22-4	0.3059	73.0000%	4,275	0.4275%
		Trimethylbicyclo methacrylate	7534-94-3	0.0838	20.0000%	1,171	0.1171%
		Bis-1H-pyrrole dione	3006-93-7	0.0272	6.5000%	381	0.0381%
		Acrylic acid	1017237-78-3	0.0021	0.5000%	29	0.0029%
Die	Circuit	Silicon	7440-21-3	2.866	100.0000%	40,057	4.0057%
Wire	Interconnect	Copper	7440-50-8	0.1017	98.2500%	1,421	0.1421%
		Palladium	7440-05-3	0.0018	1.7500%	24	0.0025%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	30.1525	87.0000%	421,427	42.1427%
		Epoxy resin	Trade Secret	2.0795	6.0000%	29,064	2.9064%
		Epoxy, Cresol Novolac	29690-82-2	0.6932	2.0000%	9,688	0.9688%
		Phenol Novolac	Trade Secret	1.6982	4.9000%	23,736	2.3736%
		Carbon Black	1333-86-4	0.0347	0.1000%	484	0.0484%

Package Weight (mg): 71.5486

% 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.

B2. MATERIAL COMPOSITION (Note 3) USING Au WIRE

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	22.1000	92.4300%	297,760	29.7800%
		Fe	7439-89-6	0.5600	2.3500%	7,570	0.7600%
		Zn	7440-66-6	0.0300	0.1300%	403	0.0400%
		P	7723-14-0	0.0200	0.0800%	266	0.0300%
		Pb	7439-92-1	0.0000	0.0100%	32	0.0000%
		Ag	7440-22-4	1.2000	5.0000%	16,107	1.6100%
Lead Finish	External Plating	Sn	7440-22-4	0.9143	100.0000%	12,320	1.2300%
Die Attach	Adhesive	Silver	7440-22-4	0.1400	77.0000%	1928	0.1900%
		Bisphenol-1	9003-36-5	0.0300	15.0000%	376	0.0400%
		1,4 Bis(2,3-epoxypropoxy)	2425-79-8	0.0100	4.0000%	100	0.0100%
		Aromatic amine	proprietary	0.0100	4.0000%	100	0.0100%
Die	Circuit	Silicon	7440-21-3	2.2428	100.0000%	30,221	3.0200%
Wire	Interconnect	Au	7440-57-5	0.2571	100.0000%	3,464	0.3500%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	40.6400	87.0000%	547,538	54.7500%
		Epoxy resin	Trade Secret	2.8000	6.0000%	37,761	3.7800%
		Epoxy,Cresol Novolac	29690-82-2	0.9300	2.0000%	12,587	1.2600%
		Phenol Novolac	Trade Secret	2.2900	4.9000%	30,838	3.0800%
		Carbon Black	1333-86-4	0.0500	0.1000%	629	0.0600%

Package Weight (mg): **74.2242**

% 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.

B3. MATERIAL COMPOSITION (Note 3)

Using Gold wire and 8600 Adhesive

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	31.7005	97.5401%	417,112	41.7111%
		Fe	7439-89-6	0.7508	2.3101%	9,879	0.9879%
		Zn	7440-66-6	0.0097	0.0299%	128	0.0128%
		P	7723-14-0	0.0390	0.1199%	513	0.0513%
Lead Finish	External Plating	Sn	7440-31-5	1.3600	100.0000%	17,895	1.7895%
Die Attach	Adhesive	Silver	7440-22-4	0.3178	87.5000%	4,182	0.4182%
		Di-ester Resin	Trade Secret	0.0091	2.5000%	119	0.0120%
		Functionalized Ester	Trade Secret	0.0272	7.5000%	358	0.0358%
		Polymeric Compound	Trade Secret	0.0091	2.5000%	119	0.0120%
Die	Circuit	Silicon	7440-21-3	5.0853	100.0000%	66,911	6.6912%
Wire	Interconnect	Gold	7440-57-5	0.3388	100.0000%	4,458	0.4458%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	31.1725	85.7500%	410,164	41.0164%
		Phenol Resin	Trade Secret	1.8176	5.0000%	23,916	2.3916%
		Epoxy Resin	Trade Secret	2.5447	7.0000%	33,483	3.3483%
		Epoxy, Cresol Novolac	29690-82-2	0.7271	2.0000%	9,567	0.9567%
		Carbon Black	1333-86-4	0.0909	0.2500%	1,196	0.1196%

Package Weight (mg): 76.0001

% 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.

B4. MATERIAL COMPOSITION (Note 3)

Using CuPd Wire and 8600 Adhesive

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	22.1000	92.4300%	298,626	29.8600%
		Fe	7439-89-6	0.5600	2.3500%	7592	0.7600%
		Zn	7440-66-6	0.0300	0.1300%	404	0.0400%
		P	7723-14-0	0.0200	0.0800%	267	0.0300%
		Pd	7439-92-1	0.0010	0.0100%	32	0.0010%
		Ag	7440-22-4	1.2000	5.0000%	16154	1.6200%
Lead Finish	External Plating	Sn	7440-22-4	0.9143	100.0000%	12356	1.2500%
Die Attach	Adhesive	Silver	7440-22-4	0.5400	81.5000%	7313	0.7300%
		Octahydro-4,7-methano1 H	42594-17-2	0.0400	6.0000%	538	0.0500%
		Pt-2-yl-methacrylate	7534-94-3	0.0400	6.0000%	538	0.0500%
		Isobornyl acrylate	15888-33-5	0.0400	6.0000%	538	0.0500%
		Bis (alpha..alpha-Dimet	80-43-3	0.0030	0.5000%	45	0.0090%
Die	Circuit	Silicon	7440-21-3	1.5494	100.0000%	20,938	2.0900%
Wire	Interconnect	Copper	7440-50-8	0.2500	98.2500%	3414	0.3400%
		Palladium	7440-05-3	0.0018	1.7500%	61	0.0100%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	40.6387	87.0000%	549,131	54.9100%
		Epoxy resin	Trade Secret	2.8024	6.0000%	37,871	3.7900%
		Epoxy,Cresol Novolac	29690-82-2	0.9341	2.0000%	12,624	1.2600%
		Phenol Novolac	Trade Secret	2.2886	4.9000%	30,927	3.0900%
		Carbon Black	1333-86-4	0.0467	0.1000%	631	0.0600%

Package Weight (mg): 74.0000

% 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)
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

ASSEMBLY Site 5: Lingsen Manufacturing (LP) Package Qualification Report # (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- SZ- LP
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.

B1. MATERIAL COMPOSITION (Note 3)
USING Au WIRE

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	17.1229	97.0000%	242501	24.2501%
		Fe	7439-89-6	0.4060	2.3000%	5750	0.5750%
		P	7723-14-0	0.0176	0.1000%	250	0.0250%
		Zn	7440-66-6	0.0176	0.1000%	250	0.0250%
		Ag	7440-22-4	0.0882	0.5000%	1250	0.1250%
Lead Finish	External Plating	Sn	7440-31-5	1.3100	100.0000%	18553	1.8553%
Die Attach	Adhesive	Ag	7440-22-4	0.4875	75.0000%	6904	0.6904%
		Epoxy resin A	9003-36-5	0.0390	6.0000%	552	0.0552%
		Epoxy resin B	Trade secret	0.0390	6.0000%	552	0.0552%
		Diluent A	Trade secret	0.0325	5.0000%	460	0.0460%
		Diluent B	Trade secret	0.0325	5.0000%	460	0.0460%
		Hardener	Trade secret	0.0130	2.0000%	184	0.0184%
		Dicyandiamide	461-58-5	0.0032	0.5000%	46	0.0046%
		Organic Peroxide	3006-86-8	0.0032	0.5000%	46	0.0046%
Die	Circuit	Si	7440-21-3	8.0000	100.0000%	113329	11.3299%
Wire	Interconnect	Au	7440-57-5	0.2000	100.0000%	2806	0.2804%
Mold Compound	Encapsulation	Fused Silica	60676-86-0	36.3774	85.0000%	515192	51.5192%
		Epoxy Resin	Trade secret	2.5678	6.0000%	36366	3.6366%
		Epoxy Cresol Novolac	29690-82-2	1.0699	2.5000%	15152	1.5152%
		Phenol Resin	Trade secret	2.5678	6.0000%	36367	3.6366%
		Carbon Black	1333-86-4	0.2139	0.5000%	3030	0.3030%

Package Weight (mg): **70.6090**
% 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 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

Document History Page

Document Title: 8L-SOIC PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
Document Number: 001-04305

Rev.	ECN No.	Orig. of Change	Description of Change
**	390185	GFJ	New document
*A	2610922	MAHA	Updated Cypress logo. Revised the first sentence of Summary to "The 8L- SOIC package is qualified at three assembly sites." Added data for Assembly site 3. Added the following for Assembly Site 1: 1. CAS numbers for Fused Silica, Antimony Trioxide, Crystalline Silica, and Carbon Black. 2. "% weight of substance per Homogeneous Material" and "% Weight of Substance per Package" on the Material Composition table. 3. Completed the RoHS Substances namely: Lead, Cadmium, Mercury, Chromium VI, PBB and PBDE on Declaration of Packaging Indirect Materials table. Added the following for Assembly Site 2: 1. CAS numbers for Silica and Antimony Trioxide. 2. "% weight of substance per Homogeneous Material" and "% Weight of Substance per Package" on the Material Composition table. 3. Completed the RoHS Substances namely: Lead, Cadmium, Mercury, Chromium VI, PBB and PBDE on the Declaration of Packaging Indirect Materials table. Added Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.
		DCON	Changed CML to WEB in distribution list.
*B	3040415	HLR	Changed the % composition of Leadfinish on Assembly Site 1.
*C	3377471	EBZ	Added package weight B2 for Site 3. Added QTP#111403 for Assembly Site- 3. Added B2: Material Composition table for Site-3
*D	3414374	HLR	Updated the material composition table to reflect 4 decimal places on values.

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Document Title: 8L-SOIC PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
Document Number: 001-04305

Rev.	ECN No.	Orig. of Change	Description of Change
*E	3605695	JARG COPI	Added Assembly Site 2-B2 – Amkor Assembled using Green Mold Compound Added Assembly Site 1-B2 – CML Assembled using Copper Wire in reference to QTP 121408 Added Assembly Site 3-B3 – OSE Taiwan Assembled using Copper Wire in reference to QTP 120409
*F	3636789	JARG	Changed Au to Cu for the material composition table Assembly Site 1-B2.
*G	3920428	HLR	Corrected the total weight of Assembly Site 1 – B2 Copper Wire composition.
*H	4033421	YUM	Added Assembly site name in the Assembly heading. Changed Assembly Code to Assembly Site Name. Updated Assembly Site 1:B2 to reflect correct material composition table based on QTP121408.
*I	4063009	JARG	Added Material Composition for Assembly Site 2 – B3 for Amkor Philippines using Copper (Cu) wire in reference to QTP 124706.
*J	4087057	YUM	Added “P1/P2” in the assembly heading in site 2.
*K	4285027	JSO	Added assembly site 4
*L	4450719	AWP/ HLR	Added Material Composition (B3) (Cu-Pd) wire on Assembly Site1-Cypress Manufacturing Limited reference-QTP#140805. Added B4 on Assembly Site 1 in reference to QTP No. 142801.
*M	4566656	PRCH/ HLR	Added Material Composition B2 to Site 4, Added QTP#133302 to site 4 Added new material declaration for UTL, added 84-1LMISR4 D/A material for the Panasonic qual Added Package Code – SW for UTL SOIC. Added material composition for Assembly Site 4.B2 – Reference QTP No. 141703
*N	4575908	PRCH	Added 8600 D/A material to UTL QTP# 142502 B4
*O	4766877	HLR	Added B5 Material Composition on Assembly Site 1 in reference to QTP No. 150403.

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Document Number: 001-04305

Rev.	ECN No.	Orig. of Change	Description of Change
*P	4790789	PRCH	Add Lingsen 8l SOIC
*Q	4806552	PRCH	Add QTP# 141703 to site 4 B2

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.