PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	LY / LT	**Body Size (mil/mm)**	8x8 mm
Package Weight – Site 1	188.0104 mg	**Package Weight – Site 2**	125.1300 mg
Package Weight – Site 3	185.0000 mg	**Package Weight – Site 4**	B1: 165.2400 mg B2: 162.6570 mg
Package Weight – Site 5	190.1801 mg	**Package Weight – Site 6**	194.8298 mg
Package Weight – Site 7	B1 : 176.5000 mg B2 : 180.0262 mg	**Package Weight – Site 8**	N/A

SUMMARY

The 56L-QFN Pb-Free package is compliant to RoHS. Cypress Ordering Part Numbers containing an "X" (e.g. CY7C1328G-133A**X**I, CY2308S**X**C-1HT) meet the Directive 2002/95/EC (RoHS) requirement.

ASSEMBLY Site 1: Amkor Technology Seoul Korea
Package Qualification Report # 031803, 092103 (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-LY56-Amkor Seoul
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Napthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

Note 1: Qualification reports are available at www.cypress.com. Access them by doing a Search on the Report #.
Note 2: Report available from Cypress Sales Offices or Distributors.
Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information.
Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

B. MATERIAL COMPOSITION (Note 3)

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	%weight of substance per Homogeneous material	PPM	% weight of substance per package
Leadframe	Base Material	Cu	7440-50-8	100.7024	96.5600%	535,621	53.5621%
		Fe	7439-89-6	2.4300	2.3300%	12,925	1.2925%
		P	7723-14-0	0.0313	0.0300%	166	0.0166%
		Zn	7440-66-6	0.1251	0.1200%	666	0.0666%
		Ag	7440-22-4	1.0116	0.9700%	5,381	0.5381%
Lead Finish	External Plating	Sn	7440-31-5	3.9500	100.0000%	21,009	2.1009%
Die Attach	Adhesive	Resin	---------------	0.5000	21.0100%	2,660	0.2660%
		Ag	7440-22-4	1.6700	70.1700%	8,883	0.8883%
		Metal oxide	---------------	0.0700	2.9400%	372	0.0372%
		Amine	----------------	0.0700	2.9400%	372	0.0372%
		Gamma Butyrolactone	96-48-0	0.0700	2.9400%	372	0.0372%
Die	Circuit	Si	7440-21-3	14.7800	100.0000%	78,613	7.8613%
Wire	Interconnect	Au	7440-57-5	1.3400	100.0000%	7,127	0.7127%
Mold Compound	Encapsulation	Phenol Resin	(Trade secret)	4.0432	6.6000%	21,505	2.1505%
		Epoxy Resin	(Trade secret)	5.5134	9.0000%	29,325	2.9325%
		Carbon Black	(1333-86-4)	0.2450	0.4000%	1,303	0.1303%
		Silica Fused	60676-86-0	51.4584	84.0000%	273,700	27.3700%

Package Weight (mg): 188.0104 **% 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	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	CoA-COVT-R
	Carrier tape	<5.0	<5.0	<5.0	<10.0	<50.0	<45.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-TRAY-R CoA-TRAY-M
Others	Shielding bag	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	CoA-SBAG –R CoA-SBAG –M

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: PT UNISEM Batam Indonesia
Package Qualification Report # 073701 (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-LT56-PT UNISEM
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Napthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

Note 1: Qualification reports are available at www.cypress.com. Access them by doing a Search on the Report #.
Note 2: Report available from Cypress Sales Offices or Distributors.
Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information.
Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

B. MATERIAL COMPOSITION (Note 3)

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	%weight of substance per Homogeneous material	PPM	% weight of substance per package
Leadframe	Base Material	Cu	7440-50-8	29.8348	97.1500%	238,430	23.8430%
		Fe	7439-89-6	0.7678	2.5000%	6,136	0.6136%
		P	7723-14-0	0.0461	0.1500%	368	0.0368%
		Zn	7440-66-6	0.0614	0.2000%	491	0.0491%
Lead finish	External Plating	Ni	7440-02-0	1.2972	92.0000%	10,367	1.0367%
		Pd	7440-05-3	0.0973	6.9000%	778	0.0778%
		Au	7440-57-5	0.0155	1.1000%	124	0.0124%
Die Attach	Adhesive	Silver (Ag)	7440-22-4	1.4420	70.0000%	11,524	1.1524%
		Epoxy Resin	9003-36-5	0.3090	15.0000%	2,469	0.2469%
		t-Butyl phenyl glycidyl ether	3101-60-8	0.2060	10.0000%	1,646	0.1646%
		Dicyadiamide	461-58-5	0.0082	0.4000%	66	0.0066%
		Hardener	620-92-8	0.0948	4.6000%	757	0.0757%
Die	Circuit	Silicon	7440-21-3	12.0200	100.0000%	96,060	9.6060%
Wire	Interconnect	Au	7440-57-5	0.8100	100.0000%	6,473	0.6473%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	70.3080	90.0000%	561,880	56.1880%
		Epoxy Resin	-	3.9060	5.0000%	31,216	3.1216%
		Phenol Resin	-	3.5154	4.5000%	28,094	2.8094%
		Carbon Black	1333-86-4	0.3906	0.5000%	3,122	0.3122%

Package Weight (mg): 125.1300 **% 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	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	CoA-COVT-R
	Carrier tape	<5.0	<5.0	<5.0	<10.0	<50.0	<45.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-TRAY-R CoA-TRAY-M
Others	Shielding bag	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	CoA-SBAG –R CoA-SBAG –M

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: Advanced Semiconductor Engineering Shanghai (ASE)
Package Qualification Report # 084005 (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-LT56-ASE Shanghai
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Napthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

Note 1: Qualification reports are available at www.cypress.com. Access them by doing a Search on the Report #.
Note 2: Report available from Cypress Sales Offices or Distributors.
Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information.
Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

B. MATERIAL COMPOSITION (Note 3)

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	%weight of substance per Homogeneous material	PPM	% weight of substance per package
Leadframe	Base Material	Cu	7440-50-8	68.5772	97.4800%	373,612	37.3612%
		Fe	7439-89-6	1.6392	2.3300%	8,930	0.8930%
		P	7723-14-0	0.0211	0.0300%	115	0.0115%
		Zn	7440-66-6	0.1126	0.1600%	613	0.0613%
	External Plating	Ni	7440-02-0	0.8600	92.4700%	4,626	0.4626%
		Pd	7440-05-3	0.0400	4.3000%	215	0.0215%
		Au	7440-57-5	0.0200	2.1500%	108	0.0108%
		Ag	7440-22-4	0.0100	1.0800%	54	0.0054%
Die Attach	Adhesive	Silver (Ag)	7440-22-4	1.6478	77.0000%	8,864	0.8864%
		Epoxy Resin	9003-36-5	0.0535	2.5000%	288	0.0288%
		Acrylic resin	proprietary	0.1712	8.0000%	921	0.0921%
		Polybutadiene derivative	proprietary	0.1070	5.0000%	576	0.0576%
		Butadiene copolymer	proprietary	0.0214	1.0000%	115	0.0115%
		Acrylate	proprietary	0.1070	5.0000%	576	0.0576%
		Peroxide	proprietary	0.0107	0.5000%	58	0.0058%
		Additive	proprietary	0.0214	1.0000%	115	0.0115%
Die	Circuit	Silicon	7440-21-3	16.6300	100.0000%	89,457	8.9457%
Wire	Interconnect	Au	7440-57-5	0.8613	99.0000%	4,633	0.4633%
		Pd	7440-05-3	0.0087	1.0000%	47	0.0047%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	81.3792	86.5000%	437,758	43.7758%
		Epoxy Resin	proprietary	7.5264	8.0000%	40,486	4.0486%
		Phenol Resin	proprietary	4.7040	5.0000%	25,304	2.5304%
		Carbon Black	1333-86-4	0.4704	0.5000%	2,530	0.2530%

Package Weight (mg): 185.0000 **% 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	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	CoA-COVT-R
	Carrier tape	<5.0	<5.0	<5.0	<10.0	<50.0	<45.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-TRAY-R CoA-TRAY-M
Others	Shielding bag	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	CoA-SBAG –R CoA-SBAG –M

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: Cypress Manufacturing Limited (CML)
Package Qualification Report # 092006, 095003, 120206 **(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-LT56- 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

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	Copper	7440-50-8	55.0659	97.4100%	333,248	33.3248%
		Iron	7439-89-6	1.3567	2.4000%	8,211	0.8211%
		Phosphorous	7723-14-0	0.0396	0.0700%	239	0.0239%
		Zinc	7440-66-6	0.0678	0.1200%	411	0.0411%
Lead Finish	External Plating	Nickel	7440-02-0	0.8590	96.5200%	5,199	0.5199%
		Palladium	7440-05-3	0.0155	1.7400%	94	0.0094%
		Gold	7440-57-5	0.0155	1.7400%	94	0.0094%
Die Attach	Adhesive	Ag	7440-22-4	0.3256	74.0000%	1,970	0.1970%
		Carbocyclic Acrylate	------------------	0.0880	20.0000%	533	0.0533%
		Bismaleimide Resin	------------------	0.0088	2.0000%	53	0.0053%
		Additive	------------------	0.0088	2.0000%	53	0.0053%
		Acrylate ester	------------------	0.0088	2.0000%	53	0.0053%
Die	Circuit	Silicon	7440-21-3	5.9700	100.0000%	36,129	3.6129%
Wire	Interconnect	Gold	7440-57-5	4.7916	99.0000%	28,998	2.8998%
		Palladium	7440-05-3	0.0484	1.0000%	293	0.0293%
Mold Compound	Encapsulation	SiO2	60676-86-0	80.6360	83.5000%	487,993	48.7993%
		Metal OH		2.8971	3.0000%	17,533	1.7533%
		Phenol Resin	------------------	3.8628	4.0000%	23,377	2.3377%
		Epoxy Resin	------------------	3.8628	4.0000%	23,377	2.3377%
		Carbon Black	1333-86-4	0.4829	0.5000%	2,922	0.2922%
		Crystalline Silica	14808-60-7	4.8285	5.0000%	29,221	2.9221%
			Package Weight (mg):	**165.2400**		**% 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 Copper wire material

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	Copper	7440-50-8	55.0600	97.4100	338,505	33.8505%
		Iron	7439-89-6	1.3600	2.4000	8,361	0.8361%
		Phosphorous	7723-14-0	0.0400	0.0700	246	0.0246%
		Zinc	7440-66-6	0.0700	0.1200	430	0.0430%
Lead Finish	External Plating	Nickel	7440-02-0	0.8500	96.5200	5,226	0.5226%
		Palladium	7440-05-3	0.0200	1.7400	123	0.0123%
		Gold	7440-57-5	0.0200	1.7400	123	0.0123%
Die Attach	Adhesive	Ag	7440-22-4	0.3200	74.0000	1,967	0.1967%
		Carbocyclic Acrylate	------------------	0.0900	20.0000	553	0.0553%
		Bismaleimide Resin	------------------	0.0100	2.0000	61	0.0061%
		Additive	------------------	0.0100	2.0000	61	0.0061%
		Acrylate ester	------------------	0.0100	2.0000	61	0.0061%
Die	Circuit	Silicon	7440-21-3	5.9700	100.0000	36,703	3.6703%
Wire	Interconnect	Copper	7440-50-8	2.2570	100.0000	13,876	1.3876%
Mold Compound	Encapsulation	SiO2	60676-86-0	80.6400	83.5000	495,768	49.5768%
		Metal OH	------------------	2.9000	3.0000	17,829	1.7829%
		Phenol Resin	------------------	3.8600	4.0000	23,731	2.3731%
		Epoxy Resin	------------------	3.8600	4.0000	23,731	2.3731%
		Carbon Black	1333-86-4	0.4800	0.5000	2,951	0.2951%
		Crystalline Silica	14808-60-7	4.8300	5.0000	29,694	2.9694%
			Package Weight (mg):	**162.6570**		**% 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	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	CoA-COVT-R
	Carrier tape	<5.0	<5.0	<5.0	<10.0	<50.0	<45.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-TRAY-R CoA-TRAY-M
Others	Shielding bag	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	CoA-SBAG –R CoA-SBAG –M

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 5: Amkor Technology Philippines
Package Qualification Report #094101 (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-LT56-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.

B. MATERIAL COMPOSITION (Note 3)

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	107.6985	97.5000%	566,298	56.6298%
		Fe	7439-89-6	2.5958	2.3500%	13,649	1.3649%
		P	7723-14-0	0.0331	0.0300%	174	0.0174%
		Zn	7440-66-6	0.1326	0.1200%	697	0.0697%
	External Plating	Ni	7440-02-0	1.4529	97.5100%	7,640	0.7640%
		Pd	7440-05-3	0.0311	2.0900%	164	0.0164%
		Au	7440-57-5	0.0060	0.4000%	31	0.0031%
		Ag	7440-22-4				
Die Attach	Adhesive	Silver (Ag)	7440-22-4	1.9434	82.0000%	10,219	1.0219%
		Acrylate	proprietary	0.2607	11.0000%	1,371	0.1371%
		Bismaleimide	proprietary	0.0711	3.0000%	374	0.0374%
		Methacrylate Ester	proprietary	0.0711	3.0000%	374	0.0374%
		Polymer	proprietary	0.0237	1.0000%	125	0.0125%
Die	Circuit	Silicon	7440-21-3	14.7900	100.0000%	77,768	7.7768%
Wire	Interconnect	Au	7440-57-5	0.8600	100.0000%	4,522	0.4522%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	39.1365	65.0000%	205,787	20.5787%
		Epoxy Resin	proprietary	5.4189	9.0000%	28,494	2.8494%
		Phenol Resin	proprietary	5.4189	9.0000%	28,494	2.8494%
		Carbon Black	1333-86-4	0.3011	0.5000%	1,583	0.1583%
		Crystallin silica	14808-60-7	1.2042	2.0000%	6,332	0.6332%
		Metal hydro oxide	proprietary	8.7305	14.5000%	45,906	4.5906%

Package Weight (mg): 190.1801 **% 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	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	CoA-COVT-R
	Carrier tape	<5.0	<5.0	<5.0	<10.0	<50.0	<45.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-TRAY-R CoA-TRAY-M
Others	Shielding bag	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	CoA-SBAG –R CoA-SBAG –M

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Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information.
Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

ASSEMBLY Site 6: CARSEM Malaysia
Package Qualification Report # 083804 (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-LT56-CARSEM
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Napthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

Note 1: Qualification reports are available at www.cypress.com. Access them by doing a Search on the Report #.
Note 2: Report available from Cypress Sales Offices or Distributors.
Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information.
Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

B. MATERIAL COMPOSITION (Note 3)

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	%weight of substance per Homogeneous material	PPM	% weight of substance per package
Leadframe	Base Material	Cu	7440-50-8	98.7210	97.5600%	506703	50.6703%
		Fe	7439-89-6	2.3071	2.2800%	11842	1.1842%
		P	7723-14-0	0.0202	0.0200%	104	0.0104%
		Zn	7440-66-6	0.1315	0.1300%	675	0.0675%
	External Plating	Ni	7440-02-0	1.1818	90.9100%	6066	0.6066%
		Pd	7440-05-3	0.1028	7.9100%	528	0.0528%
		Au	7440-57-5	0.0155	1.1900%	79	0.0079%
Die Attach	Adhesive	Silver (Ag)	7440-22-4	0.3670	69.2500%	1884	0.1884%
		Carbocycllic Acrylate	Proprietary	0.1034	19.5100%	531	0.0531%
		Bismaleimide resin	Proprietary	0.0155	2.9300%	80	0.0080%
		Acrylate	Proprietary	0.0220	4.1600%	113	0.0113%
		Additive	Proprietary	0.0220	4.1600%	113	0.0113%
Die	Circuit	Silicon	7440-21-3	5.2100	100.0000%	26741	2.6741%
Wire	Interconnect	Au	7440-57-5	1.3000	100.0000%	6672	0.6672%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	79.9355	93.7000%	410283	41.0283%
		Epoxy Resin	proprietary	2.5593	3.0000%	13136	1.3136%
		Phenol Resin	proprietary	2.5593	3.0000%	13136	1.3136%
		Carbon Black	1333-86-4	0.2559	0.3000%	1314	0.1314%

Package Weight (mg): 194.8298 **% 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	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	CoA-COVT-R
	Carrier tape	<5.0	<5.0	<5.0	<10.0	<50.0	<45.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-TRAY-R CoA-TRAY-M
Others	Shielding bag	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	CoA-SBAG –R CoA-SBAG –M

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 7: Advanced Semiconductor Engineering Taiwan (ASET)
Package Qualification Report # 111816, 114906 (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-LT56- ASET
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

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	Copper	7440-50-8	76.8583	97.4000%	435,458	43.5458
		Iron	7439-89-6	1.8938	2.4000%	10,730	1.0730
		Phosphorous	7723-14-0	0.0395	0.0500%	224	0.0224
		Zinc	7440-66-6	0.1184	0.1500%	671	0.0671
Lead Finish	External Plating	Nickel	7440-02-0	1.0194	94.3900%	5,776	0.5776
		Palladium	7440-05-3	0.0476	4.4100%	270	0.0270
		Gold	7440-57-5	0.0130	1.2000%	73	0.0073
Die Attach	Adhesive	Silver	7440-22-4	3.0800	70.0000%	17,450	1.7450
		Acrylic Resin	---------------	0.3300	7.5000%	1,870	0.1870
		Polybutadiene derivative	---------------	0.4070	9.2500%	2,306	0.2306
		Butadiene copolymer	---------------	0.1540	3.5000%	873	0.0873
		Acrylate	---------------	0.3300	7.5000%	1,870	0.1870
		Peroxide	---------------	0.0440	1.0000%	249	0.0249
		Additive	---------------	0.0550	1.2500%	312	0.0312
Die	Circuit	Silicon	7440-21-3	15.8000	100.0000%	89,518	8.9518
Wire	Interconnect	Gold	7440-57-5	0.7999	99.9900%	4,532	0.4532
		Ion Impurities	---------------	0.0001	0.0100%	0	0.0000
Mold Compound	Encapsulation	Epoxy Resin A	---------------	3.3980	4.5000%	19,252	1.9252
		Epoxy Resin B	---------------	2.2653	3.0000%	12,835	1.2835
		Phenol Resin	---------------	4.9837	6.6000%	28,236	2.8236
		Carbon Black	1333-86-4	0.3776	0.5000%	2,139	0.2139
		Silica Fused	60676-86-0	64.4855	85.4000%	365,357	36.5357
			Package Weight (mg):	**176.5000**		**% 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

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	Copper	7440-50-8	93.0869	97.3000	517,075	51.7075%
		Iron	7439-89-6	2.3439	2.4500	13,020	1.3020%
		Phosphorous	7723-14-0	0.0861	0.0900	478	0.0478%
		Zinc	7440-66-6	0.1531	0.1600	850	0.0850%
Lead Finish	External Plating	Nickel	7440-02-0	1.2346	94.3880	6,858	0.6858%
		Palladium	7440-05-3	0.0577	4.4120	321	0.0321%
		Gold	7440-57-5	0.0157	1.2000	87	0.0087%
Die Attach	Adhesive	Silver	7440-22-4	1.3230	70.0000	7,349	0.7349%
		Acrylic Resin	------------------	0.1418	7.5000	787	0.0787%
		Polybutadiene derivative	------------------	0.1748	9.2500	971	0.0971%
		Butadiene copolymer	------------------	0.0662	3.5000	367	0.0367%
		Acrylate	------------------	0.1418	7.5000	787	0.0787%
		Peroxide	------------------	0.0189	1.0000	105	0.0105%
		Additive	------------------	0.0236	1.2500	131	0.0131%
Die	Circuit	Silicon	7440-21-3	16.1580	100.0000	89,754	8.9754%
Wire	Interconnect	Copper	7440-50-8	0.3700	100.0000	2,057	0.2057%
Mold Compound	Encapsulation	Epoxy Resin A	------------------	2.9084	4.5000	16,155	1.6155%
		Epoxy Resin B	------------------	1.9389	3.0000	10,770	1.0770%
		Phenol Resin	------------------	4.2656	6.6000	23,694	2.3694%
		Carbon Black	1333-86-4	0.3232	0.5000	1,795	0.1795%
		Silica Fused	60676-86-0	55.1940	85.4000	306,589	30.6589%
			Package Weight (mg):	**180.0262**		**% 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	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	CoA-COVT-R
	Carrier tape	<5.0	<5.0	<5.0	<10.0	<50.0	<45.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-TRAY-R CoA-TRAY-M
Others	Shielding bag	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	CoA-SBAG –R CoA-SBAG –M

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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: 56L - QFN PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
Document Number: 001-04327

Rev.	ECN No.	Orig. of Change	Description of Change
**	390888	YXP	New Specification
*A	596678	YRB	Added column for %weight of substance per homogeneous material in material composition. Added column for Lead, Cr VI, PBB, PBDE in declaration of packaging indirect materials. Removed the following indirect materials such as moisture barrier bag, protective band, shipping and inner/pizza box. Updated Cypress Logo. Change assembly location from M to L on analysis report column under Banned Substances.
*B	2126426	DPT	Added LT on Cypress package code and Assembly Site 2 – Package Qualification Report # 073701.
*C	2134167	DPT	Changed the assembly code of Assembly Site 2 from COA-LT56-CA to COA-LT56-AT. Remove Ag substance on Leadframe. Add CAS Number for Pd.
*D	2558465	MAHA	Corrected PPM values for Table B: Material Composition of Assembly Site 1.
*E	2599497	DPT	Added Assembly site 3 – QTP#084005.
*F	2652755	HLR	Added Assembly Site 4 – QTP No. 084613
*G	2712536	HLR	Deleted Reference QTP on Assembly Site 4 and added QTP No. 092006.
*H	2785767	DPT	Added Assembly site 5 – QTP#094101.
*I	2746946	EBZ	Added Assembly Site 6 – QTP No. 083804
*J	2865097	HLR	Added Referenced QTP No. 095003 and revised material composition table for Assembly Site 4. Changed the package weight of assembly site 4.
*K	3074449	NKZ	Added automotive reference QTP # 092103.
*L	3210380	HLR	Deleted Tube information on Declaration of Packaging Materials for all Assembly Sites. Added Note 4 on footer section.
*M	3261110	VFR	Added Assembly Site 7 – ASE Taiwan (G). Reference QTP # 111816.
*N	3465311	VFR	Added Assembly Site 8 – ASE Taiwan (G) Copper wire qualification. Reference QTP # 114906.

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

Rev.	ECN No.	Orig. of Change	Description of Change
*O	3588822	HLR	Updated Assembly Sites 1 to 7 to reflect 4 decimal places on values of the material composition table. Removed Assembly Site 8 to Combine ASET's material composition for Gold and Copper wire to one Assembly Location only (Assembly Site 7 - B1 and B2).
*P	3602305	UDR	Added B2 on Site 4 – Autoline (RA) Copper Wire Qualification. Reference QTP # 120206.
*Q	4033441	YUM	Added assembly site name in the Assembly heading. Changed Assembly Code to Assembly Site Name.

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.