



**56 – BGA ( 5 x 5 mm )  
Pb-Free Package**

**PACKAGE MATERIAL DECLARATION DATASHEET**

<b>Cypress Package Code</b>	BZ	<b>Body Size (mil/mm)</b>	5.0 x 5.0 mm
<b>Package Weight – Site 1</b>	B1: 52.9920 mg B2: 51.9780 mg	<b>Package Weight – Site 2</b>	64.8099 mg
<b>Package Weight – Site 3</b>	B1: 42.9499 mg B2: 41.7903 mg		

**SUMMARY**

The 56- BGA Pb-Free package is compliant to RoHS. Cypress Ordering Part Numbers containing an “X” (e.g. CY7C1328G-133AXI, CY2308SXC-1HT) meet the Directive 2002/95/EC (RoHS) requirement.

**ASSEMBLY Site 1: Advanced Semiconductor Engineering Taiwan (ASET)  
Package Qualification Report #s 050202, 120301, 120612 (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-BZ56-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](http://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



## 56 – BGA ( 5 x 5 mm ) Pb-Free Package

### B1. MATERIAL COMPOSITION (Note 3)

Using Gold wire material

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Silica Oxide	60676-86-0	1.2704	10.9900	23,974	2.3974
		Acrylic	29690-82-2	1.1595	10.0300	21,880	2.1880
		Epoxy	68541-56-0	0.9294	8.0400	17,539	1.7539
		Bisphenol	13676-54-5	1.7305	14.9700	32,656	3.2656
		Triazol	25722-66-1	2.0195	17.4700	38,110	3.8110
		Cu	7440-50-8	4.2102	36.4200	79,449	7.9449
		Ni	7440-02-0	0.1699	1.4700	3,207	0.3207
		Au	7440-57-5	0.0601	0.5200	1,134	0.1134
Solder Ball	External Plating	Br	7726-95-6	0.0104	0.0900	196	0.0196
		Sn	7440-31-5	5.6100	95.5700	105,864	10.5864
		Ag	7440-22-4	0.2301	3.9200	4,342	0.4342
Die Attach	Adhesive	Cu	7440-50-8	0.0299	0.5100	565	0.0565
		Silica Fused	60676860	4.1804	54.0800	78,887	7.8887
		Diester	Trade Secret	2.1296	27.5500	40,187	4.0187
		Epoxy Resin	Trade Secret	0.4197	5.4300	7,921	0.7921
		Functionalized Esters	Trade Secret	0.7699	9.9600	14,529	1.4529
Die	Circuit	Polymeric Resin	Trade Secret	0.2304	2.9800	4,347	0.4347
		Si	7440-21-3	4.7200	100.0000	89,070	8.9070
Wire	Interconnect	Au	7440-57-5	1.9000	100.0000	35,854	3.5854
Mold Compound	Encapsulation	Silica Fused	60676860	18.8705	88.9700	356,101	35.6101
		Epoxy Resin	Trade Secret	1.1708	5.5200	22,094	2.2094
		Phenolic Resin	Trade Secret	1.1708	5.5200	22,094	2.2094

**Package Weight (mg):** 52.9920

**% 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



## 56 – BGA ( 5 x 5 mm ) Pb-Free Package

### B2. MATERIAL COMPOSITION (Note 3)

Using Copper-Palladium wire material

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Silica Oxide	60676-86-0	1.2704	10.9900%	24,441	2.4441%
		Acrylic	29690-82-2	1.1595	10.0300%	22,308	2.2308%
		Epoxy	68541-56-0	0.9294	8.0400%	17,881	1.7881%
		Bisphenol	13676-54-5	1.7305	14.9700%	33,293	3.3293%
		Triazol	25722-66-1	2.0195	17.4700%	38,853	3.8853%
		Cu	7440-50-8	4.2102	36.4200%	81,000	8.1000%
		Ni	7440-02-0	0.1699	1.4700%	3,269	0.3269%
		Au	7440-57-5	0.0601	0.5200%	1,156	0.1156%
Solder Ball	External Plating	Br	7726-95-6	0.0104	0.0900%	200	0.0200%
		Sn	7440-31-5	5.6100	95.5700%	107,930	10.7930%
		Ag	7440-22-4	0.2301	3.9200%	4,427	0.4427%
Die Attach	Adhesive	Cu	7440-50-8	0.0299	0.5100%	575	0.0575%
		Silica Fused	60676860	4.1804	54.0800%	80,426	8.0426%
		Bismaleimide monomer	Trade Secret	2.1296	27.5500%	40,971	4.0971%
		Epoxy Resin	Trade Secret	0.4197	5.4300%	8,075	0.8075%
		Acrylate monomer	Trade Secret	0.7699	9.9600%	14,812	1.4812%
Die	Circuit	Acrylic Resin	Trade Secret	0.2304	2.9800%	4,433	0.4433%
		Si	7440-21-3	4.7200	100.0000%	90,808	9.0808%
Wire	Interconnect	Cu	7440-50-8	0.8643	97.5543%	16,628	1.6628%
		Pd	7440-05-3	0.0217	2.4457%	417	0.0417%
Mold Compound	Encapsulation	Silica Fused	60676860	18.8703	88.9600%	363,044	36.3044%
		Epoxy Resin	Trade Secret	0.9209	4.3414%	17,717	1.7717%
		Carbon black	1333-86-4	0.0758	0.3572%	1,458	0.1458%
		Phenolic Resin	Trade Secret	1.3451	6.3414%	25,878	2.5878%

**Package Weight (mg):** 51.9780

**% 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	Cadmiu m 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	< 50.00	< 45.00	CoA-COVT-R
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	< 50.00	< 45.00	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	< 0.0005	< 0.0005	CoA-TRAY-R
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



**56 – BGA ( 5 x 5 mm )  
Pb-Free Package**

**ASSEMBLY Site 2: PT UNISEM Batam  
Package Qualification Report #s 063803 (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-BZ56-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](http://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



**56 – BGA ( 5 x 5 mm )  
Pb-Free Package**

**B. MATERIAL COMPOSITION (Note 3)**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Au, metal & alloy	7440-57-5	0.3986	1.7700	6,150	0.6150
		Ni, metal & alloy	7440-02-0	2.0989	9.3200	32,385	3.2385
		Cu, metal & alloy	7440-50-8	3.9455	17.5200	60,878	6.0878
		Cured Resin	Trade Secret	1.7385	7.7200	26,825	2.6825
		Phthalocyanine Blue	174-14-8	0.0225	0.1000	347	0.0347
		Organic Pigment	4118-16-5	0.0090	0.0400	139	0.0139
		Barium Sulfate	7727-43-7	0.0090	0.0400	139	0.0139
		Talc	14807-96-06	0.0045	0.0200	69	0.0069
		Silica	Trade Secret	1.0990	4.8800	16,957	1.6957
		Aromatic Carbonyl Compound	Trade Secret	0.0225	0.1000	347	0.0347
		Amine Compound	Trade Secret	0.0113	0.0500	174	0.0174
		Additive (Trade Secret)	Trade Secret	0.0203	0.0900	313	0.0313
		Continuous Filament Fiber Glass	65997-17-3	1.3197	5.8600	20,362	2.0362
		Copper	7440-50-8	6.2673	27.8300	96,703	9.6703
		Inorganic Filler	24623-77-6 / 21645-51-2 / 61583-60-6 / 60676-86-0	0.4999	2.2200	7,714	0.7714
		Bismaleimide / Triazine	105391-33-1 / 25722-66-1	2.5267	11.2200	38,987	3.8987
Epoxy Resin	9003-36-5	2.5267	11.2200	38,987	3.8987		
Solder Ball	External Plating	Sn	7440-31-5	22.1625	98.5000	341,961	34.1961
		Ag	7440-22-4	0.2250	1.0000	3,472	0.3472
		Cu	7440-50-8	0.1125	0.5000	1,736	0.1736
Die Attach	Adhesive	Ag	7440-22-4	3.8570	70.0000	59,512	5.9512
		Epoxy Resin	Trade Secret	0.2755	5.0000	4,251	0.4251
		Diester	Trade Secret	0.5510	10.0000	8,502	0.8502
		Polymeric Resin	Trade Secret	0.2755	5.0000	4,251	0.4251
		Functionalized Ester	Trade Secret	0.5510	10.0000	8,502	0.8502
Die	Circuit	Si	7440-21-3	3.8000	100.0000	58,633	5.8633
Wire	Interconnect	Au	7440-57-5	0.9600	100.0000	14,813	1.4813
Mold Compound	Encapsulation	Fused Silica	60676-86-0	9.0440	95.0000	139,546	13.9546
		Epoxy Resin	Trade Secret	0.1904	2.0000	2,938	0.2938
		Phenol Resin	Trade Secret	0.0476	0.5000	734	0.0734
		Phenol Novolac	9003-35-4	0.0952	1.0000	1,469	0.1469
		Metal Hydroxide	Trade Secret	0.0952	1.0000	1,469	0.1469
		Carbon Black	1333-86-4	0.0476	0.5000	734	0.0734

**Package Weight (mg):** 64.8099

**% Total:** 100.000

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



**56 – BGA ( 5 x 5 mm )  
Pb-Free Package**

**II. DECLARATION OF PACKAGING / INDIRECT MATERIALS**

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	< 2.0	< 2.0	< 2.0	< 2.0	< 50.00	< 45.00	CoA-COVT-R
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	< 50.00	< 45.00	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	< 0.0005	< 0.0005	CoA-TRAY-R
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



**56 – BGA ( 5 x 5 mm )  
Pb-Free Package**

**ASSEMBLY Site 3: Cypress Manufacturing Limited (CML)  
Package Qualification Report # 042801, 120610 (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-BZ56-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](http://www.cypress.com). Access them by doing a Search on the Report #.

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





## 56 – BGA ( 5 x 5 mm ) Pb-Free Package

### B1. MATERIAL COMPOSITION (Note 3)

Using Gold wire material

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Cured Resin	Trade Secret	3.2060	28.0000	74,646	7.4646
		Glass Fabrics	Trade Secret	2.5190	22.0000	58,650	5.8650
		Copper Foil	7440-50-8	3.4350	30.0000	79,977	7.9977
		Diethylene Glycol Monoethyl Acetate	Trade Secret	0.5725	5.0000	13,329	1.3329
		Acetophenone Crystalline	Trade Secret	0.5725	5.0000	13,329	1.3329
		Silica Crystalline	14808-60-7	0.5725	5.0000	13,329	1.3329
		Solvent Naptha	Trade Secret	0.5725	5.0000	13,329	1.3329
Solder Ball	External Plating	Sn	7440-31-5	0.2808	98.5000	6,538	0.6538
		Ag	7440-22-4	0.0029	1.0000	68	0.0068
		Cu	7440-50-8	0.0014	0.5000	33	0.0033
Die Attach	Adhesive	Silver	7440-22-4	0.3210	75.0000	7,474	0.7474
		Bismaleimide Resin	Trade Secret	0.0749	17.5000	1,744	0.1744
		Synthetic Resin	Trade Secret	0.0214	5.0000	498	0.0498
		Additive	Trade Secret	0.0107	2.5000	249	0.0249
Die	Circuit	Silicon	7440-21-3	21.4000	100.0000	498,255	49.8255
Wire	Interconnect	Gold	7440-57-5	2.1728	100.0000	50,589	5.0589
Mold Compound	Encapsulation	Silica	60676-86-0	6.3483	88.0000	147,807	14.7807
		Epoxy resin	93705-66-9	0.4689	6.5000	10,917	1.0917
		Phenol Resin	106466-55-1	0.3607	5.0000	8,398	0.8398
		Carbon Black Pigment	1333-86-4	0.0361	0.5000	841	0.0841

**Package Weight (mg):** 42.9499

**% 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



## 56 – BGA ( 5 x 5 mm ) Pb-Free Package

### B2. MATERIAL COMPOSITION (Note 3)

Using Copper-Palladium wire material

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Cured Resin	Trade Secret	3.2060	28.0000%	76,716	7.6716%
		Glass Fabrics	Trade Secret	2.5190	22.0000%	60,277	6.0277%
		Copper Foil	7440-50-8	3.4350	30.0000%	82,196	8.2196%
		Diethylene Glycol Monoethyl Acetate	Trade Secret	0.5725	5.0000%	13,699	1.3699%
		Acetophenone Crystalline	Trade Secret	0.5725	5.0000%	13,699	1.3699%
		Silica Crystalline	14808-60-7	0.5725	5.0000%	13,699	1.3699%
		Solvent Naptha	Trade Secret	0.5725	5.0000%	13,699	1.3699%
Solder Ball	External Plating	Sn	7440-31-5	0.2808	98.5000%	6,719	0.6719%
		Ag	7440-22-4	0.0029	1.0000%	69	0.0069%
		Cu	7440-50-8	0.0014	0.5000%	34	0.0034%
Die Attach	Adhesive	Silver	7440-22-4	0.3210	75.0000%	7,681	0.7681%
		Bismaleimide Resin	Trade Secret	0.0749	17.5000%	1,792	0.1792%
		Synthetic Resin	Trade Secret	0.0214	5.0000%	512	0.0512%
		Additive	Trade Secret	0.0107	2.5000%	256	0.0256%
Die	Circuit	Silicon	7440-21-3	21.4000	100.0000%	512,081	51.2081%
Wire	Interconnect	Cu	7440-50-8	1.0030	98.9948%	24,001	2.4001%
		Pd	7440-05-3	0.0102	1.0052%	244	0.0244%
		Silica	60676-86-0	6.2040	86.0000%	148,456	14.8456%
Mold Compound	Encapsulation	Epoxy resin	Trade Secret	0.4689	6.5000%	11,222	1.1222%
		Phenol Resin	Trade Secret	0.2164	3.0000%	5,179	0.5179%
		Melamine Cyanurate	Trade Secret	0.2886	4.0000%	6,906	0.6906%
		Carbon Black Pigment	1333-86-4	0.0361	0.5000%	863	0.0863%

**Package Weight (mg):** 41.7903

**% Total:** 100.0000

## II. DECLARATION OF PACKAGING / INDIRECT MATERIALS

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	< 2.0	< 2.0	< 2.0	< 2.0	< 50.00	< 45.00	CoA-COVT-R
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	< 50.00	< 45.00	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 10.0	<50.0	<45.0	CoA-PLRL-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	< 0.0005	< 0.0005	CoA-TRAY-R
Others	Moisture Barrier Bag	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	CoA-MBBG -R

Note 1: Qualification reports are available at [www.cypress.com](http://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



**56 – BGA ( 5 x 5 mm )  
Pb-Free Package**

**Document History Page**

Document Title: 56-BGA 5X5MM PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET

Document Number: 001-04908

Rev.	ECN No.	Orig. of Change	Description of Change
**	398232	GFJ	New document
*A	472024	MRB	Changed Package Qualification Report # 033105 to 050202 in reference to spec # 49-10001 Rev. AO
*B	680400	VFR	Changed Cypress Logo. Added PMDD for site 2 (AIT) with SnAgCu ball finish
*C	2617585	MAHA  DCON	Changed/added the following for assembly site 1: Changed CAS number of Au. Added CAS number of Br. Changed CAS number of Ag. Changed Polymetric to Polymeric. Revised PPM format. Added % weight of substance per homogeneous material. Updated and added Lead, Cr+VI, PBB and PBDE on the Declaration of Packaging/Indirect Materials table. Replaced CML (obsolete bookset) with WEB in distribution
*D	2833303	MAHA	Deleted the % signs from the CAS numbers of Barium Sulfate, Talc, Copper, and Fused Silica on the substrate and mold compound of assembly site 2. Corrected the CAS number of Ag on the solder ball of assembly site 2. Recalculated the PPM and % weight of substance per package of assembly site 2.
*E	3375131	HLR	Added Assembly Site 3 – CML. Removed material name of Substrate for Assembly Site 2. Updated the material composition table to reflect 4 decimal places on values.
*F	3607118	UDR	Changed Assembly Site 3 from R to RA. Added B2 for Site 1 – ASEKH (G) Copper wire qualification. Reference QTP # 120301 and 120612. Added B2 for Site 3 – Autoline (CML-RA) Copper wire qualification. Reference QTP # 120610.
*G	3884168	HLR	Added CAS Number of Copper Foil and Silica Crystalline on Assembly Site 3.

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**56 – BGA ( 5 x 5 mm )  
Pb-Free Package**

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Rev.	ECN No.	Orig. of Change	Description of Change
*H	4032205	YUM	Added assembly site name in the Assembly heading in site 1, 2 and 3. Changed assembly code to assembly site name in site 1, 2 and 3. Removed entire tube row in the indirect materials section.
*I	4090119	YUM	Corrected total package weight in Site 1: B1 from "52.9921 mg" to "52.9920" and assembly site 2 from "64.8100 mg to "64.8099".
*J	5142476	HLR DCON	Changed the substances with "-----" to "Trade Secret."  Removed "Distribution: WEB" and "Posting: None" from history page

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