



PACKAGE MATERIAL DECLARATION DATASHEET

Cypress Package Code	AZ	Body Size (mil/mm)	14 x 20 mm
Package Weight – Site 1	B1 : 936 ; B2 : 887 mg	Package Weight – Site 2	942 mg

SUMMARY

The 100L-TQFP package is qualified at two assembly sites. Packages from different assembly sites may have different material composition. Cypress Ordering Part Numbers containing an “X” (e.g. CY7C1328G-133AXI, CY2308SXC-1HT) meet the Directive 2002/95/EC (RoHS) requirement.

ASSEMBLY Site 1 – Package Qualification Report # 040806, 062603 (See 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-AZ100-R CoA-AZ100-R1
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated 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



**100L –TQFP (14 x 20 mm)
Pb-Free Package**

B. MATERIAL COMPOSITION (Note 3)

B1 : NiPdAu with Standard Molding Compound

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	PPM	%
Leadframe	Base Material	Cu	7440-50-8	107.91	115,286	11.53%
		Mg	7439-95-4	0.16	172	0.02%
		Si	7440-21-3	1.26	1,349	0.13%
		Ni	7440-02-0	4.09	4,366	0.44%
		Fe	7439-89-6	0.23	245	0.02%
		Zn	7440-66-6	1.15	1,226	0.12%
Lead Finish	External Plating	Ni	7440-02-0	0.19	200	0.02%
		Pd	7440-05-3	0.01	10	0.00%
		Au	7440-57-5	0.00	3	0.00%
Die Attach	Adhesive	Ag	7440-22-4	1.99	2,125	0.21%
		Bismaleimide	-----	0.28	300	0.03%
		Polymer	-----	0.15	163	0.02%
		Methacrylate	-----	0.05	54	0.01%
		Acylate ester	-----	0.05	54	0.01%
		Organic Peroxide	-----	0.03	27	0.00%
Die	Circuit	Si	7440-21-3	35.70	38,143	3.81%
Wire	Interconnect	Au	7440-57-5	3.13	3,345	0.33%
Mold Compound	Encapsulation	SiO ₂	60676-86-0	686.07	732,977	73.30%
		Epoxy Resin	-----	38.98	41,646	4.16%
		Phenol Resin	-----	38.98	41,646	4.16%
		Brominated Epoxy Resin	-----	6.24	6,663	0.67%
		Antimony Trioxide	-----	3.12	3,332	0.33%
		Others	-----	6.24	6,663	0.67%

Package Weight (mg): 936 **% Total:** 100

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



**100L –TQFP (14 x 20 mm)
Pb-Free Package**

B2 : NiPdAu with Green Molding Compound

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	PPM	%
Leadframe	Based Material	Cu	7440-50-8	147.17	165,921	16.59%
		Si	7440-21-3	0.99	1,121	0.11%
		Mg	7439-95-4	0.23	259	0.03%
		Ni	7440-02-0	4.59	5,174	0.52%
Lead Finish	External Plating	Ni	7440-02-0	1.85	2,083	0.21%
		Pd	7440-05-3	0.03	37	0.00%
		Au	7440-57-5	0.03	38	0.00%
Die Attach	Adhesive	Ag	7440-22-4	6.22	7,008	0.70%
		Bismaleimide	-----	0.70	788	0.08%
		Polymer	-----	0.39	438	0.04%
		Methacrylate	-----	0.16	175	0.02%
		Acylate ester	-----	0.16	175	0.02%
		Organic Peroxide	-----	0.16	175	0.02%
Die	Circuit	Si	7440-21-3	108.79	122,645	12.26%
Wire	Interconnect	Au	7440-57-5	2.61	2,942	0.29%
Mold Compound	Encapsulation	Silica	60676-86-0	545.51	615,007	61.50%
		Epoxy Resin	-----	36.78	41,461	4.15%
		Phenol Resin	-----	30.65	34,551	3.46%

Package Weight (mg): 887 **% Total:** 100

II. DECLARATION OF PACKAGING / INDIRECT MATERIALS

Type	Material	Cadmium PPM	Mercury PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	< 5.0	< 5.0	CoA-COVT-R
	Carrier tape	< 5.0	< 5.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	CoA-TRAY-R
Tube	Plastic Tube	N/A	N/A	N/A
	End Plug	N/A	N/A	N/A
	End Pin	N/A	N/A	N/A
Others	Moisture Barrier bag	< 5.0	< 5.0	CoA-MBBG-R
	Shielding bag	< 5.0	< 5.0	CoA-SBAG-R
	Protective Band	< 5.0	< 5.0	CoA-PROB-R
	Shipping and inner/ pizza box	< 5.0	< 5.0	CoA-ABOX-R
	Desiccant	< 5.0	< 5.0	CoA-DESS-R
	Bubble Pack	< 5.0	< 5.0	CoA-BUBP-R

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

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information



ASSEMBLY Site 2 – Package Qualification Report # 034101 (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-100AZ-G
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



**100L –TQFP (14 x 20 mm)
Pb-Free Package**

B. MATERIAL COMPOSITION (Note 3)

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	PPM	%
Leadframe	Base Material	Cu	7440-50-8	227.96	242,000	24.20
		Ni	7440-02-0	7.07	7,500	0.75
		Si	7440-21-3	1.51	1,600	0.16
		Mg	7439-95-4	0.38	400	0.04
		Ag	7440-22-4	5.09	5,400	0.54
Lead Finish	External Plating	Pure Sn	7440-31-5	16.49	17,500	1.75
Die Attach	Adhesive	Ag	7440-22-4	2.45	2,600	0.26
		Epoxy Resin	Proprietary	0.66	700	0.07
		Cu	7440-50-8	0.09	100	0.01
		Gamma-Butyrolactone	-----	0.09	100	0.01
		Aromatic Hydrocarbons	-----	0.09	100	0.01
Die	Circuit	Si	7440-21-3	20.72	22,000	2.20
Wire	Interconnect	Au	7440-57-5	4.52	4,800	0.48
Mold Compound	Encapsulation	Epoxy Resin	85954-11-6	32.78	34,800	3.48
		Phenol Resin	26834-02-6	26.19	27,800	2.78
		SiO2	60676-86-0	579.52	615,200	61.52
		Aromatic Phosphate	139189-30-3	9.80	10,400	1.04
		Others	-----	6.59	7,000	0.70

Package Weight (mg): 942 **% Total:** 100

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



II. DECLARATION OF PACKAGING INDIRECT MATERIALS

Type	Material	Cadmium PPM	Mercury PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	< 5.0	< 5.0	CoA-COVT-G CoA-COVT-R
	Carrier tape	< 5.0	< 5.0	CoA-CART-G CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	CoA-PLRL-G CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	CoA-TRAY-G CoA-TRAY-G
Tube	Plastic Tube	N/A	N/A	N/A
	End Plug	N/A	N/A	N/A
Others	Moisture Barrier bag	< 5.0	< 5.0	CoA-MBBG-G CoA-MBBG-R
	Shielding bag	< 5.0	< 5.0	CoA-SBAG-G CoA-SBAG-G
	Protective Band	N/A	N/A	N/A
	Shipping and inner/ pizza box	< 5.0	< 5.0	CoA-ABOX-R
	Desiccant	< 5.0	< 5.0	CoA-DESS-G CoA-DESS-R
	Bubble Pack	< 5.0	< 5.0	CoA- BUBP-G CoA-BUBP-R

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

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information



Document History Page

Document Title: 100L -TQFP 14X20mm PB-FREE PMDD
Document Number: 001-04358

Rev.	ECN No.	Orig. of Change	Description of Change
**	391439	GFJ	New document
*A	494016	ERI	Added 1. Add QTP Reference 062603 2. B1 : NiPdAu with Standard Molding Compound 3. B2 : NiPdAu with Green Molding Compound
*B	513923	ERI	Corrected Table B2; Removed values for Br and Sb

Distribution: CML

Posting: None

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