Connect One
The Device Networking Authority

iChip CO710AG/66BI-3G

RoHS Certificate of Compliance

Overview

The 121-lead Stacked TFBGA package compliant to the RoHS and JIG requirements. Compliance is guaranteed provided that the appropriate part number is ordered.

Package Code	
Package Description	121-Lead, 10x10x1.2mm Body, Thin Fine pitch Ball Grid Array (TFBGA)
Max Reflow Temperature	260 Celsius
JESD97 Category	e1

Banned Substances

The European Union passed Directive 2002/95/EC on January 27, 2003, that defines the Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS).

The member companies that comprise EIA/JIG/JGPSSI developed JIG-101 in April 2005 to track and disclose specific information about the material composition of products to legal and market requirements. The Level A list is composed of materials and substances when used in products that are subject to currently enacted legislation. The Level B list is composed of materials and substances that the electrical and electronic equipment industry has determined relevant for disclosure.

Material / Substance	RoHS / JIG	Material Mass (g)	Material Concentration (ppm)
Cadmium	RoHS	0	n/a
Hexavalent Chromium	RoHS	0	n/a
Lead	RoHS	0	n/a
Mercury	RoHS	0	n/a
Polybrominated Biphenyls (PBB)	RoHS	0	n/a
Polybrominated Diphenyl Ethers (PBDE)	RoHS	0	n/a
Asbestos	JIG Level A	0	n/a
Certain Azo Colorants	JIG Level A	0	n/a
Cadmium and Cadmium Compounds	JIG Level A	0	n/a
Hexavalent Chromium and Hexavalent Chromium Compounds	JIG Level A	0	n/a
Lead and Lead Compounds	JIG Level A	0	n/a
Mercury and Mercury Compounds	JIG Level A	0	n/a
Ozone Depleting Substances (Class I and II)	JIG Level A	0	n/a
Polybrominated Biphenyls (PBB)	JIG Level A	0	n/a
Polybrominated Diphenyl Ethers (PBDE)	JIG Level A	0	n/a
Polychlorinated Biphenyls (PCB)	JIG Level A	0	n/a
Polychlorinated Naphthalenes	JIG Level A	0	n/a
Radioactive Substances	JIG Level A	0	n/a
Certain Shortchain Chlorinated Paraffins	JIG Level A	0	n/a
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	JIG Level A	0	n/a
Tributyl Tin Oxide (TBTO)	JIG Level A	0	n/a
Antimony and Antimony Compounds	JIG Level B	0	n/a
Arsenic and Arsenic Compounds	JIG Level B	0	n/a
Beryllium and Beryllium Compounds	JIG Level B	0	n/a
Bismuth and Bismuth Compounds	JIG Level B	0	n/a
Brominated Flame Retardants (other than PBB and PBDE)	JIG Level B	0.000004	1
Nickel (external applications only)	JIG Level B	0	n/a
Certain Phthalates	JIG Level B	0	n/a
Selenium and Selenium Compounds	JIG Level B	0	n/a
Polyvinyl Chloride (PVC)	JIG Level B	0	n/a

Material Declaration

Material	Substance	CAS #	Weight (mg) average	Homogeneous Material		Package	
				Percentage	ppm Average	Percentage average	ppm average
Substrate	SiO2	60676-86-0	6.47	10~12	104,828	2.23%	22,277
	Acrylic	Trade Secret	5.68	9~11	92,029	1.96%	19,557
	Epoxy	29690-82-2 68541-56-0 2568-38-6	3.79	6~10	61,406	1.30%	13,050
	Bisphenol	13676-54-5	9.25	10~20	149,870	3.18%	31,849
	Triazol	25722-66-1	11.06	15~20	179,196	3.81%	38,081
	Copper (Cu)	7440-50-8	24.27	30~40	393,227	8.36%	83,566
	Nickel (Ni)	7440-02-0	0.86	1~2	13,934	0.30%	2,961
	Glod (Au)	7429-90-5	0.30	0.2~0.9	4,861	0.10%	1,033
	Brome (Br)	Trade Secret	0.04		648	0.01%	138
Sub-Total	**	**	**61.7**	**100**	**1,000,000**	**21.25%**	**212,512**
Integrated Circuit	Silicon (Si)	7440-21-3	28.00	100	1,000,000	9.64%	96,409
Sub-Total	**	**	**28.0**	**100**	**1,000,000**	**9.64%**	**96,409**
Die Attach 1	Diester	Trade Secret	11.56	20~35	281,882	3.98%	39,803
	Functionalized Esters	Trade Secret	4.31	5~15	105,096	1.48%	14,840
	Polymeric Resin	Trade Secret	1.44	1~5	35,113	0.50%	4,958
	Silica Fused	1030-11950	21.44	45~60	522,799	7.38%	73,821
	Epoxy Resin	9003-36-5	2.26	1~10	55,109	0.78%	7,782
Sub-Total	**	**	**41.0**	**100**	**1,000,000**	**14.12%**	**141,204**
Die Attach 2	Proprietary Filler	9002-84-0	1.67	<50	450,005	0.57%	5,733
	Proprietary Bismaleimide	none	1.67	<40	450,005	0.57%	5,733
	Proprietary Polymer	none	0.37	<20	99,990	0.13%	1,274
Sub-Total	**	**	**3.70**	**100**	**1,000,000**	**1.27%**	**12,740**
Bond Wire	Gold (Au)	7429-90-5	4.00	99.99	999,900	1.38%	13,773
	Ion Impurities	Trade Secret	0.00	0.01	100	0.00%	1
Sub-Total	**	**	**4.00**	**100**	**1,000,000**	**1.38%**	**13,774**
Mold Compound	Silica Fused	60676-86-0	114.71	75~95	869,000	39.50%	394,959
	Epoxy Resin	85954-11-6	8.65	1~10	65,500	2.98%	29,770
	Phenolic Resin	26834-02-6	8.65	1~10	65,500	2.98%	29,770
Sub-Total	**	**	**132.0**	**100**	**1,000,000**	**45.45%**	**454,498**
Solder Ball	Tin (Sn)	7440-31-5	19.10	95.5	955,000	6.58%	65,764
	Silver (Ag)	7440-22-4	0.80	4.0	40,000	0.28%	2,755
	Copper (Cu)	7440-50-8	0.10	0.5	5,000	0.03%	344
Sub-Total	**	**	**20.0**	**100**	**1,000,000**	**6.89%**	**68,863**
Total			**290.4**	**100.0**	**1,000,000**	**100.0%**	**1,000,000**

Comments

- Reliability qualification reports are available upon request through the appropriate sales or marketing contact.
- Third party testing for RoHS substances has been completed on the homogeneous material level and are available upon request through the appropriate sales or marketing contact.
- Materials and/or substances not listed in the material declaration are considered not present in the product or not detectable trace levels.
- In order to report full 100 percent material declaration, some materials and/or substances have been rounded to the nearest 0.1 percent.
- Package material declarations are calculated using a combination of Material Safety Data Sheets (MSDS), material analysis testing, industry standard specifications and engineering calculations.

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