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Product Weight (Grams)	11.4168
Foundry	TSMC Fab 6
Silicon Process	0.13um 1P8M Mix Mode
Substrate	Kyocera BU (3+2+3)
Package	33 mm x 33 mm FCBGA, 1020 Balls (Eutectic Solder Balls)
Assembly House	Amkor, Facility K4, Korea
RoHS Compliant	No (5/6 Elements are compliant except Pb, product has eutectic leaded BGA balls)

Restrictions on Hazardous Substances (RoHS) Compliance

RoHS Definition

- The RoHS directive effective July 2006 restricts the use of hazardous substances in electronic products per the table 1 provided below. A product is defined as RoHS Compliant if it contains less than the maximum allowed concentration levels of all substances except lead (Pb) for which a lead exemption is approved under the annex to the RoHS Directive. Cortina uses Lead Exemption 15: "Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages" for its product to be RoHS compliant. Also as per the exemption, lead is allowed in solder for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission as well as network management for telecommunication.

RoHS Analysis

- The MDDS analysis data for this product and BOM are provided below:

Product Level Data			RoHS Limit
Restricted Material	Amount (ppm)	Lowest Detection Limit (ppm)	Max Allowable Concentration (MCL) - PPM
Mercury	Not Detected	2	1000
Lead	11747	2	1000
Chromium ⁺⁶	Not Detected	2	1000
PBB	Not Detected	5	1000
PBDE	Not Detected	5	1000
Cadmium	Not Detected	2	100

Sub-Component (BOM) Level Data											
Material	Copper Lid	Silicon	Bump (Sn/Pb) Eutectic (ppm, %)	Substrate						BGA Pre Solder (ppm, %)	BGA Balls (ppm, %)
				Core Material (ppm)	Plugging Material (ppm)	Build Up Material (ppm)	Solder Mask (ppm)	Surface Finish (ppm)	F/C Pre Solder (ppm, %)		
Mercury	N/A	N/A	< 2	< 5	< 2	< 5	< 2	N/A	< 2	< 2	< 2
Lead	N/A	N/A	37%	< 5	< 2	< 10	< 2	N/A	37%	37%	37%
Chromium ⁺⁶	N/A	N/A	< 2	< 0.5	< 2	< 2	< 2	N/A	< 2	< 2	< 2
PBB	N/A	N/A	< 5	< 10	< 5	< 25	< 5	N/A	< 5	< 5	< 5
PBDE	N/A	N/A	< 5	< 10	< 5	< 25	< 5	N/A	< 5	< 5	< 5
Cadmium	N/A	N/A	< 2	< 5	< 2	< 1	< 2	N/A	< 2	< 2	< 2



Material Declaration Data Sheet

COMMENTS

1. Material content listed at the product and BOM level are based on analytical testing intended to validate RoHS Compliance Systems. Results may vary due to differences in production and / or sensitivities of the methods and tools used for analytical testing and modeling. Certification of RoHS compliance at the homogenous material level is based on Supplier Declarations of Conformance.
2. This datasheet is based on the product specified and other packages are assumed to be similar.
3. Data in parts per million (ppm) can be used to estimate content for other packages assumed to be similar.
4. Material mass can be estimated by multiplying concentration (ppm) by product weight.
5. The remainder of this package consists of non-reportable metals (e.g., tin, iron, etc), epoxy resin and other non-metal materials.
6. Material concentrations are the maximum expected concentration of the substances in the product and may not represent the actual concentration.

REVISION HISTORY

Revision 1.0 Revision Date: 3 July 2008
Initial release.

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