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Document: CM-IDG-1123B-000-01
 Release Date: 09/22/08

IDG-1123 Materials Declaration Datasheet

Device: IDG-1123
 Package Type: QFN 28L 4x5x1.2mm
 Package Total Mass (mg): 58.60

Component	Substance	CAS Number	Percent (%)	Material Weight (mg)	Amount of Substance (mg)
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Semiconductor Device

Silicon Chip	Doped Silicon	7440-21-3	100	11.41	11.41
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Lead Frame (C7205 QFN MATRIX ETCH ASM)

Base Metal	Copper (Cu)	7440-50-8	Balance	10.32	9.949
Base Metal	Iron (Fe)	7439-89-6	2.1-2.6		0.243
Base Metal	Phosphorus (P)	7723-14-0	0.015-0.15		0.009
Base Metal	Zinc (Zn)	7440-66-6	0.05-0.20		0.013
Plating	Nickel (Ni)	7440-02-0	0.97		0.100
Plating	Palladium (Pd)	5/3/7440	0.06		0.006
Plating	Gold (Au)	7440-57-5	0.01		0.001

Bond Wire (GOLD WIRE 1.00MIL GLD TANAKA)

Metal Wire	Gold	7440-57-5	99.99 Min	0.56	0.563
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Die Attach Adhesive (DA 6501 DOW CORNING – NON-CONDUCTIVE)

Filler	Dimethyl Siloxane, Dimethylvinylsiloxy-Terminated	068083-19-2	Balance	1.34	1.166
Filler	Trimethylated Silica	068909-20-6	7 - 13		0.137
Filler	Dimethyl, Methylhydrogen Siloxane, Hydrogen-Terminated	069013-23-6	1 - 5		0.040

Mold Compound (COMPOUND GREEN CEL 9220HF13H HITACHI)

Filler	Epoxy Resin-1	Trade Secret	2 - 5	34.96	1.224
Filler	Epoxy Resin-2	Trade Secret	1 - 3		0.699
Filler	Phenol Resin	Trade Secret	2 - 5		1.224
Hardener	Silica	60676-86-0	Balance		28.076
Coloring Material	Carbon Black	1333-86-4	Approx. 0.2		0.070
Filler	Metal Hydroxide	Trade Secret	1 - 10		1.923
-	Others	-	Max. 5		1.748



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Test results for ROHS banned substances/compounds

Substances/Compound	Test Method	Die	Lead-frame	Bond Wire	Die Attach Adhesive	Mold Compound
	Report	07-01801-01 & 08-04870-02	KA-2008-10993R3	LPCI-24728	1524509	CE-2008-51371
	Date	2007/03/22 2008/7/15	2008/01/15	2008/01/04	2008/09/11	2008/05/07
	Sample	Whole device	C7025 Cu Alloy	Tanaka Gold Wire	Dow Corning DA-6501	CEL-9220HF13
	Units	[PPM]	[PPM]	[PPM]	[PPM]	[PPM]
Hexavalent Chromium	US EPA Method 3060A & 7196A IEC 62321/2nd CDV (111/95/CDV) ICP/AES	ND (< 1)	ND (< 2)	ND (< 2)	ND (< 2)	ND (< 2)
Cadmium	US-EPA Method 3052 IEC 62321/2nd CDV (111/95/CDV) ICP/AES	ND (<1)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Mercury	US-EPA Method 3052 IEC 62321/2nd CDV (111/95/CDV) ICP/AES	ND (<1)	ND (<2)	ND (<2)	ND (<2)	ND (<2)
Lead	US-EPA Method 3050B IEC 62321/2nd CDV (111/95/CDV) ICP/AES	1.5	ND (<2)	ND (<2)	ND (<2)	ND (<2)
PBBs	US-EPA Method 3540C/ 3550B IEC 62321/2nd CDV (111/95/CDV) UV/Vis	ND (<1)	ND (<5)	ND (<5)	ND (<5)	ND (<5)
PBDEs	EPA 3540C/ 3550B IEC 62321/2nd CDV (111/95/CDV) UV/Vis	ND (<1)	ND (<5)	ND (<5)	ND (<5)	ND (<5)
Organic Bromines	US-EPA Method 8260B GC/MS	ND (<1)	Whole device	Whole device	Whole device	Whole device
phthalates	GC/MS	ND (<1)	Whole device	Whole device	Whole device	Whole device

ND = Not Detected

Test results for ROHS banned substances/compounds – Lead Frame Results

Substances/Compound	Test Method	Lead-frame Finish Ni	Lead-frame Finish Pd	Lead-frame Finish Au
	Report	KA-2008-10984R1	KA-2008-10985R1	KA-2008-10986R1
	Date	2008/01/23	2008/01/23	2008/01/23
	sample	Ni Plating Material	Pd Plating Material	Au Plating Material
	Units	[PPM]	[PPM]	[PPM]
Hexavalent Chromium	US EPA Method 3060A & 7196A IEC 62321/2nd CDV (111/95/CDV) ICP/AES	ND (< 2)	ND (< 2)	ND (< 2)
Cadmium	US EPA Method 3052 IEC 62321/2nd CDV (111/95/CDV) ICP/AES	ND (<2)	ND (<2)	ND (<2)
Mercury	US EPA Method 3052 IEC 62321/2nd CDV (111/95/CDV) ICP/AES	ND (<2)	ND (<2)	ND (<2)
Lead	US EPA 3050B IEC 62321/2nd CDV (111/95/CDV) ICP/AES	ND (<2)	ND (<2)	ND (<2)
PBBs	EPA 3540C/ 3550B IEC 62321/2nd CDV (111/95/CDV) UV/Vis	ND (<5)	ND (<5)	ND (<5)
PBDEs	EPA 3540C/ 3550B IEC 62321/2nd CDV (111/95/CDV) UV/Vis	ND (<5)	ND (<5)	ND (<5)
Organic Bromines	US-EPA Method 8260B GC/MS	Whole device	Whole device	Whole device
phthalates	GC/MS	Whole device	Whole device	Whole device

ND = Not Detected

Environmental Declaration Disclaimer:

InvenSense believes this environmental information to be correct but cannot guarantee accuracy or completeness. Conformity documents for the above component constitutes are on file. InvenSense subcontracts manufacturing and the information contained herein is based on data received from vendors and suppliers. This information has not been validated by InvenSense.