

Hitachi Cable Confidential

Customer : GSI  
 Package : uBGA  
 Device Type : GS4288C18GL/GS4288C36GL/GS4288S18GL

TY20120521-01  
 Date:May, 21, 2012

	Name	Composition	CAS No.	%	mg(Ave)	Material Weight(mg)	%	PPM
Mold Compound	KMC-2520-2LCA	Amorphous Silica	Confidential	85.0%	161.9	179.8	41.0%	410189
		Epoxy Resin Compound	Confidential	4.0%	7.6		1.9%	19303
		Phenol Compound	Confidential	4.0%	7.6		1.9%	19303
		Imidazole Compound	Confidential	1.0%	1.9		0.5%	4826
		Carbon Black	1333-86-4	0.4%	0.8		0.2%	1930
TAB Tape	Copper Foil + Base Film + Adhesive	Copper	7440-50-8	45.7%	18.6	40.7	4.7%	47086
		Polyimide Film	Confidential	35.8%	14.6		3.7%	36905
		Polyimide Siloxane	Confidential	7.4%	3.0		0.8%	7636
		Epoxy Resin	Confidential	6.2%	2.5		0.6%	6363
		Phenol Resin	Confidential	3.7%	1.5		0.4%	3818
		Silica	7631-86-9	1.2%	0.5		0.1%	1273
	Copper Foil	Copper	7440-50-8	99.90%	15.2	15.2	3.9%	38565
		Ni	7440-02-0	0.01%	0.0		0.0%	4
		Zn	7440-66-6	0.03%	0.0		0.0%	12
	Gold	Au	7440-57-5	100.0%	0.4	0.4	0.1%	917
	IR-G029	Acrylic resin	Confidential	41.2%	1.4	3.3	0.3%	3493
		Silica	Confidential	27.0%	0.9		0.2%	2289
		Block isocyanato	Confidential	20.3%	0.7		0.2%	1721
		Guanamine resin	Confidential	4.4%	0.1		0.0%	373
		Additive agent	Confidential	2.6%	0.1		0.0%	220
		Polyester resin	Confidential	2.5%	0.1		0.0%	212
		Organic pigment	Confidential	1.0%	0.0		0.0%	85
		Inorganic pigment	Confidential	1.0%	0.0		0.0%	85
	PSR4000	Acrylate Resin	Confidential	43.0%	1.9	4.3	0.5%	4721
		Talc	14807-96-6	5.0%	0.2		0.1%	549
		Barium Sulfate	7727-43-7	10.0%	0.4		0.1%	1098
		Silica	Confidential	1.0%	0.0		0.0%	110
		Diethylene glycol monoethyl ether acetate	112-15-2	15.0%	0.7		0.2%	1647
Dipropylene glycol monomethyl ether		34590-94-8	5.0%	0.2	0.1%		549	
Petroleum naphtha		64742-94-5	15.0%	0.7	0.2%		1647	
Diethylene glycol monoethyl ether acetate acetate		88917-22-0	5.0%	0.2	0.1%		549	
Naphthalene		91-20-3	1.0%	0.0	0.0%		110	
Die					57.4		57.4	14.6%
Elastomer	Type-C2	Polytetrafluoroethylene	9002-84-0	69.6%	16.6	23.8	4.2%	42008
		Epoxy resin+sermo seting material	Confidential	30.4%	7.2		1.8%	18348
Solder Ball	96.5Sn3Ag0.5Cu	Sn	7440-31-5	90.0%	66.0	69.7	16.7%	167265
		Argentine	7440-22-4	4.0%	2.9		0.7%	7434
		Copper	7440-50-8	1.0%	0.7		0.2%	1858
<b>Total</b>						<b>394.7</b>		