



Package Material Composition and Mass Calculation

Customer: GSI
 Package: : LPGA 13x15 165L
 Device Type: : GS8342xxxBD
 Die Size: : 6418X10272
 Total Pck. Weight (g): 0.4578

Provided By: TW Sun
 Date: 2015/08/12

	name	composition	CAS No.	%	mg.(ave)	mg.	%	PPM
Mold Compound	KE-G2250LKDS Kyocera	Silica	60676-86-0	75-95%	142.26	158.07	34.53	345,282
		Epoxy resin	Trade Secret	1-10%	8.69		31.08	310,754
		Phenolic resin	Trade Secret	2-7%	7.11		1.90	18,990
							1.55	15,538
Substrate	BT-substrate	SiO2	60676-86-0	10-12	17.82	161.19	35.21	352,097
		Acrylic	Trade Secret	9-11	16.12		3.89	38,924
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	6-10	12.90		3.52	35,210
		Bisphenol	13676-54-5	10-20	24.18		2.82	28,168
		Triazol	25722-66-1	15-20	28.21		5.28	52,815
		Cu	7440-50-8	30-40	58.67		6.16	61,617
		Ni	7440-02-0	1-2	2.42		12.81	128,146
		Au	7440-57-5	0.2-0.9	0.89		0.53	5,281
							0.19	1,937
Die	Silicon	Silicon	7440-21-3		32.21	32.21	7.04	70,358
Die Attach	ATB-125	Cresol-epichlorohydrin-formaldehyde polymer	37382-79-9	35-50	10.10	23.77	5.19	51,922
		Rubber modified epoxy	Trade Secret	20-35	6.54		2.21	22,067
		Aromatic amine	Trade Secret	5-10	1.78		1.43	14,279
		Silica, hydrophobic amorphous-fumed	67762-90-7	1-5	0.71		0.39	3,894
		Silica-based glycidyl ether	2530-83-8	1-5	0.71		0.16	1,558
		4,4'-isopropylidenediphenol	80-05-7	<0.5	0.06		0.16	1,558
					0.01	130		
Golden Wire	25um	Au	7440-57-5	99.99	2.49	2.49	0.54	5,439
		Ion Impurities	Trade Secret	0.01	0.00		0.54	5,439
External Plating	Solder Ball (63Sn / 37Pb)	Tin (Sn)	7440-31-5	63	50.44	80.07	17.49	174,902
		Lead (Pb)	7439-92-1	37	29.63		11.02	110,188
							6.47	64,714
Total						457.80	100	1000000

DISCLAIMER

- The above material declaration can be used only as reference in identifying the Hazardous material content of the product.
- ASE does not guarantee the Material composition accuracy as it is based on the data provided by outside sources and has not been validated.
- This material declaration does not include data from any active and passive component assembled in the package.

Will products contain the following RoHS defined substances?			
Mercury and its Compounds	Yes	No	X
Cadmium and its Compounds	Yes	No	X
Lead and its Compounds	Yes	No	X
Hexavalent Chromium and its Compounds	Yes	No	X
Polybrominated biphenyls (PBB)	Yes	No	X
Polybrominated diphenyl ethers (PBDE)	Yes	No	X
Is this Product meet ROHS Compliance?	Yes	X	No