



Package Material Composition and Mass Calculation

Customer: GSI
 Package: LQFP 14X20 100L
 Device Name: GS864 Family
 Die Size: 9.6 x 16.44mm
 Total Pkg Wt (g): 0.9415g

Provided By: Wilson Fu
 Date: 2007/11/05

Component Name	Composition	CAS No.	%	mg.(ave)	mg.	%	PPM	
Mold Compound	Hitachi 9510HFL				<u>654.5</u>	<u>69.52</u>	<u>695.167</u>	
		Epoxy Resin 1	Trade Scret	1-4	16.3625	1.74	17,379	
		Epoxy Resin 2	Trade Scret	0.5-3	14.72625			
		Epoxy Resin 3	Trade Scret	1-4	16.3625			
		Phenol Resin	Trade Scret	2-6	26.18			
		Carbon black	1333-86-4	Approx. 0.2%	1.309	0.14	1,390	
		Silica	60676-86-0	86-90	575.96	61.17	611,747	
		Others	Trade Scret	Approx. 1%	6.545	0.70	6,952	
Leadframe	OLIN 7025				<u>121.57</u>	<u>12.91</u>	<u>129.124</u>	
		Copper	7440-50-8	96.20	116.95	12.42	124,217	
		Nickel	7440-02-0	3.00	3.65	0.39	3,874	
		Silicon	7440-21-3	0.65	0.79	0.08	839	
		Magnesium	7439-95-4	0.15	0.18	0.02	194	
Die	Silicon	Silicon	7440-21-3	100%	13.63	<u>13.63</u>	<u>1.45</u>	<u>14,477</u>
Die Attach	Hitachi FH-900-25				<u>132.29</u>	<u>14.05</u>	<u>140.510</u>	
		Novolak Epoxy Resin	64425-84-4	10-30	26.46	2.810	28,102	
		Phenol Resin	Trade Secret	10-30	26.46	2.810	28,102	
		Amorphous Silica	68611-44-9	5-20	16.54	1.756	17,564	
		Acrylic Copolymer	Trade Secret	20-75	62.84	6.674	66,742	
Wire	Gold Wire 99.99% Au				<u>2.91</u>	<u>0.309081</u>	<u>3.091</u>	
		Au	7429-90-5	99.99	2.910	0.309050	3,091	
		Ion Impurities	Trade Secret	0.01	0.0003	0.000031	0.309	
External Plating	Matte Sn				<u>16.60</u>	<u>1.7631</u>	<u>17.631</u>	
		Tin	7440-31-5	100	16.6	1.7631	17,631	
Total					941.50	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.