



## Package Material Composition and Mass Calculation

Customer: : MAXIM  
 Package: : 10x10x0.53mm 81L  
 Device Type: : 87-03104+NXB  
 Die Size: : 189x189 MILS  
 Total Pkg. Wt. (g): 0.2270800

Provided By: Barry M.  
 Date: 2008/10/21

	name	composition	CAS No.	%	mg.(ave)	mg.	%	PPM
Mold Compound	KE-G1270					<u>99.64</u>	<u>43.88</u>	<u>438,788</u>
	Kyocera	Silica Fused	60676-86-0	75-95%	88.68		39.05	390,521
		Epoxy resinA	Trade Secret	1% - 10%	5.48		2.41	24,133
		Phenol resin	Trade Secret	1% - 10%	5.48		2.41	24,133
Substrate	BT-substrate					<u>61.79</u>	<u>27.21</u>	<u>272,107</u>
		SiO2	60676-86-0	10-12	6.48		2.85	28,544
		Acrylic	Trade Secret	9-11	5.68		2.50	25,034
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	6-10	3.79		1.67	16,707
		Bisphenol	13676-54-5	10-20	9.26		4.08	40,762
		Triazol	25722-66-1	15-20	11.07		4.88	48,751
		Cu	7440-50-8	30-40	24.30		10.70	107,020
		Ni	7440-02-0	1-2	0.86		0.38	3,782
		Au	7429-90-5	0.2-0.9	0.30		0.13	1,333
Die	Silicon	Silicon	7440-21-3			<u>18.73</u>	<u>8.25</u>	<u>82,482</u>
Die Attach	ABL-2100A					<u>5.38</u>	<u>2.37</u>	<u>23,692</u>
	Ablestik	Silver	7440-22-4	70-90	4.12		1.81	18,124
		Epoxy Resin	Trade Secret	1-10	0.30		0.13	1,303
		Functionalized Ester	Trade Secret	1-10	0.30		0.13	1,303
		Diester	Trade Secret	5-20	0.67			
Wire	25_um (99.99% Au)					<u>2.36</u>	<u>1.04</u>	<u>10,393</u>
	Sumitomo	Au	7440-57-5	99.99	2.360		1.04	10,392
		Ion Impurities	Trade Secret	0.01	0.000		0.00	1
External Plating	Solder Ball (96.5Sn3.0Ag0.5Cu)_0.5mm					<u>39.18</u>	<u>17.25</u>	<u>172,538</u>
	Senju	Tin (Sn)	7440-31-5	96.5	37.81		16.65	166,499
		Silver (Ag)	7440-22-4	3.0	1.18		0.52	5,176
		Cu	7440-50-8	0.5	0.20			
<b>Total</b>						<b>227.0800</b>	<b>100</b>	<b>1000000</b>

**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.

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



## Package Material Composition and Mass Calculation

Customer: MAXIM  
 Package: 23x23 HSBGA  
 Device Type: 87-71580-003 (SnPb)  
 Die Size: 9619 x 8897 um  
 Total Pck. Weight (mg): 2788.698743

Provided By: Barry M.  
 Date: 2008/10/21

	name	composition	CAS No.	%	mg.(ave)	mg.	%	PPM
Mold Compound	Sumitomo G770J					<u>679.897</u>	<u>24.38</u>	<u>243.804</u>
		Silica (fused)	60676-86-0	75-95%	606.468124		21.75	217,474
		Epoxy resinA	Trade Secret	1% - 5%	20.39691		0.73	7,314
		Epoxy resinB	Trade Secret	1% - 5%	20.397		0.73	7,314
		Phenolic resin	Trade Secret	1% - 5%	20.39691		0.73	7,314
		Metal Hydroxide	Trade Secret	0.5% - 2.5%	10.198455		0.37	3,657
		Carbon Black	1333-86-4	0.1-0.5%	2.039691		0.07	731
Substrate	BT-substrate					<u>752.945443</u>	<u>27.00</u>	<u>269.999</u>
		SiO2	60676-86-0	10-12	45.18		1.62	16,200
		Acrylic	Trade Secret	9-11	75.29		2.70	27,000
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	6-10	60.24		2.16	21,600
		Bisphenol	13676-54-5	10-20	123.45		4.43	44,266
		Triazol	25722-66-1	15-20	132.18		4.74	47,398
		Cu	7440-50-8	30-40	301.18		10.80	108,000
		Ni	7440-02-0	1-2	11.29		0.40	4,050
		Au	7429-90-5	0.2-0.9	4.14		0.15	1,485
Die	Silicon	Silicon	7440-21-3		48.116	<u>48.116</u>	<u>1.73</u>	<u>17,254</u>
Die Attach	ABL-2100A					<u>9.201</u>	<u>0.33</u>	<u>3,299</u>
		Silver	7440-22-4	70-90	7.27		0.26	2,607
		Epoxy Resin	Trade Secret	1-10	0.51		0.02	181
		Functionalized Ester	Trade Secret	1-10	0.51		0.02	181
		Diester	Trade Secret	5-20	0.92		0.03	330
Wire	23_um (99.99% Au)					<u>6.748</u>	<u>0.24</u>	<u>2,420</u>
		Au	7429-90-5	99.99	6.747		0.24	2,420
		Ion Impurities	Trade Secret	0.01	0.0007		0.00	0
External Plating	Solder Ball (Sn63/Pb37)_0.6mm					<u>492.800</u>	<u>17.67</u>	<u>176,713</u>
		Tin (Sn)	7440-31-5	63	310.46		11.13	111,329

	Lead (Pb)	7439-92-1	37	182.34		6.54	65,384
Heatslug	(Copper/Nickel/Chrome)				798.9913	28.6510	286,510
	Copper	7440-50-8	99.4	794.20		28.4791	284,791
	Nickel	7440-02-0	0.5-0.7	4.47		0.1604	1,604
	Chrome	-	0.04-0.06	0.32		0.0115	115
<b>Total</b>					<b>2788.698743</b>	<b>100</b>	<b>1000000</b>

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.

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