



Package Chemistry Substances Analysis Table

Package Type:	LSE 064 (Pb-free solder balls)
Dimension:	13 x 11 mm
Weight of Unit Package:	312 mg
Temperature rating:	260°C
MSL:	3
Assembly Location:	BKK
Product is RoHS Compliant	

Description	Chemicals Present	CAS Number	unit weight(mg)	unit weight/package (%)	Amount (ppm)
Silicon Die	#1 Silicon	7440-21-3	67.5645	21.6598	216,598
	subtotal		67.5645	21.6598	216,598
Bond wire	#1 Gold	7440-57-5	1.1628	0.3728	3,728
	subtotal		1.1628	0.3728	3,728
Die Attach	#1 Epoxy resin	Trade Secret	4.9774	1.5957	15,957
	#2 Polytetrafluoroethylene	9002-84-0	1.7464	0.5599	5,599
	#3 Silica (fused)	60676-86-0	0.4061	0.1302	1,302
	subtotal		7.1300	2.2857	22,857
Substrate	#1 Brominated Epoxy Resins	Trade Secret	4.3377	1.3906	13,906
	#2 Copper	7440-50-8	15.6957	5.0317	50,317
	#3 Gold	7440-57-5	0.0683	0.0219	219
	#4 Nickel	7440-02-0	0.3723	0.1193	1,193
	#5 Epoxy resin	Trade Secret	21.1924	6.7939	67,939
	#6 Silica	14808-60-7	3.6703	1.1766	11,766
	#7 SiO2 Glass Cloth	65997-17-3	16.0160	5.1344	51,344
subtotal		61.3527	19.6684	196,684	
Mold compound	#1 Silica (fused)	60676-86-0	103.1462	33.0666	330,666
	#2 Carbon Black	1333-86-4	0.3034	0.0973	973
	#3 Epoxy resin	Trade Secret	16.8068	5.3879	53,879
	#4 Phosphoric organic catalyst	Trade Secret	0.3640	0.1167	1,167
	#5 Metal Oxides	Trade Secret	0.7281	0.2334	2,334
subtotal		121.3485	38.9019	389,019	
Solder ball	#1 Tin	7440-31-5	51.5084	16.5125	165,125
	#2 Silver	7440-22-4	1.6013	0.5133	5,133
	#3 Copper	7440-50-8	0.2669	0.0856	856
subtotal		53.3765	17.1114	171,114	
TOTAL PACKAGE			311.9350	100.0000	1,000,000

Disclaimer:

In general, four decimal values are shown. However, some variance remains from package to package. The mass values presented are thought to be accurate to within 20 percent. The report does not include materials not intentionally added to our products (impurities), or material concentrations less than 1 ppm.

Document History Page

Document Title: Material Declaration Datasheet (MDDS) - FBGA064 (LSE064) - BKK - Au Wire
Document Number: 002-12946

Rev.	ECN No.	Orig. of Change	Description of Change
**	5268387	AAC	Initial Release.