LATTICE SEMICONDUCTOR™

Device Material Content

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Package: **100 TQFP (1.0 mm)** **with matte Sn Plating**
Total Device Weight **0.50** **Grams**

Halogen Free
MSL: 3
Peak Reflow Temp: 260°C

August, 2012	**% of Total Pkg. Wt.**	**Weight (g)**	**% of Total Pkg. Wt.**	**Weight (g)**	**Substance**	**CAS #**	**Notes / Assumptions:**
Die	0.26%	0.0013			Silicon chip	7440-21-3	Die size: 58 x 55 mil
Mold	71.77%	0.3558					Mold Compound: CEL 9240HF
			2.33%	0.01156	Epoxy Resin-1	Trade Secret	0.5 to 6% (LSC uses 3.25% in our calculation)
			2.15%	0.01068	Epoxy Resin-2	Trade Secret	1 to 5% (LSC uses 3% in our calculation)
			3.23%	0.01601	Phenol Resin	Trade Secret	3 to 6% (LSC uses 4.5% in our calculation)
			0.14%	0.00071	Carbon black	1333-86-4	0.20%
			62.47%	0.30976	Silica Fused	60676-86-0	82 to 94% (LSC uses 87.05% in our calculation)
			1.44%	0.00712	Other (trade secret)	-	<2% (LSC uses 2% in our calculation)
D/A Tape	0.01%	0.00006					TAPE: FH-900T-25_HR9004
			0.0017%	0.000008	Epoxy Resin	Trade Secret	10-20%; LSC uses 15% in our calculation
			0.0017%	0.000008	Phenol Resin	Trade Secret	10-20%; LSC uses 15% in our calculation
			0.0003%	0.000001	SiO_2 Filler	Trade Secret	1-10%; LSC uses 7.25% in our calculation
			0.0078%	0.000039	(Meta)Acrylic Copolymer	Trade Secret	65-75%; LSC uses 67.25% in our calculation
Wire	0.15%	0.00074			Copper (Cu)	7440-50-8	0.7 MIL COPPER WIRE
Lead Plating	1.20%	0.0059			Tin (Sn)	7440-31-5	Plating is 100% Matte Sn
Leadframe	26.61%	0.1319					C7025
			25.52%	0.12653	Copper (Cu)	7440-50-8	
			0.850%	0.00421	Nickel (Ni)	7440-02-0	2.2 to 4.2% Ni
			0.190%	0.00094	Silicon (Si)	7440-21-3	0.25 to 1.2% Si
			0.050%	0.00025	Magnesium (Mg)	7439-95-4	0.05 to 0.30% Mg

Notes:
The values listed above are nominal values based on studies of representatives of this particular package type, and are believed to be as accurate as possible.
Constituent substances and proportions in epoxy materials are before curing.
The information provided above is representative of the package as of the date listed, and is subject to change at any time.
www.latticesemi.com

Br/Cl/Sb

Pb lead-free

RoHS 2002/95/EC

Rev. A