

4 Leads - SMP
Package Material Declaration



Date	9-Feb-21	Product name	Integrated Circuit
Package Code	VD	RoHS Compliant	Y
Package Name	Brick package	Halogen Free	Y
Product Total Mass (g)	0.31160	Plating	Pure Matte Sn
Product Number		MLX90371	

Material Declaration

Part Name	Material Name	Component Weight (g)	Material Component (Element)	CAS #	Element ratio (%)	Material Weight (g)	Ratio total Wt (ppm)		
Leadframe	Zirconium Copper C151	0.19543	Copper (Cu)	7440-50-8	99.9	0.19523	626534		
			Zirconium (Zr)	7440-67-7	0.1	0.00020	627		
Plating	Silver	0.00197	Silver (Ag)	7440-22-4	100	0.00197	6335		
Die	Silicon	0.00302	Silicon (Si)	7440-21-3	99.99	0.00302	9691		
			others	-	0.01	0.0000003	1		
IMC	S-FeNi-8	0.000006	Iron (Fe)	7439-89-6	19.75	0.0000012	4		
			Nickel (Ni) (0.0 ~ 80%)	7440-02-0	40	0.0000024	8		
			Molybdenum (Mo) (0.0 ~ 80%)	7439-98-7	40	0.0000024	8		
			others (max. 0.5%)	-	0.25	0.00000002	0.05		
Die attach	Epoxy Adhesive FH9011	0.00061	Epoxy resin	Proprietary	92	0.00056	1801		
			SiO2	68611-44-9	8	0.00005	157		
Multilayer Ceramic Capacitor (4x)	Ceramic element	Ceramics	0.01739	Barium oxide, obtained by calcining witherite	1304-28-5	60	0.01043	33481	
				Titanium dioxide	13463-67-7	30	0.00522	16740	
					Misc.	-	10	0.00174	5580
	Inner electrode	Nickel alloy	0.002740	Nickel (Ni)	7440-02-0	100	0.00274	8793	
				Nickel Plating Layer	Ep-Ni	0.00018	Nickel (Ni)	7440-02-0	99.75
					Misc.	-	0.25	0.0000004	1
	Tin Plating Layer	Ep-Sn	0.00048	Tin (Sn)	7440-31-5	99.75	0.00048	1549	
				Misc.	-	0.25	0.0000001	4	
	Outer electrode	Copper	0.003972	Copper (Cu)	7440-50-8	100	0.00397	12747	
				Glass	0.000440	Glass w/o declarable substances	7631-86-9	99	0.00044
				Misc.	-	1	0.000004	14	
Multilayer Ceramic Capacitor (2x)	Ceramic element	Ceramics	0.00856	Barium oxide, obtained by calcining witherite	1304-28-5	60	0.00513	16475	
				Titanium dioxide	13463-67-7	30	0.00257	8237	
					Misc.	-	10	0.00086	2746
	Inner electrode	Nickel alloy	0.001348	Nickel (Ni)	7440-02-0	100	0.00135	4326	
				Nickel Plating Layer	Ep-Ni	0.00009	Nickel (Ni)	7440-02-0	99.75
					Misc.	-	0.25	0.0000002	1
	Tin Plating Layer	Ep-Sn	0.00024	Tin (Sn)	7440-31-5	99.75	0.00024	768	
				Misc.	-	0.25	0.0000001	2	
	Silver Plating Layer	Ag	0.00115	Silver (Ag)	7440-22-4	99.99	0.00115	3703	
				Misc.	-	0.01	0.0000001	0.4	
Outer electrode	Copper	0.000978	Copper (Cu)	7440-50-8	100	0.00098	3139		
			Glass	0.000108	Glass w/o declarable substances	7631-86-9	99	0.00011	343
				Misc.	-	1	0.0000001	3	
Epoxy	EP	0.00013	Epoxy resin	-	99	0.00013	407		
			Misc.	-	1	0.0000001	4		
Capacitor attach	Solder paste Sn95Sb5	0.00004	Tin (Sn)	7440-31-5	95	0.00004	137		
			Antimony (Sb)	7440-36-0	5	0.000002	7		
Wire	Pd doped Gold	0.00001	Gold (Au)	7440-57-5	99	0.00001	35		
			Palladium (Pd)	7440-05-3	1	0.0000001	0.4		
Lead Finish	Tin	0.00060	Tin (Sn)	7440-31-5	99.99	0.00060	1932		
			Others	-	0.01	0.0000001	0.2		
Encapsulation	Silica EP G600	0.07211	Silica fused	60676-86-0	86.5	0.06238	200174		
			Epoxy Resin	-	7	0.00505	16199		
			Phenol Resin	-	6	0.00433	13885		
			Carbon Black	1333-86-4	0.5	0.00036	1157		

Total package weight (g) 0.31160

Comments

- Composition derived from MSDS and material CoC from vendors
- Component weight based on assembly of generic parts
- Reliability qualification reports are available upon request through the appropriate sales or marketing contact
- Third party testing for RoHS substances are available upon request to environment@melexis.com

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