

4 Leads - TO39  
Package Material Declaration



Date	02-Jan-20	Product name	Integrated Circuit
Package Code	SF	RoHS Compliant	Y
Package Name	TO-39	Halogen Free	N
Product Total Mass (g)	0.91419	Plating	N/A

Product Number MLX90616HCA

Material Declaration

Part Name	Material Name	Component Weight (g)	Material Component (Element)	CAS #	Element ratio (%)	Material Weight (g)	Ratio total Wt (ppm)	
Header	Steel Undoped CRS1010	0.6087	Base (75%)	Carbon (C)	7440-44-0	0.08	0.0004	399
				Silicon (Si)	7440-21-3	0.1	0.0005	499
				Manganese (Mn)	7439-96-5	0.4	0.0018	1997
				Phosphorus (P)	7723-14-0	0.025	0.0001	125
				Sulphur (S)	7704-34-9	0.025	0.0001	125
				Nitrogen (N)	17778-88-0	0.007	0.00003	35
				Iron (Fe)	7439-89-6	99.363	0.4536	496164
			Glass (5%)	Glass	Propriety Information	100	0.0304	33290
			Isolated Pin (15%)	Carbon (C)	7440-44-0	0.05	0.00005	50
				Silicon (Si)	7440-21-3	0.3	0.0003	300
				Manganese (Mn)	7439-96-5	0.5	0.0005	499
				Phosphorus (P)	7723-14-0	0.03	0.00003	30
				Sulphur (S)	7704-34-9	0.03	0.00003	30
				Cobalt (Co)	7440-48-4	18	0.0164	17976
				Nickel (Ni)	7440-02-0	30	0.0274	29961
			Ni Plating (4%)	Iron (Fe)	7439-89-6	51.09	0.0466	51023
			Au Plating (1%)	Nickel(Ni)	7440-02-0	90	0.0219	23969
				Phosphorus (P)	7723-14-0	10	0.00243	2663
	Gold (Au)	7440-57-5	100	0.0061	6658			
Die Attach Material (ASIC)	Eccobond C990 Spec 333	0.0002	Silver (Ag)	7440-22-4	65	0.0001	142	
			Epichlorohydrin-formaldehyde-phenol copolymer	9003-36-5	20	0.00004	44	
			Dipropylene Glycol Monomethyl Ether	34590-94-8	10	0.00002	22	
			Formaldehyde, polymer with 2-methylphenol	25053-96-7	5	0.00001	11	
Die Attach Material (Sensor)	Dow Corning SE4450	0.0010	Treated aluminum oxide	Trade Secret	80	0.0008	875	
			Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20	0.0002	219	
Die	a. ASIC	0.0028	Silicon (Si)	7440-21-3	98	0.0027	2959	
			Others	-	2	0.00006	60	
	b. Sensor 1	0.0017	Silicon (Si)	7440-21-3	98	0.0017	1822	
			Others	-	2	0.00003	37	
	b. Sensor 2	0.0017	Silicon (Si)	7440-21-3	98	0.0017	1822	
			Others	-	2	0.00003	37	
Aluminum Wire	1.25 mil Aluminum (ALW295)	0.0002	Aluminum (Al)	7429-90-5	99	0.0002	181	
			Silicon (Si)	7440-21-3	1	0.000002	2	
Cap	Nickel	0.2710	Nickel(Ni)	7440-02-0	99.947	0.2709	296281	
			Copper (Cu)	7440-50-8	0.0011	0.000003	3	
			Iron (Fe)	7439-89-6	0.0011	0.000003	3	
			Manganese (Mn)	7439-96-5	0.05	0.00014	148	
			Silicon (Si)	7440-21-3	0.0008	0.000002	2	
Filter Wafer	IR Filter	0.0210	Silicon (Si)	7440-21-3	98	0.0206	22512	
			Others	-	2	0.0004	459	
Filter Epoxy	Eccobond 2332-17	0.0060	Epoxy Resin	Trade Secret	55.6	0.0033	3649	
			Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, reaction products with polypropylene glycol bis(2-aminomethylethyl)ether	68511-33-1	28	0.0017	1838	
			3-(3,4-Dichlorophenyl)-1,1-dimethylurea	330-54-1	8	0.0005	525	
			1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane	30499-70-8	8	0.0005	525	
			Carbon Black	1333-86-4	0.4	0.00002	26	

Total package weight (g) 0.91419

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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