

4 Leads - TO39  
Package Material Declaration



Date	15-Feb-19	Product name	Integrated Circuit
Package Code	SF	RoHS Compliant	Y
Package Name	TO-39	Halogen Free	Y
Product Total Mass (g)	1.87125	Plating	N/A
<b>Product Number</b>	MLX90621		

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	0.5838	Base (75%)	Carbon (C)	7440-44-0	0.08	0.0004	187
				Silicon (Si)	7440-21-3	0.1	0.0004	234
				Manganese (Mn)	7439-96-5	0.4	0.0018	936
				Phosphorus (P)	7723-14-0	0.025	0.0001	58
				Sulphur (S)	7704-34-9	0.025	0.0001	58
				Nitrogen (N)	17778-88-0	0.007	0.00003	16
				Iron (Fe)	7439-89-6	99.363	0.4351	232498
			Glass (5%)	Glass	Proprietary Information	100	0.0292	15599
			Isolated Pin (15%)	Carbon (C)	7440-44-0	0.05	0.00004	23
				Silicon (Si)	7440-21-3	0.3	0.0003	140
				Manganese (Mn)	7439-96-5	0.5	0.0004	234
				Phosphorus (P)	7723-14-0	0.03	0.00003	14
				Sulphur (S)	7704-34-9	0.03	0.00003	14
				Cobalt (Co)	7440-48-4	18	0.0158	8424
				Nickel(Ni)	7440-02-0	30	0.0263	14039
			Ni Plating (4%)	Iron (Fe)	7439-89-6	51.09	0.0447	23909
				Nickel(Ni)	7440-02-0	90	0.0210	11231
Au Plating (1%)	Phosphorus (P)	7723-14-0	10	0.00234	1248			
	Gold (Au)	7440-57-5	100	0.0058	3120			
Die Attach	Conductive epoxy 8290	0.00113	Epoxy resin (10~30%)	Proprietary	15	0.0002	91	
			Gamma Butyrolactone (1~10%)	Proprietary	5	0.00006	30	
			Amine (1~10%)	Proprietary	5	0.0001	30	
			Metal Oxide (1~10%)	Proprietary	5	0.0001	30	
			Silver Ag (70~90%)	7440-22-4	70	0.00079	423	
Die Attach Material (Sensor)	Epoxy Adhesive E3517	0.0021	Phenol, formaldehyd, (chloromethyl)oxiranpolymer	9003-36-5	35	0.0007	393	
			Bisphenol A, Epichlorhydrin polymer	25068-38-6	20	0.0004	224	
			gamma-Butyrolactone	96-48-0	20	0.0004	224	
			2,3-Epoxypropylneodecanoate	26761-45-5	5	0.0001	56	
			4,4'-Isopropylidenediphenol	80-05-7	5	0.0001	56	
			Phenol, Polymer mit Formaldehyd, Glycidylether	28064-14-4	1	0.0000	11	
			Diuron	330-54-1	1	0.0000	11	
			Graphite	7782-42-5	13	0.0003	146	
Die	a. ASIC	0.0042	Silicon (Si)	7440-21-3	98	0.0041	2173	
			Others	-	2	0.00008	44	
	b. Sensor 1	0.0002	Silicon (Si)	7440-21-3	98	0.0002	105	
			Others	-	2	0.00000	2	
	b. Sensor 2	0.0002	Silicon (Si)	7440-21-3	98	0.0002	105	
			Others	-	2	0.00000	2	
Aluminum Wire	1.25 mil Aluminum (ALW29S)	0.0002	Aluminum (Al)	7429-90-5	99	0.0002	88	
			Silicon (Si)	7440-21-3	1	0.000002	1	
Cap	Nickel	0.2710	Nickel(Ni)	7440-02-0	99.947	0.2709	144746	
			Copper (Cu)	7440-50-8	0.0011	0.000003	2	
			Iron (Fe)	7439-89-6	0.0011	0.000003	2	
			Manganese (Mn)	7439-96-5	0.05	0.00014	72	
			Silicon (Si)	7440-21-3	0.0008	0.000002	1	
Filter Wafer	IR Filter F5.5	0.0085	Silicon (Si)	7440-21-3	98	0.0083	4452	
			Others	-	2	0.0002	91	
Aperture	Aluminum	1.0000	Aluminum (Al)	7429-90-5	99.5	0.9950	531731	
			others	-	1	0.0050	2672	

Total package weight (g) 1.87125

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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