

16 Leads - TSSOP
Package Material Declaration



| | | | |
|------------------------|--|----------------|--------------------|
| Date | 28-Mar-19 | Product name | Integrated Circuit |
| Package Code | GO | RoHS Compliant | Y |
| Package Name | Thin Plastic Shrink Small Outline 173mil | Halogen Free | Y |
| Product Total Mass (g) | 0.05963 | Plating | Pure Matte Sn |
| Product Number | MLX90333 | | |

Material Declaration

| Part Name | Material Name | Component Weight (g) | Material Component (Element) | CAS # | Element ratio (%) | Material Weight (g) | Ratio total Wt (ppm) |
|---------------------|-----------------------------|----------------------|---------------------------------------|-------------|-------------------|---------------------|----------------------|
| Leadframe | Ag plated Cu C7025 | 0.01900 | Copper (Cu) (remaining) | 7440-50-8 | 95.83 | 0.01821 | 305318 |
| | | | Iron (Fe) (0.2 max) | 7439-89-6 | 0.02 | 0.000004 | 64 |
| | | | Lead (Pb) (0.005 max) | 7439-92-1 | 0.001 | 0.0000002 | 3 |
| | | | Cobalt (Co) (0.4 max) | 7440-48-4 | 0.2 | 0.00004 | 637 |
| | | | Nickel (Ni) (2.2~4.2%) | 7440-02-0 | 2.28 | 0.00043 | 7265 |
| | | | Zinc (Zn) (1.0 max) | 7440-66-6 | 0.02 | 0.000004 | 64 |
| | | | Manganese (Mn) (0.10 max) | 7439-96-5 | 0.004 | 0.000001 | 13 |
| | | | Silicon (Si) (0.25~1.2%) | 7440-21-3 | 0.52 | 0.00010 | 1657 |
| | | | Magnesium (Mg) (0.05~0.3%) | 7439-95-4 | 0.13 | 0.00002 | 414 |
| | | | Silver (Ag) (0.5~1.5%) | 7440-22-4 | 1 | 0.00019 | 3186 |
| Die | Silicon IC 1 | 0.00302 | Silicon (Si) | 7440-21-3 | 99.99 | 0.00302 | 50639 |
| | | | others | - | 0.01 | 0.0000003 | 5 |
| | Silicon IC 2 | 0.00302 | Silicon (Si) | 7440-21-3 | 99.99 | 0.00302 | 50639 |
| | | | others | - | 0.01 | 0.0000003 | 5 |
| IMC | S-FeNi-8 | 0.000012 | Iron (Fe) | 7439-89-6 | 19.75 | 0.0000024 | 40 |
| | | | Nickel (Ni) (0.0 ~ 80%) | 7440-02-0 | 40 | 0.0000048 | 80 |
| | | | Molybdenum (Mo) (0.0 ~ 80%) | 7439-98-7 | 40 | 0.0000048 | 80 |
| | | | others (max. 0.5%) | - | 0.25 | 0.0000003 | 1 |
| Die attach material | Conductive epoxy 84-3 | 0.00067 | Quartz (SiO2) | 14808-60-7 | 55 | 0.00037 | 6180 |
| | | | Epoxy resin | - | 43.605 | 0.00029 | 4899 |
| | | | Dimethyl silicone polymer with silica | 67762-90-7 | 0.75 | 0.00001 | 84 |
| | | | Diiron-trioxide | 1309-37-1 | 0.25 | 0.000002 | 28 |
| | | | Aluminum oxide | 1344-28-1 | 0.25 | 0.000002 | 28 |
| | | | Titanium-dioxide | 13463-67-7 | 0.075 | 0.000001 | 8 |
| | | | Cu-Phthalocyanin | 147-14-8 | 0.07 | 0.0000005 | 8 |
| | | 0.00067 | Quartz (SiO2) | 14808-60-7 | 55 | 0.00037 | 6180 |
| | | | Epoxy resin | - | 43.605 | 0.00029 | 4899 |
| | | | Dimethyl silicone polymer with silica | 67762-90-7 | 0.75 | 0.00001 | 84 |
| | | | Diiron-trioxide | 1309-37-1 | 0.25 | 0.000002 | 28 |
| | | | Aluminum oxide | 1344-28-1 | 0.25 | 0.000002 | 28 |
| | | | Titanium-dioxide | 13463-67-7 | 0.075 | 0.000001 | 8 |
| | | | Cu-Phthalocyanin | 147-14-8 | 0.07 | 0.0000005 | 8 |
| Wire | Gold | 0.00112 | Gold (Au) | 7440-57-5 | 99.99 | 0.00112 | 18780 |
| | | | Others | - | 0.01 | 0.0000001 | 2 |
| Lead Finish | Alloy | 0.00135 | Tin (Sn) | 7440-31-5 | 99.99 | 0.00135 | 22637 |
| | | | Others | - | 0.01 | 0.0000001 | 2 |
| Encapsulation | Epoxy resin CEL9220HF13V | 0.03077 | Epoxy resin | Proprietary | 7 | 0.00215 | 36120 |
| | | | Phenol resin (2~7%) | Proprietary | 5 | 0.00154 | 25800 |
| | | | Silica (74~92%) | 60676-86-0 | 80.8 | 0.02486 | 416926 |
| | | | Carbon black (0.2%) | 1333-86-4 | 0.2 | 0.00006 | 1032 |
| | | | Metal Hydroxide (1~10%) | Proprietary | 5 | 0.00154 | 25800 |
| | | | Others (max 3%) | - | 2 | 0.00062 | 10320 |

Total package weight (g) 0.05963

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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