

# Product Document

# Material Declaration Form

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ams AG  
Tobelbader Strasse 30  
A-8141 Premstaetten, Austria  
Tel +43 (0) 3136 500-0



| Ordering Code | Package Family | Assembly Material Number | Lead Count | Weight (mg) | Manufacturing Country | Halogen Free | EU RoHS | China RoHS | Release Status | Version |
|---------------|----------------|--------------------------|------------|-------------|-----------------------|--------------|---------|------------|----------------|---------|
| TMG49037      | OLGA           | 300590052                | 8          | 14.28       | Taiwan                | YES          | YES     | YES        | FULL           | 1       |

| Homogenous Material | Weight (mg)      | Symbol | Chemical Substance                  | Input Ratio (%) | CAS Number | Unit Weight (mg) | Unit Weight (%) | Amount (ppm)   |                 |
|---------------------|------------------|--------|-------------------------------------|-----------------|------------|------------------|-----------------|----------------|-----------------|
| Substrate           | 3.18             | Au     | Gold                                | 0.50            | 7440-57-5  | 0.01590          | 0.11134         | 1113           |                 |
|                     |                  | Cu     | Copper                              | 55.00           | 7440-50-8  | 1.74900          | 12.24790        | 122479         |                 |
|                     |                  | Ni     | Nickel                              | 2.00            | 7440-02-0  | 0.06360          | 0.44538         | 4454           |                 |
|                     |                  |        | Bismaleimide Triazine               | 3.50            | 35325-39-4 | 0.11130          | 0.77941         | 7794           |                 |
|                     |                  |        | Filament Fiber Glass                | 25.00           | 65997-17-3 | 0.79500          | 5.56723         | 55672          |                 |
|                     |                  |        | Inorganic Filler                    | 14.00           | 21645-51-2 | 0.44520          | 3.11765         | 31176          |                 |
|                     |                  |        | <b>Subtotal:</b>                    |                 |            | <b>100.00</b>    |                 | <b>3.18000</b> | <b>22.26891</b> |
| Solder Mask         | 0.56             | SiO2   | Silica                              | 1.00            | 7631-86-9  | 0.00560          | 0.03922         | 392            |                 |
|                     |                  |        | Barium Sulfate                      | 75.00           | 7727-43-7  | 0.42000          | 2.94118         | 29412          |                 |
|                     |                  |        | Carbon Black                        | 1.00            | 1333-86-4  | 0.00560          | 0.03922         | 392            |                 |
|                     |                  |        | Dipropylene glycol monomethyl ether | 18.00           | 34590-94-8 | 0.10080          | 0.70588         | 7059           |                 |
|                     |                  |        | Talc                                | 5.00            | 14807-96-6 | 0.02800          | 0.19608         | 1961           |                 |
|                     | <b>Subtotal:</b> |        |                                     | <b>100.00</b>   |            | <b>0.56000</b>   | <b>3.92157</b>  | <b>39216</b>   |                 |
| Adhesive (ASIC)     | 0.07             | Ag     | Silver                              | 85.00           | 7440-22-4  | 0.05950          | 0.41667         | 4167           |                 |
|                     |                  |        | Epoxy Resin                         | 15.00           | 25928-94-3 | 0.01050          | 0.07353         | 735            |                 |
|                     | <b>Subtotal:</b> |        |                                     | <b>100.00</b>   |            | <b>0.07000</b>   | <b>0.49020</b>  | <b>4902</b>    |                 |
| IC                  | 0.59             | Si     | Silicon                             | 100.00          | 7440-21-3  | 0.59000          | 4.13165         | 41317          |                 |
|                     |                  |        | <b>Subtotal:</b>                    |                 |            | <b>100.00</b>    | <b>0.59000</b>  | <b>4.13165</b> | <b>41317</b>    |

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|---------------------|-------------|--------|---|-----------------|-------------|------------------|-----------------|---------------|
| Adhesive (LED)      | 0.01        | Ag     | Silver  | 90.00           | 7440-22-4   | 0.00900          | 0.06303         | 630           |
|                     |             |        | Neopentyl glycol,<br>monobenzoate<br>monoacrylate | 10.00           | 66671-22-5  | 0.00100          | 0.00700         | 70            |
| <b>Subtotal:</b>    |             |        |   | <b>100.00</b>   |             | <b>0.01000</b>   | <b>0.07003</b>  | <b>700</b>    |
| LED Die (950nm)     | 0.03        | Al     | Aluminum  | 0.70            | 7429-90-5   | 0.00021          | 0.00147         | 15            |
|                     |             | As     | Arsenic   | 5.02            | 7440-38-2   | 0.00151          | 0.01055         | 105           |
|                     |             | Au     | Gold  | 12.69           | 7440-57-5   | 0.00381          | 0.02666         | 267           |
|                     |             | Ga     | Gallium   | 2.89            | 7440-55-3   | 0.00087          | 0.00607         | 61            |
|                     |             | In     | Indium  | 0.00            | 7440-74-8   | 0.00000          | 0.00000         | 0             |
|                     |             | Si     | Silicon   | 78.70           | 7440-21-3   | 0.02361          | 0.16534         | 1653          |
| <b>Subtotal:</b>    |             |        |   | <b>100.00</b>   |             | <b>0.03000</b>   | <b>0.21008</b>  | <b>2101</b>   |
| Wire                | 0.06        | Au     | Gold  | 100.00          | 7440-57-5   | 0.06000          | 0.42017         | 4202          |
| <b>Subtotal:</b>    |             |        |   | <b>100.00</b>   |             | <b>0.06000</b>   | <b>0.42017</b>  | <b>4202</b>   |
| LID Epoxy           | 0.04        |        | Carbon Black                                      | 3.00            | 1333-86-4   | 0.00120          | 0.00840         | 84            |
|                     |             |        | Epoxy Resin                                       | 92.00           | 25085-99-8  | 0.03680          | 0.25770         | 2577          |
|                     |             |        | Silica Dioxide                                    | 5.00            | 67762-90-7  | 0.00200          | 0.01401         | 140           |
| <b>Subtotal:</b>    |             |        |   | <b>100.00</b>   |             | <b>0.04000</b>   | <b>0.28011</b>  | <b>2801</b>   |
| LCP LID             | 7.04        |        | Carbon Black                                      | 5.00            | 1333-86-4   | 0.35200          | 2.46499         | 24650         |
|                     |             |        | Glass oxide                                       | 60.00           | 65997-17-3  | 4.22400          | 29.57983        | 295798        |
|                     |             |        | Liquid crystal<br>polymers                        | 35.00           | 147310-94-9 | 2.46400          | 17.25490        | 172549        |
| <b>Subtotal:</b>    |             |        |   | <b>100.00</b>   |             | <b>7.04000</b>   | <b>49.29972</b> | <b>492997</b> |

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|---------------------|--------------|--------|---------------------------|-----------------|------------|------------------|------------------|----------------|
| Moldcompound        | 2.7          |        | 2,6-Ditert.butyl-4-Methyl | 1.00            | 128-37-0   | 0.02700          | 0.18908          | 1891           |
|                     |              |        | Epoxy Resin               | 99.00           | 25068-38-6 | 2.67300          | 18.71849         | 187185         |
|                     |              |        | <b>Subtotal:</b>          | <b>100.00</b>   |            | <b>2.70000</b>   | <b>18.90756</b>  | <b>189076</b>  |
| <b>Total:</b>       | <b>14.28</b> |        |                           |                 |            | <b>14.28</b>     | <b>100.00000</b> | <b>1000000</b> |

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