


MATERIAL DECLARATION SHEET



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|-----------------|------------------------|-----|---|---|
| Material Number | P4SMA-Q | | |  |
| Product Line | Semiconductor Products | | | |
| Compliance Date | 2019/1/11 | | | |
| RoHS Compliant | Yes | MSL | 1 | |

| No. | Construction Element(subpart) | Homogeneous Material | Material weight [g] | Homogeneous Material\ Substances | CASRN if applicable | Materials Mass % | Material Mass % of total unit wt. | Subpart mass of total wt. (%) |
|-----|---------------------------------|----------------------|---------------------|----------------------------------|---------------------|------------------|-----------------------------------|-------------------------------|
| 1 | Dice | Silicon | 0.001330 | Silicon | 7440-21-3 | 60.18% | 1.2800% | 2.1269% |
| | | | | Phosphorus | 7723-14-0 | 0.01% | 0.0002% | |
| | | | | Boron | 7440-42-8 | 0.01% | 0.0002% | |
| | | | | Nickel | 7440-02-0 | 14.80% | 0.3148% | |
| | | | | Lead ^(Note2) | 7439-92-1 | 12.50% | 0.2659% | |
| | | | | Silicon dioxide | 7631-86-9 | 10.00% | 0.2127% | |
| | | | | Aluminum oxide | 1344-28-1 | 2.50% | 0.0532% | |
| 2 | High-melting point Solder paste | Solder paste | 0.002003 | Tin | 7440-31-5 | 5.00% | 0.1602% | 3.2032% |
| | | | | Lead ^(Note3) | 7439-92-1 | 92.50% | 2.9630% | |
| | | | | Silver | 7440-22-4 | 2.50% | 0.0801% | |
| 3 | Lead frame | Copper | 0.0275 | Copper | 7440-50-8 | 99.80% | 43.8902% | 43.9782% |
| | | | | Iron | 7439-89-6 | 0.15% | 0.0660% | |
| | | | | Phosphorus | 7723-14-0 | 0.05% | 0.0220% | |
| 4 | Molding compound | Epoxy material | 0.031035 | Silica | 14808-60-7 | 76.00% | 37.7199% | 49.6314% |
| | | | | Epoxy resin | 25928-94-3 | 9.00% | 4.4668% | |
| | | | | Phenolic resin-A,B | 9003-35-4 | 8.00% | 3.9705% | |
| | | | | Hydroxide metal | 21645-51-2 | 6.00% | 2.9779% | |
| | | | | Carbon black | 1333-86-4 | 1.00% | 0.4963% | |
| 5 | Plating | Matte-100% tin | 0.000663 | Tin | 7440-315 | 100.00% | 1.0603% | 1.0603% |
| | | Total weight | 0.062531 | | | | | |

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This Document was updated on: 2019/4/12

Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.
2. 7(c)-I Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.
3. 7(a) Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)