



# Apex Microtechnology Materials Substance Report

**Model:** MP111FD

**Print Time:** 9/19/2013 10:17:14 AM

**RoHS Compliant:** Yes

**Lead Free:** No

**Bonding Island Substances**

**Total Weight (g)**

NONE

N/A

**Capacitor Substances**

**Total Weight (g)**

Barium Titanate

1.90E-1

Bismuth Titanate

1.12E-2

Calcium Zirconate

1.12E-2

Magnesium Oxide

1.12E-2

Nickel

2.23E-3

Palladium

2.10E-3

Silica

1.12E-2

Silver

3.98E-2

Tin

5.58E-4



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<b>Die Substances</b>	<b>Total Weight (g)</b>
Alumina	1.28E-1
Aluminum	1.32E-2
Antimony Trioxide	3.99E-3
Barium Oxide	1.54E-5
Barium Titanate	5.88E-6
Bismuth Trioxide	3.94E-5
Boron Oxide	6.81E-5
Bromine Resin	7.90E-3
Carbon Black	7.91E-4
Catalyst	7.15E-3
Chromium	3.04E-5
Chromium Oxide	4.87E-5
Cobalt	6.63E-5
Copper	2.74E+0
Cupric Oxide	4.39E-5
Curing Agent	6.90E-5
Doped Silicon	4.86E-2
Epoxy	2.10E-3
Epoxy Resins	1.61E-1
Gold	1.59E-3
Iron	7.81E-3
Lead	2.42E-2
Lead Oxide	3.80E-4
Magnesium Oxide	2.77E-4
Manganese	8.34E-5
Manganese Oxide	5.45E-5
Metal Hydroxide	1.74E-3
Nickel	1.02E-2
Palladium	1.87E-4
Phosphorous	7.06E-5
Ruthenium Dioxide	3.10E-4
Silica	1.13E+0
Silicon	1.05E-2
Silver	1.44E-2
Sulfur	4.91E-7
Tin	2.61E-2



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Zinc

3.15E-1

**Encapsulant Substances**

**Total Weight (g)**

NONE

N/A

**Frame Substances**

**Total Weight (g)**

NONE

N/A

**Header Substances**

**Total Weight (g)**

NONE

N/A

**Lead Frame Substances**

**Total Weight (g)**

NONE

N/A

**Lid Substances**

**Total Weight (g)**

NONE

N/A

**Pin Substances**

**Total Weight (g)**

Copper

1.22E+0

Liquid Crystal Polymer

6.75E-1

Nickel

1.03E-2

Phosphorous

2.57E-3

Tin

8.36E-2

**Silicone Substances**

**Total Weight (g)**

NONE

N/A

**Solder Substances**

**Total Weight (g)**

NONE

N/A



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**Substrate Substances**

	<b>Total Weight (g)</b>
Alumina	1.71E-1
Aluminum	1.15E+1
Copper	5.92E-1
Epoxy	2.14E-1
Polyimide	4.67E-1
Silica	1.56E-3
Silver	9.84E-3
Tin	2.36E-1

**Thickfilm Substances**

	<b>Total Weight (g)</b>
NONE	N/A

**Wire Substances**

	<b>Total Weight (g)</b>
NONE	N/A



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## Substances Present in This Model

Substance	Total Weight (g)
Alumina	2.99E-1
Aluminum	1.16E+1
Antimony Trioxide	3.99E-3
Barium Oxide	1.54E-5
Barium Titanate	1.90E-1
Bismuth Titanate	1.12E-2
Bismuth Trioxide	3.94E-5
Boron Oxide	6.81E-5
Bromine Resin	7.90E-3
Calcium Zirconate	1.12E-2
Carbon Black	7.91E-4
Catalyst	7.15E-3
Chromium	3.04E-5
Chromium Oxide	4.87E-5
Cobalt	6.63E-5
Copper	4.55E+0
Cupric Oxide	4.39E-5
Curing Agent	6.90E-5
Doped Silicon	4.86E-2
Epoxy	2.16E-1
Epoxy Resins	1.61E-1
Gold	1.59E-3
Iron	7.81E-3
Lead	2.42E-2
Lead Oxide	3.80E-4
Liquid Crystal Polymer	6.75E-1
Magnesium Oxide	1.14E-2
Manganese	8.34E-5
Manganese Oxide	5.45E-5
Metal Hydroxide	1.74E-3
Nickel	2.27E-2
Palladium	2.28E-3
Phosphorous	2.64E-3
Polyimide	4.67E-1
Ruthenium Dioxide	3.10E-4



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## Substances Present in This Model

<b>Substance</b>	<b>Total Weight (g)</b>
Silica	1.14E+0
Silicon	1.05E-2
Silver	6.40E-2
Sulfur	4.91E-7
Tin	3.47E-1
Zinc	3.15E-1

**Sum of All Substances Present in This Model (g)** 2.02E+1