Materials Declaration

Package	JLCC
Body Size	
Lead Count	44
Option	SnPb

Combolid

Substance	% of Combolid	Weight (g)	PPM
Kovar	92.00	3.95E-01	157834
Nickel	4.00	1.72E-02	6862
Gold	4.00	1.72E-02	6862
Subtotal	100	4.29E-01	171559

Lid Frame

Substance	% of Lid Frame	Weight (g)	PPM
Gold	79.58	2.07 E-02	8274
Tin	20.42	5.31 E-03	2123
Subtotal	100	2.60 E-02	10398

Ceramic Package

Substance	% of Ceramic	Weight (g)	PPM
Ceramic			
Aluminum oxide	90.50	1.00 E+00	399914
Silicon dioxide	3.50	3.87 E-02	15466
Calcium oxide	0.60	6.63 E-03	2651
Magnesium oxide	0.50	5.53 E-03	2209
Titanium dioxide	1.00	1.11 E-02	4419
Chromium oxide	3.90	4.31 E-02	17234
Subtotal		1.11 E+00	441894
Pattern			
Tungsten	91.61	2.24 E-01	89390
Molybdenum	8.31	2.03 E-02	8109
Magnesium Carbonate	0.08	1.95 E-04	78
Subtotal		2.44 E-01	97577
Via Hole			
Molybdenum	83.3	5.00 E-04	200
Aluminum Oxide	16.7	1.00 E-04	40
Subtotal		6.00 E-04	240
Leads			
Iron	54.00	1.31 E-01	52475
Nickel	29.00	7.05 E-02	28181
Cobalt	17.00	4.13 E-02	16520
Subtotal		2.43 E-01	97177
Coating 1			
Silver	85.00	1.02 E-02	4079
Copper	15.00	1.80 E-03	720
Subtotal		1.20 E-02	4799
Coating 2			
Nickel	92.00	1.75 E-02	6990
Cobalt	8.00	1.52 E-03	608
Subtotal		1.90 E-02	7598
Coating 3			
Gold	100.00	2.10 E-01	83980
Total		1.83 E+00	733264

External Leadframe Plating

Substance	% of External Plating	Weight (g)	PPM
Tin	63.00	1.39 E-02	5543
Lead	37.00	8.14 E-03	3255
Subtotal	100.00	2.20 E-02	8798

Bond Wires

Substance	% of Wire	Weight (g)	PPM
Aluminum	100.00	6.40 E-02	25594

Chip

Substance	% of Chip	Weight (g)	PPM
Doped Silicon	100.00	6.30 E-02	25194

Die Attach Paste

Substance	% of Die Attach Paste	Weight (g)	PPM
Silver Filler	80.00	5.04 E-02	20155
Cyanate ester resin	20.00	1.26 E-02	5039
Subtotal	100.00	6.30 E-02	25194

Package Totals

Weight (g)	PPM
2.50E+00	1000000

Note: The information provided in this declaration are true to the best of ADI's knowledge.
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ANALOG DEVICES

Materials Declaration

Package	JLCC
Body Size	
Lead Count	44
Option	Au

Combolid

Item	% of Combolid	Weight (g)	PPM
Kovar	92.00	3.95E-01	159235
Nickel	4.00	1.72E-02	6923
Gold	4.00	1.72E-02	6923
Subtotal		4.29E-01	173082

Lid Frame

Item	% of Lid Frame	Weight (g)	PPM
Gold	79.58	2.07 E-02	8348
Sn	20.42	5.31 E-03	2142
Subtotal		2.60 E-02	10490

Ceramic Package

Item	% of Ceramic	Weight (g)	PPM
Ceramic			
Al2O3	90.50	1.00 E+00	403464
SiO2	3.50	3.87 E-02	15604
CaO	0.60	6.63 E-03	2675
MgO	0.50	5.53 E-03	2229
TiO2	1.00	1.11 E-02	4458
Cr2O3	3.90	4.31 E-02	17387
Subtotal		1.11 E+00	445816
Pattern			
Tungsten	91.61	2.24 E-01	90183
Molybdenum	8.31	2.03 E-02	8181
MgCO3	0.08	1.95 E-04	79
Subtotal		2.44 E-01	98443
Via Hole			
Molybdenum	83.30	5.00 E-04	202
Aluminum Oxide	16.70	1.00 E-04	40
Subtotal		6.00 E-04	242
Leads			
Iron	54.00	1.31 E-01	52941
Nickel	29.00	7.05 E-02	28431
Cobalt	17.00	4.13 E-02	16667
Subtotal		2.43 E-01	98039
Coating 1			
Ag	85.00	1.02 E-02	4115
Cu	15.00	1.80 E-03	726
Subtotal		1.20 E-02	4841
Coating 2			
Nickel	92.00	1.75 E-02	7052
Cobalt	8.00	1.52 E-03	613
Subtotal		1.90 E-02	7666
Total		1.62 E+00	655047

External Leadframe Plating

Item	% of External Plating	Weight (g)	PPM
Gold	100.00	2.10 E-01	84725

Bond Wires

Item	% of Wire	Weight (g)	PPM
Aluminum	100.00	6.40 E-02	25821

Chip

Item	% of Chip	Weight (g)	PPM
Si	100.00	6.30 E-02	25418

Die Attach Paste

Item	% of Die Attach Paste	Weight (g)	PPM
Silver Filler	80.00	5.04 E-02	20334
Cyanate ester resin	20.00	1.26 E-02	5084
Subtotal		6.30 E-02	25418

Package Totals

Weight (g)	PPM
2.48E+00	1000000

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ANALOG DEVICES

Materials Declaration

Package	JLCC
Body Size	
Lead Count	44
Option	SnPb

Combolid

Substance	% of Combolid	Weight (g)	PPM
Kovar	92.00	3.95E-01	157834
Nickel	4.00	1.72E-02	6862
Gold	4.00	1.72E-02	6862
Subtotal	100	4.29E-01	171559

Lid Frame

Substance	% of Lid Frame	Weight (g)	PPM
Gold	79.58	2.07 E-02	8274
Tin	20.42	5.31 E-03	2123
Subtotal	100	2.60 E-02	10398

Ceramic Package

Substance	% of Ceramic	Weight (g)	PPM
Ceramic			
Aluminum oxide	90.50	1.00 E+00	399914
Silicon dioxide	3.50	3.87 E-02	15466
Calcium oxide	0.60	6.63 E-03	2651
Magnesium oxide	0.50	5.53 E-03	2209
Titanium dioxide	1.00	1.11 E-02	4419
Chromium oxide	3.90	4.31 E-02	17234
Subtotal		1.11 E+00	441894
Pattern			
Tungsten	91.61	2.24 E-01	89390
Molybdenum	8.31	2.03 E-02	8109
Magnesium Carbonate	0.08	1.95 E-04	78
Subtotal		2.44 E-01	97577
Via Hole			
Molybdenum	83.3	5.00 E-04	200
Aluminum Oxide	16.7	1.00 E-04	40
Subtotal		6.00 E-04	240
Leads			
Iron	54.00	1.31 E-01	52475
Nickel	29.00	7.05 E-02	28181
Cobalt	17.00	4.13 E-02	16520
Subtotal		2.43 E-01	97177
Coating 1			
Silver	85.00	1.02 E-02	4079
Copper	15.00	1.80 E-03	720
Subtotal		1.20 E-02	4799
Coating 2			
Nickel	92.00	1.75 E-02	6990
Cobalt	8.00	1.52 E-03	608
Subtotal		1.90 E-02	7598
Coating 3			
Gold	100.00	2.10 E-01	83980
Total		1.83 E+00	733264

External Leadframe Plating

Substance	% of External Plating	Weight (g)	PPM
Tin	63.00	1.39 E-02	5543
Lead	37.00	8.14 E-03	3255
Subtotal	100.00	2.20 E-02	8798

Bond Wires

Substance	% of Wire	Weight (g)	PPM
Aluminum	100.00	6.40 E-02	25594

Chip

Substance	% of Chip	Weight (g)	PPM
Doped Silicon	100.00	6.30 E-02	25194

Die Attach Paste

Substance	% of Die Attach Paste	Weight (g)	PPM
Silver Filler	80.00	5.04 E-02	20155
Cyanate ester resin	20.00	1.26 E-02	5039
Subtotal	100.00	6.30 E-02	25194

Package Totals

Weight (g)	PPM
2.50E+00	1000000

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ANALOG DEVICES

ADI Proprietary

Materials Declaration

Package	JLCC
Body Size	
Lead Count	44
Option	SnPb

Combolid

Item	% of Combolid	Weight (g)	PPM
Kovar	92.00	3.95E-01	157834
Nickel	4.00	1.72E-02	6862
Gold	4.00	1.72E-02	6862
Subtotal		4.29E-01	171559

Lid Frame

Item	% of Lid Frame	Weight (g)	PPM
Gold	79.58	2.07 E-02	8274
Sn	20.42	5.31 E-03	2123
Subtotal		2.60 E-02	10398

Ceramic Package

Item	% of Ceramic	Weight (g)	PPM
Ceramic			
Al2O3	90.50	1.00 E+00	399914
SiO2	3.50	3.87 E-02	15466
CaO	0.60	6.63 E-03	2651
MgO	0.50	5.53 E-03	2209
TiO2	1.00	1.11 E-02	4419
Cr2O3	3.90	4.31 E-02	17234
Subtotal		1.11 E+00	441894
Pattern			
Tungsten	91.61	2.24 E-01	89390
Molybdenum	8.31	2.03 E-02	8109
MgCO3	0.08	1.95 E-04	78
Subtotal		2.44 E-01	97577
Via Hole			
Molybdenum	83.3	5.00 E-04	200
Aluminum Oxide	16.7	1.00 E-04	40
Subtotal		6.00 E-04	240
Leads			
Iron	54.00	1.31 E-01	52475
Nickel	29.00	7.05 E-02	28181
Cobalt	17.00	4.13 E-02	16520
Subtotal		2.43 E-01	97177
Coating 1			
Ag	85.00	1.02 E-02	4079
Cu	15.00	1.80 E-03	720
Subtotal		1.20 E-02	4799
Coating 2			
Nickel	92.00	1.75 E-02	6990
Cobalt	8.00	1.52 E-03	608
Subtotal		1.90 E-02	7598
Coating 3			
Gold	100.00	2.10 E-01	83980
Total		1.83 E+00	733264

External Leadframe Plating

Item	% of External Plating	Weight (g)	PPM
Sn	63.00	1.39 E-02	5543
Pb	37.00	8.14 E-03	3255
Subtotal		2.20 E-02	8798

Bond Wires

Item	% of Wire	Weight (g)	PPM
Aluminum	100.00	6.40 E-02	25594

Chip

Item	% of Chip	Weight (g)	PPM
Si	100.00	6.30 E-02	25194

Die Attach Paste

Item	% of Die Attach Paste	Weight (g)	PPM
Silver Filler	80.00	5.04 E-02	20155
Cyanate ester resin	20.00	1.26 E-02	5039
		6.30 E-02	25194

Package Totals

Weight (g)	PPM
2.50E+00	1000000

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ANALOG DEVICES