Materials Declaration

Package	MQFP_PQ4
Body Size	32 X 32 x 3.5
LeadCount	240
Option	Pb-free

Molding Compound

Item	% of Compound	Weight (g)	PPM
SiO2 Filler	85.0	3.75 E+00	447306
Multiaromatic Resin	15.0	6.61 E-01	78936

Leadframe

Item	% of Leadframe	Weight (g)	PPM
Cu	99.25	9.61 E-01	114726
Cr	0.30	2.90 E-03	347
Sn	0.25	2.42 E-03	289
Zn	0.20	1.94 E-03	231

Internal Leadframe Plating

	% of Plating	Weight (g)	PPM
Ag	100.0	2.86 E-03	342

External Leadframe Plating

Item	% of Plating	Weight (g)	PPM
Sn	100.0	3.46 E-02	4134

Bond Wires

	% of Wire	Weight (g)	PPM
Au	99.99	2.06 E-02	2459

Chip

	% of Chip	Weight (g)	PPM
Si	100.0	2.88 E-01	34414

Die Attach

Item	% of Die Attach	Weight (g)	PPM
Ag Filler	75.0	1.78 E-02	2131
Resin	25.0	5.95 E-03	710

Heat Slug/Sink

	% of Heat Sink	Weight (g)	PPM
Al	100.0	2.63 E+00	313975

Package Totals

Weight (g)	PPM
8.37 E+00	1000000

Molding Compound

Item	PPM	Method
Pb	None Detected	USEPA 3050B - ICP-AES
Cd	None Detected	EN1122 MethodB:2001. ICP-AES
Hg	None Detected	USEPA 3052. ICP-AES
Cr+6	None Detected	USEPA 3060A. UV-VIS
PBB	None Detected	USEPA 3540C. Analysis by GC/MS.
PBDE	None Detected	USEPA 3540C. Analysis by GC/MS.

Die Attach Paste

Item	PPM	Method
Pb	None Detected	USEPA 3050B - ICP-AES
Cd	None Detected	EN1122:2001. ICP-AES
Hg	None Detected	USEPA 3052. ICP-AES
Cr+6	None Detected	USEPA 3060A & 7196A.
PBB	None Detected	USEPA 3540C or 3550C. Analysis by HPLC/DAD, LC/MS or GC/MS.
PBDE	None Detected	USEPA 3540C or 3550C. Analysis by HPLC/DAD, LC/MS or GC/MS.

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Materials Declaration

Package	MQFP-ED
Body Size	32 X 32
LeadCount	240
Option	Sn/Pb

Molding Compound

Item	% of Compound	Weight (g)	PPM
Epoxy Resin	8	3.47 E-01	46576
SiO2 Filler	86	3.73 E+00	500695
Phenol Resin	5	2.17 E-01	29110
Antimony_Sb2O3	0.4	1.74 E-02	2329
Brominated Resin	0.4	1.74 E-02	2329
Carbon Black	0.2	8.68 E-03	1164

Leadframe

Item	% of Leadframe	Weight (g)	PPM
Cu	96.2	8.65 E-01	115982
Ni	3	2.70 E-02	3617
Si	0.65	5.85 E-03	784
Mg	0.15	1.35 E-03	181

Internal Leadframe Plating

	% of Plating	Weight (g)	PPM
Ag	100	3.60 E-02	4827

External Leadframe Plating

Item	% of Plating	Weight (g)	PPM
Sn	85	3.44 E-02	4616
Pb	15	6.08 E-03	815

Bond Wires

	% of Wire	Weight (g)	PPM
Au	99.99	7.73 E-02	10367

Chip

	% of Chip	Weight (g)	PPM
Si	100	9.94 E-02	13329

Die Attach

Item	% of Die Attach	Weight (g)	PPM
Resin	23	2.77 E-03	371
Ag Filler	77	9.27 E-03	1243

Heat Sink A

	% of Heat Sink	Weight (g)	PPM
Cu	99.935	9.00 E-01	120683
Zr	0.05	4.50 E-04	60
Mn	0.005	4.50 E-05	6
Fe	0.005	4.50 E-05	6
Al	0.005	4.50 E-05	6

Heat Sink Attach A

	% of Heat Sink Attach	Weight (g)	PPM
Resin	23	1.73 E-02	2316
Ag Filler	77	5.78 E-02	7755

Heat Sink B

	% of Heat Sink	Weight (g)	PPM
Cu	99.935	9.00 E-01	120683
Zr	0.05	4.50 E-04	60
Mn	0.005	4.50 E-05	6
Fe	0.005	4.50 E-05	6
Al	0.005	4.50 E-05	6

Heat Sink Attach B

Item	% of Heat Sink Attach	Weight (g)	PPM
Resin	30	2.25 E-02	3021
Ag Filler	70	5.26 E-02	7050

Package Totals

Weight (g)	PPM
7.46 E+00	1000000

Molding Compound

Item	PPM	Method
Pb	4.90	EPA method #3052 (ICP-AES)
Cd	<2.0	BS EN 1122:2001B (ICP-AES)
Hg	<2.0	Mercury Analyser
Cr+6	<2.0	EPA method #3060A(UV)
PBB	ND	SGS In-House Method
PBDE	ND	SGS In-House Method

Die Attach Paste

Item	PPM	Method
Pb	<5.0	ICP-AES
Cd	<5.0	ICP-AES
Hg	<5.0	ICP-AES
Cr+6	2.0	EPA method 7196A & EPA 3060A

AST-SP-A

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