



MATERIAL DECLARATION DATA SHEET

Device Name	Package Type	Pkg Wt (g)			
M2S150	FC1152(35x35mm)	9.52			
Material Breakdown of Component	Material Breakdown (%)	Substance Name	CAS No.	Weight (g)	Substance Mass (%)
Heat Spreader (Lid)	56.78	Copper (Cu)	7440-50-8	5.3010	98.04
		Nickel (Ni)	7440-02-0	0.1060	1.96
				5.40700	100
Thermal Grease	0.525	Proprietary Silicone	Proprietary	0.0025	5
		Zn Compounds	1314-13-2	0.0100	20
		Aluminum	7429-90-5	0.0375	75
				0.05000	100
Lid Adhesive	0.473	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	0.0203	45
		Quartz	14808-60-7	0.0151	33.5
		Dimethylvinylated and trimethylated silica	68988-89-6	0.0068	15
		Silica	60676-86-0	0.0023	5
		Dimethyl, methylhydrogen siloxane	68037-59-2	0.0005	1
		Carbon Black	1333-86-4	0.0002	0.5
				0.04500	100
SUBSTRATE	28.25	Resin	Proprietary	1.3538	50.32
		Copper (Cu)	7440-50-8	1.2601	46.85
		SOP	Proprietary	0.0098	0.37
		Others		0.0663	2.47
				2.6900	100.00
DIE	1.33	Silicon	7440-21-3	0.1262	100
				0.1262	100
UNDERFILL	0.58	Silica, vitreous	60676-86-0	0.0330	60
		p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	0.0083	15
		Phenolic Polymer Resin, Epikote 155	9003-36-5	0.0055	10
		4,4'-isopropylidenediphenol-1-chloro-2,3-epoxypropane	25068-38-6	0.0017	3
		Other aliphatic amine compounds	Proprietary	0.0055	10
		Carbon Black	1333-86-4	0.0003	0.5
		Proprietary Additives	Proprietary	0.0003	0.5
		Bismuth compounds	Proprietary	0.0006	1
				0.0550	100
SOLDER BALL	12.01	Tin (Sn)	7440-31-5	0.7205	63
		Lead (Pb)	7439-92-1	0.4232	37
				1.1437	100
BUMP	0.06	Tin (Sn)	7440-31-5	0.0058	97.7
		Silver (Ag)	7440-22-4	0.0001	2.3
				0.0059	100
				9.523	

Disclaimer: Microsemi believes this information to be correct, but cannot guarantee its completeness or accuracy. The information is based on data received from sources outside our company.

Revision No.	Date	Description of Change
	12/23/2014	Original release



MATERIAL DECLARATION DATA SHEET

Device Name	Package Type	Pkg Wt (g)
M2S150	FCS536(16x16mm)	0.6090

Material Breakdown of Component	Material Breakdown (%)	Substance Name	CAS No.	Weight (g)	Substance Mass (%)
MOLD COMPOUND	28.69	Silica A	60676-86-0	0.1241	71.00
		Silica B	Proprietary	0.0131	7.50
		Resin	Proprietary	0.0236	13.50
		Aluminium and its compound	Proprietary	0.0131	7.50
		Carbon Black	1333-86-4	0.0009	0.50
				0.17475	100.00
SUBSTRATE	39.97	Resin	Proprietary	0.0570	23.43
		Copper (Cu)	7440-50-8	0.1411	57.99
		Glass Fiber	65997-17-3	0.0439	18.05
		Others	Proprietary	0.0013	0.53
				0.2434	100.00
DIE	17.17	Silicon	7440-21-3	0.1046	100.00
				0.1046	100.00
UNDERFILL	2.34	Silica, vitreous	60676-86-0	0.0093	65.00
		p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	0.0014	10.00
		Bisphenol F epoxy resin	9003-36-5	0.0014	10.00
		Bisphenol A epoxy resin	25068-38-6	0.0006	4.00
		Other aliphatic amine compounds	Proprietary	0.0010	7.00
		Carbon Black	1333-86-4	0.0001	1.00
		Proprietary Additives	Proprietary	0.0004	3.00
				0.0143	100.00
SOLDER BALL	10.95	Tin (Sn)	7440-31-5	0.0420	63.00
		Lead (Pb)	7439-92-1	0.0247	37.00
				0.0667	100.00
BUMP	0.87	Tin (Sn)	7440-31-5	0.0006	10.57
		Silver (Ag)	7440-22-4	0.0000	0.20
		Copper (Cu)	7440-50-8	0.0047	89.23
				0.0053	100.00
				0.6090	

Disclaimer: Microsemi believes this information to be correct, but cannot guarantee its completeness or accuracy. The information is based on data received from sources outside our company.

Revision No.	Date	Description of Change
1	11/10/2015	Original release



MATERIAL DECLARATION DATA SHEET

Device Name	Package Type	Pkg Wt (g)			
M2S150	FCV484(19x19)	3.20			
Material Breakdown of Component	Material Breakdown (%)	Substance Name	CAS No.	Weight (g)	Substance Mass (%)
Heat Spreader	44.68	Copper	7440-50-8	1.3844	96.97
		Nickel	7440-02-0	0.0428	3.00
		Epoxy resin	Proprietary	0.0002	0.01
		Others	Proprietary	0.0002	0.02
				1.4277	100.00
SUBSTRATE	34.42	Copper (Cu)	7440-50-8	0.3924	35.67
		Glass Fiber	65997-17-3	0.2303	20.94
		Inorganic Fiber	Proprietary	0.2245	20.41
		Organic Resin	Proprietary	0.1209	10.99
		Cured Resin	Proprietary	0.0594	5.40
		Barium Sulfate	7727-43-7	0.0292	2.65
		Tin (Sn)	7440-31-5	0.0201	1.83
		Silica	7631-86-9	0.0066	0.60
		Other epoxy resin	Proprietary	0.0045	0.41
		Others	Proprietary	0.0121	1.10
				1.1000	100.00
DIE	9.99	Silicon	7440-21-3	0.3191	100.00
				0.3191	100.00
Underfill	1.25	Silica, Vitreous	60676-86-0	0.0239	60.00
		1,6-Bis(2,3-epoxypropoxy) naphthalene	27610-48-6	0.0232	15.00
		Bisphenol F type liquid epoxy resin	9003-36-5	0.0091	10.00
		Proprietary Material-Other aliphatic amine compounds	Proprietary	0.0246	10.00
		Bisphenol A type liquid epoxy resin	25068-38-6	0.0074	3.00
		Others	Proprietary	0.0002	2.00
				0.0399	100.00
SOLDER BALL	7.70	Tin (Sn)	7440-31-5	0.1550	63.00
		Lead (Pb)	7439-92-1	0.0910	37.00
				0.2460	100.00
TIM	1.57	Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2	0.0151	30.00
		Treated aluminium oxide	Proprietary	49.0000	70.00
				0.0503	100.00
Solder Bump	0.40	Tin (Sn)	7440-31-5	0.0124	97.70
		Silver (Ag)	7440-22-4	0.0529	2.30
				0.0127	100.00
				3.1957	

Disclaimer: Microsemi believes this information to be correct, but cannot guarantee its completeness or accuracy. The information is based on data received from sources outside our company.

Revision No.	Date	Description of Change
1	2016/2/1	Original release