


MATERIAL DECLARATION SHEET



Material Number	AMS22U (Dual Ball Bearings)			
Product Line	Analog Magnetic Servo			
Compliance Date	2011			
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	Housing	Aluminum	9.36	Silicon	7440-21-3	0.7	0.462	65.94
				Iron	7439-89-6	0.34	0.224	
				Copper	7440-50-8	0.34	0.224	
				Manganese	7439-96-5	0.09	0.059	
				Magnesium	7439-95-4	0.9	0.593	
				Chromium	7440-47-3	0.09	0.059	
				Zinc	7440-66-6	0.05	0.033	
				Titanium	7440-32-6	0.02	0.013	
2	Rotor	Nylon	0.375	Polyhexamethylene Adipamide	32131-17-2	66	1.744	2.64
				Glass fiber	65997-17-3	32	0.845	
				Molybdenum disulfide	1317-33-5	2	0.053	
3	Cover	Nylon	1.076	PA 9T	169284-22-4	43	3.259	7.58
				Brominated Polystyrene	88497-56-5	23	1.743	
				Glass Fiber	65997-17-3	34	2.577	

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4	Bearing X 2	Stainless Steel	0.588	Carbon	7440-44-0	0.15	0.006	4.14
				Chromium	7440-47-3	18	0.746	
				Iron	7439-89-6	68.9	2.854	
				Manganese	7439-96-5	2	0.083	
				Molybdenum	7439-98-7	0.6	0.025	
				Nickel	7440-02-0	9	0.373	
				Phosphorus	7723-14-0	0.2	0.008	
				Sulfur	7704-34-9	0.15	0.006	
				Silicon	7440-21-3	1	0.041	
5	PCB Panel	PCB-Copper	0.021	Copper	7440-50-8	100	2.922	2.92
		PCB-Laminate	0.383	Glass fiber	65997-17-3	55	1.607	
				Phenol	26265-08-7	45	1.315	
		Solder Resist	0.01	Bisphenol A, epichlorohydrin polymer	25068-38-6	56.9	1.663	
				Talc	14807-96-6	2	0.058	
				Barium Sulfate	7727-43-7	13.1	0.383	
				Tri-2, 1-ethanediyl triacrylate	40220-08-4	2.8	0.082	
				Quartz	14808-60-7	20	0.584	
				Hexabromo-decachloro-phthalocyaninato	14302-13-7	0.4	0.012	
				Cyanoguanidine	461-58-5	0.1	0.003	
		Further Additives	----	4.7	0.137			
		PCB-Metals	0.00083	Gold	7440-57-5	3.8	0.111	
				Nickel	7440-02-0	96.2	2.811	

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6	Capacitors X 3	Ceramic Body	0.0053	Barium	7440-39-3	48.5	0.061	0.13
				Oxygen	7782-44-7	20.2	0.026	
				Titanium	7440-32-6	16.8	0.021	
				Nickel	7440-02-0	13.7	0.017	
				Misc, not to declare	----	0.8	0.001	
		Soldering Termination	0.00068	Copper	7440-50-8	47	0.059	
				Nickel	7440-02-0	12.1	0.015	
				Tin	7440-31-5	37.4	0.047	
				Misc, not to declare	----	3.5	0.004	
7	ASIC	Leadframe	0.024	Copper	7440-50-8	99.9	0.782	0.78
				Zirconium	7440-67-7	0.1	0.001	
		Die	0.0026	Silicon	7440-21-3	99.99	0.783	
				Misc, not to declare	----	0.001	0.000	
		Die Attach Adhesive	0.0011	Silver	7440-22-4	80	0.626	
				Epoxy Resin	----	15	0.117	
				Additives, not to declare	----	5	0.039	
		Bonding Wire	0.0003	Arsenic	7440-38-2	0.0007	0.000	
				Gold	7440-57-5	99.99	0.783	
				Bismuth	7440-69-9	0.0005	0.000	
				Chromium	7440-47-3	0.00007	0.000	
				Copper	7440-50-8	0.0013	0.000	
				Iron	7439-89-6	0.0005	0.000	
				Magnesium	7439-95-4	0.0008	0.000	
				Manganese	7439-96-5	0.00008	0.000	
				Nickel	7440-02-0	0.00008	0.000	
				Lead	7439-92-1	0.0005	0.000	
Palladium	7440-05-3			0.0013	0.000			
Silicon	7440-21-3			0.0012	0.000			
Tin	7440-31-5	0.0003	0.000					

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		Lead Finish	0.0014	Carbon	7440-44-0	0.505	0.004	
				Sulfur	7704-34-9	0.02	0.000	
				Lead	7439-92-1	0.015	0.000	
				Tin	7440-31-5	99.46	0.778	
		Encapsulation	0.0817	Carbon Black	1333-84-4	0.3	0.002	
				Silica, Vitreous	60676-86-0	87.7	0.686	
				Epoxy Resin	----	5	0.039	
				Phenolic Resin	----	5	0.039	
				Formaldehyde, Polymer w/ (chloromethyl) oxirane and 2-methylphenol	29690-82-2	2	0.016	
		Plating	0.000006	Cobalt	7440-48-4	85	0.665	
				Silicon	7440-21-3	6	0.047	
				Iron	7439-89-6	3	0.023	
				Manganese	7439-96-5	4	0.031	
				Molybdenum	7439-98-7	2	0.016	
		8	Magnet	NdFeB Sintered Magnet	0.516	Neodymium	7440-00-8	
Iron	7439-89-6					67.5	2.454	
Plating	0.03			Boron	7440-42-8	1	0.036	
				Nickel	7440-02-0	0.5	0.018	
9	Shaft	Stainless Steel	1.377	Carbon	7440-44-0	0.15	0.015	9.70
				Chromium	7440-47-3	18	1.746	
				Iron	7439-89-6	68.9	6.684	
				Manganese	7439-96-5	2	0.194	
				Molybdenum	7439-98-7	0.6	0.058	
				Nickel	7440-02-0	9	0.873	
				Phosphorus	7723-14-0	0.2	0.019	
				Sulfur	7704-34-9	0.15	0.015	
				Silicon	7440-21-3	1	0.097	

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10	Terminal X 3	Brass	0.087	Copper	7440-50-8	70	1.253	1.79
				Zinc	7440-66-6	30	0.537	
		Plating	0.005	Tin	7440-31-5	100	0.018	
11	C-Clip X 2	Stainless Steel	0.02	Iron	7439-89-6	84.85	0.120	0.14
				Carbon	7440-44-0	0.15	0.000	
				Manganese	7439-96-5	1	0.001	
				Silicon	7440-21-3	1	0.001	
				Chromium	7440-47-3	13	0.018	
12	Flat Washer	Stainless Steel	0.009	Iron	7439-89-6	72.82	0.046	0.06
				Carbon	7440-44-0	0.15	0.000	
				Manganese	7439-96-5	0.02	0.000	
				Chromium	7440-47-3	18	0.011	
				Nickel	7440-02-0	9	0.006	
				Silicon	7440-21-3	0.01	0.000	
14	Solder Paste	Solder	0.01	Tin	7440-31-5	88	0.062	0.07
				Silver	7440-22-4	7	0.005	
				Copper	7440-50-8	5	0.004	
15	Epoxy	UV Epoxy	0.01	Cycloaliphatic epoxide	trade secret	40	0.028	0.07
				Polyetherpolyol resins	39072-02-1	15	0.011	
				Silicon dioxide	67762-90-7	25	0.018	
				Hydrated alumina	21645-51-2	20	0.014	
16	Coating	Conformal Coating	0.02	2-Butanone Oxime	96-29-7	1.85	0.0026	0.14
				Naphtha	64742-48-9	4.63	0.0065	
				Isoparaffinic Hydrocarbon	90622-57-4	92.59	0.1296	
				Cobalt Octoate	136-52-7	0.93	0.0013	

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17	Solder	Solder	0.18	Tin	7440-31-5	88	1.12	1.27
				Silver	7440-22-4	7	0.09	
				Copper	7440-50-8	5	0.06	
				Total weight			14.19	

This Document was updated on: Nov 1, 2011

Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.
2. Per [Product Update Memo SC2436](#), this MDS is under revision. The updated version will be posted soon.