

MATERIAL DECLARATION SHEET



Material Number	SSD-500A		
Product Line	Sensors & Controls		
Compliance Date	11/7/2024		
RoHS Compliant	Yes	MSL	N/A

No.	Construction Element (subpart)	Homogeneous Material	Material weight [g]	Homogeneous Material/ Substances	CASRN	Materials Mass %	Material Mass % of total unit wt.	Subpart mass of total wt. (%)
					if applicable			
1	Multilayer	Electro plating	0.00004	Nickel	7440-02-0	100	0.00005	0.01833
			0.00015	Copper	7440-50-8	100	0.00020	
			0.00022	Tin	7440-31-5	100	0.00029	
		Silver Electrode	0.00048	Silver	7440-22-4	100	0.00063	
			0.00032	Silver	7440-22-4	88	0.00037	
		Silicon dioxide		60676-86-0	4	0.00002		
		Glass without declarable substances materials		-	8	0.00003		
		Multilayer Ferrite Inductors	0.01279	Copper	7440-50-8	4	0.00067	
				Nickel	7440-02-0	3	0.00050	
				Ferrite	7439-89-6	89	0.01491	
Zinc	7440-66-6			4	0.00067			
2	Electrical Connector 1	Body	0.34	Carbon black	1333-86-4	10	0.04452	0.68384
				Liquid Crystal Polymer	70679-92-4	50	0.22262	
				Further Additives, not to declare	system	10	0.04452	
				Glass Fiber	65997-17-3	30	0.13357	
		Terminals	0.172	Copper	7440-50-8	85	0.19145	
				Zinc	7440-66-6	15	0.03379	
		Nickel	0.0064	Nickel	7440-02-0	100	0.00838	

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		underplating						
		Tin underplating	0.0034	TIN	7440-31-5	100	0.00445	
		Gold Terminals	0.000408	Cobalt	7440-48-4	10	0.00005	
				Nickel	7440-02-0	10	0.00005	
				Gold	7440-57-5	80	0.00043	
				Carbon black	1333-86-4	10	0.08905	
		Body	0.68	Liquid Crystal Polymer	70679-92-4	60	0.53428	
				Further Additives, not to declare	system	10	0.08905	
				Glass Fiber	65997-17-3	30	0.26714	
				Copper	7440-50-8	85	0.40516	
3	Electrical Connector 2 (X2)	Terminals	0.364	Zinc	7440-66-6	15	0.07150	
					Nickel underplating	0.0128	Nickel	7440-02-0
			Tin underplating	0.0068	TIN	7440-31-5	100	0.00890
			Gold Plating	0.000816	Cobalt	7440-48-4	10	0.00011
					Nickel	7440-02-0	10	0.00011
					Gold	7440-57-5	80	0.00085
					Carbon	7440-44-0	0.15	0.00100
4		Screw	A2 Stainless-Steel (X 2)	0.508	Manganese	7439-96-5	2	0.01330
					Phosphorus	7723-14-0	0.2	0.00133
					Sulfur	7704-34-9	0.15	0.00100
					Silicon	7440-21-3	0.9	0.00599
					Chromium	7440-47-3	18	0.11974
					Nickel	7440-02-0	9	0.05987
					Iron	7439-89-6	69	0.45901
					Molybdenum	7439-98-7	0.6	0.00399
5	Voltage	Gold wire	0.0089340	Gold	7440-57-5	100	0.01170	0.02311

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	Regulator	Die Attach Adhesive	0.0016434	Silver	7440-22-4	79.99993	0.00172	
				Epoxy	85954-11-6	20.00007	0.00043	
		Copper and Its Alloys	0.0054614	Copper	7440-50-8	97.41	0.00697	
				Iron	7439-89-6	2.38	0.00017	
				Phosphorus	7723-14-0	0.083994	0.00001	
				Zinc	7440-66-6	0.126006	0.00001	
				Nickel	7440-02-0	95.11982	0.00154	
		Lead Frame Plating	0.0012400	Gold	7440-57-5	0.780172	0.00001	
				Palladium	7440-05-3	4.1	0.00007	
				Fused Silica	60676-86-0	85.9999	0.00010	
		Mold Compound	0.0000849	Carbon Black	1333-86-4	0.5	0.00000	
				Epoxy	85954-11-6	13.5	0.00002	
		Ceramics / Glass	0.0002850	Silicon	7440-21-3	100	0.00029	
		6	Diodes & Rectifiers	Die Doped Silicon	0.000208	Silicon	7440-21-3	
Lead Frame	0.0024			Iron	7439-89-6	57.65	0.00181	
				Nickel	7440-02-0	41	7.51427	
				Manganese	7439-96-5	0.6	0.00002	
				Chromium	7440-47-3	0.1	0.00000	
				Cobalt	7440-48-4	0.5	0.00002	
				Silicon	7440-21-3	0.15	0.00000	
Lead Frame plating	0.000091			Silver	7440-22-4	100	0.00012	
Wire Bonding	0.000052			Gold	7440-57-5	100	0.00007	
Molding Compound	0.006601			Silicon Dioxide	7631-86-9	83	0.00717	
				Zinc Oxide	1314-13-2	1	0.00009	

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7	Voltage Regulators			Phenol-formaldehyde polymer	9003-35-4	10	0.00086	0.02410
				Boron zinc hydroxide oxide	138265-88-0	5	0.00043	
				Carbon black	1333-86-4	1	0.00009	
		Die Attach Epoxy	0.00086	Silver	7440-22-4	75	0.00084	
				Epoxy resin	Trade secret	25	0.00028	
		Tin Plating	0.000213	Tin	7440-31-5	100	0.00028	
		Bond Wire	0.000023	Gold	7440-57-5	100	0.00003	
		Die Attach Adhesive	0.000287	Silver	7440-22-4	79.99	0.00030	
				Epoxy	85954-11-6	20	0.00008	
		Lead Frame	0.006460	Copper	7440-50-8	97.41	0.00824	
				Iron	7439-89-6	2.38	0.00020	
				Phosphorus	7723-14-0	0.08399	0.00001	
		Lead Frame Plating	0.000116	Zinc	7440-66-6	0.126	0.00001	
				Nickel	7440-02-0	95.11	0.00014	
				Gold	7440-57-5	0.7801	0.00000	
Mold Compound	0.010895	Palladium	7440-05-3	4.1	0.00001			
		Fused Silica	60676-86-0	85.99	0.01227			
		Carbon Black	1333-86-4	0.5	0.00007			
Ceramics / Glass	0.000623	Epoxy	85954-11-6	13.5	0.00193			
		Doped Silicon	7440-21-3	100	0.00082			
8	Power Transformers	Header filled thermoplastics.	0.05837	Aluminum hydroxide	21645-51-2	40	0.03057	0.13095
				Glass fiber	65997-17-3	30	0.02293	
				Diallyl phthalate resin	25035-78-3	25	0.01911	

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		Antimonyoxide (Sb2O3)	1309-64-4	4.5	0.00344
		Carbon black	1333-86-4	0.5	0.00038
Terminal copper alloys	0.00767	Copper	7440-50-8	93.45	0.00939
		Tin	7440-31-5	6.05	0.00061
		Phosphorus	7723-14-0	0.35	0.00004
		Zinc	7440-66-6	0.1	0.00001
		Iron	7439-89-6	0.05	0.00001
Terminal Plating Special metals	0.0004	Nickel	7440-02-0	34	0.00018
		Tin	7440-31-5	66	0.00035
Ceramics/glass	0.01459	Ironoxide (Fe3O4)	1317-61-9	70	0.01337
		Manganesoxide (Mn3O4)	1317-35-7	17	0.00325
		Zincoxide (ZnO)	1314-13-2	13	0.00248
Wire Copper	0.003593	Copper	7440-50-8	98.7	0.00464
		Tin	7440-31-5	1.3	0.00006
Wire Lacquers	0.0003460	Polymer with tetrafluoroethene	26655-00-5	99.91	0.00045
Solder	0.0041900	Tin	7440-31-5	96	0.00527
		Silver	7440-22-4	4	0.00022
Core Coating	0.0001500	Paracyclophane	1633-22-3	99	0.00019
		Trade secret	N/A	1	0.00000
Wire Copper In cable harnesses	0.0018391	Copper	7440-50-8	100	0.00241
Wire Lacquers	0.0003309	Polyurethane	9009-54-5	94.4	0.00041
		Polyamide resin	70024-79-2	5.6	0.00002
Wire Copper	0.0014453	Copper	7440-50-8	100	0.00189

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	Alloy						
	Wire Tin Plating	0.0000447	Tin	7440-31-5	100	0.00006	
	Wire Isolation Lacquers	0.00153881	polymer with tetrafluoroethene	26655-00-5	99.58	0.00201	
			C.I. Pigment Blue 28	1345-16-0	0.18	0.00000	
			Titanium oxide (TiO ₂)	13463-67-7	0.18	0.00000	
			C.I. Pigment Green 50	68186-85-6	0.06	0.00000	
	Wire Isolation Copper Alloy	0.00093119	Copper	7440-50-8	97.95	0.00119	
			Tin	7440-31-5	2.05	0.00002	
	Adhesive Sealants	0.00239	Bisphenol A Di glycidyl ether resin	25068-38-6	50	0.00156	
			Talc	14807-96-6	14	0.00044	
			Crystalline silica	14808-60-7	10	0.00031	
			Titanium oxide (TiO ₂)	13463-67-7	1	0.00003	
			Limestone	1317-65-3	25	0.00078	
	Wire Copper amounts in cable harnesses	0.0020832	Copper	7440-50-8	100	0.00273	
	Wire Lacquers	0.0000868	Polyurethane	9009-54-5	100	0.00011	
9	Capacitor	0.01511	Ceramic element	Barium oxide	1304-28-5	60	0.01187
				Titanium dioxide	13463-67-7	30	-
				Mic	-	10	-
			0.00213	Copper	7440-50-8	100	0.00279
			0.00029	Glass Di boron trioxide	1303-86-2	20	0.00008
				Silicon dioxide	7631-86-9	80	-
			0.00011	Nickel plating	7440-02-0	100	0.00015
						0.03124	

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		Inner electrode	0.00310	Nickel	7440-02-0	100	0.00406	
		Tin Plating	0.00312	Tin plating	7440-31-5	100	0.00409	
10	Semiconductor SMAJ-Q	Dice- Silicon	0.00133	Silicon	7440-21-3	60.18	0.00105	0.08188
				Phosphorus	7723-14-0	0.01	0.00000	
				Boron	7440-42-8	0.01	0.00000	
				Nickel	7440-02-0	14.8	0.00026	
				Lead	7439-92-1	12.5	0.00022	
				Silicon Dioxide	7631-86-9	10	0.00017	
				Aluminum oxide	1344-28-1	2.5	0.00004	
		Solder paste	0.00200	Tin	7440-31-5	5	0.00013	
				Lead	7439-92-1	92.5	0.00243	
				Silver	7440-22-4	2.5	0.00007	
		Copper Lead frame	0.02750	Copper	7440-50-8	99.8	0.03594	
				Iron	7439-89-6	0.15	0.00005	
				Phosphorus	7723-14-0	0.05	0.00002	
		Molding compound Epoxy	0.0310350	Silicon dioxide	14808-60-7	76	0.03089	
				Epoxy resing	25928-94-3	9	0.00366	
				Phenolic resin-A,B	9003-35-4	8	0.00325	
				Hydroxide metal	-	6	0.00244	
		Carbon black	1333-86-4	1	0.00041			
		Tin Plating	0.0006630	Tin	7440-315	100	0.00087	
11	Semiconductor OT	Mold Compound	0.012770	Silica, vitreous	60676-86-0	86.91	0.01453	0.02069
				Epoxy Resin	Trade secret	7.67	0.00128	
				Phenolic Resin	Trade secret	5.11	0.00085	
				Carbon black	1333-86-4	0.31	0.00005	
		Lead Frame	0.00168	Copper	7440-50-8	95.54	0.00210	
				Iron	7439-89-6	2.35	0.00005	
				Silver	7440-22-4	1.91	0.00004	
		Zinc	7440-66-6	0.13	0.00000			

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		Die Attach	0.00012	Phosphorus	7723-14-0	0.08	0.00000				
				Silver (Ag)	7440-22-4	75	0.00012				
				Modified Epoxy Resin	13561-08-5	14	0.00002				
				Diglycidylether of bisphenol-F	54208-63-8	7.5	0.00001				
				Modified Amine	827-43-0	3.5	0.00001				
		Chip (Die)	0.00120	Doped Silicon	7440-21-3	100	0.00157				
		Wire Bond	0.00003	Copper	7440-50-8	98.25	0.00004				
				Palladium	5/3/7440	1.75	0.00000				
		12	Converter	Header	0.482787	Antimony oxide	1309-64-4		4.5	0.02845	1.08112
						Carbon black	1333-86-4		0.5	0.00316	
						Aluminum hydroxide.	21645-51-2		40	0.25289	
						Diallyl phthalate resin	25035-78-3		25	0.15805	
Glass fiber	65997-17-3					30	0.18966				
Terminal	0.063405			Iron	7439-89-6	0.05	0.00004				
				Tin	7440-31-5	6.05	0.00502				
				Copper	7440-50-8	93.45	0.07759				
				Zinc	7440-66-6	0.1	0.00008				
				Phosphorus	7723-14-0	0.35	0.00029				
Terminal Plating	0.003341			Nickel	7440-02-0	34	0.00149				
				Tin	7440-31-5	66	0.00289				
Core	0.119681			Zinc Oxide	1314-13-2	13	0.02037				
				Manganese oxide	1317-35-7	17	0.02664				
				Iron Oxide	1317-61-9	70	0.10971				
Wire Copper	0.029693			Tin	7440-31-5	1.3	0.00051				
				Copper	7440-50-8	98.7	0.03838				
Wire Lacquers	0.002812			Carbon Black	1333-86-4	0.09	0.000003				

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		Propane, heptafluoro3 - (trifluoroethenyl)	26655-00-5	99.91	0.003679
Solder	0.034570	Silver	7440-22-4	4	0.00181
		Tin	7440-31-5	96	0.04346
Core Coating	0.001216	Paracyclophane	1633-22-3	99	0.00158
		Trade secret	N/A	1	0.00002
Wire Copper	0.015219	Copper	7440-50-8	100	0.01993
Wire Lacquers	0.002729	Polyamide resin	70024-79-2	5.6	0.00020
		Polyurethane	9009-54-5	94.4	0.00337
Wire copper Alloy	0.011910	Copper	7440-50-8	100	0.01560
Wire Tin Plating	0.000368	Tin	7440-31-5	100	0.00048
Wire Isolation Lacquers	0.012570	Pigment Blue 28	1345-16-0	0.18	0.00003
		Titanium oxide (TiO ₂)	13463-67-7	0.18	0.00003
		Propane, heptafluoro3 - (trifluoroethenyl)	26655-00-5	99.58	0.01639
		Pigment Blue 50	68186-85-6	0.06	0.00001
Wire Isolation Copper Alloy	0.007609	Tin	7440-31-5	2.05	0.00020
		Copper	7440-50-8	97.95	0.00976
Adhesive	0.019768	Limestone	1317-65-3	25	0.00026
		Titanium oxide (TiO ₂)	13463-67-7	1	0.00026
		Talc	14807-96-6	14	0.00362
		Crystalline silica	14808-60-7	10	0.00259
		Bisphenol A Diglycidyl ether resin	25068-38-6	50	0.01294

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		Wire Copper	0.015798	Copper	7440-50-8	100	0.02069	
		Wire Lacquers	0.002119	Polyurethane	9009-54-5	100	0.00277	
13	Voltage Regulators	Wire Bond	0.00002330	Gold	7440-57-5	100	0.00003	0.02111
		Die Attach Adhesive	0.00028724	Silver	7440-22-4	80	0.00030	
				Epoxy	85954-11-6	20	0.00008	
		Lead Frame	0.006460	Copper	7440-50-8	97.41	0.00824	
				Iron	7439-89-6	2.38	0.00020133	
				Phosphorus	7723-14-0	0.084	0.00000711	
				Zinc	7440-66-6	0.13	0.00001100	
		Lead Frame Plating	0.000116	Nickel	7440-02-0	95.12	0.00014	
				Gold	7440-57-5	0.78	0.0000012	
				Palladium	7440-05-3	4.10	0.000006	
		Mold Compound	0.00836270	Fused Silica	60676-86-0	86	0.00942	
Carbon Black	1333-86-4			0.5	0.00005			
Epoxy	85954-11-6			13.5	0.00148			
Semiconductor Device	0.00087034	Doped Silicon	7440-21-3	100	0.00114			
14	Analog to Digital Converters	Wire Bond	0.0000612113	Copper	7440-50-8	97.535	0.00008	0.14569
				Proprietary Materials	Trade secret	0.011	0.00000001	
				Gold	7440-57-5	0.052	0.00000004	
				Palladium	7440-05-3	2.399	0.00000192	
				Silver	7440-22-4	0.003	0.000000003	
		Die Attach Adhesive	0.00068465	Silver	7440-22-4	80	0.00072	
				Epoxy	85954-11-6	20	0.00018	
		Lead Frame	0.06050000	Copper	7440-50-8	97.061	0.07690	
				Iron	7439-89-6	2.59	0.00205	
				Phosphorus	7723-14-0	0.149	0.00012	
Lead	7439-92-1			0.01	0.000008			
		Zinc	7440-66-6	0.19	0.000151			

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		Lead Frame Plating	0.00083000	Nickel	7440-02-0	95.12	0.000008				
				Gold	7440-57-5	0.78	0.000008				
				Palladium	7440-05-3	4.1	0.000045				
		Mold Compound	0.04693628	Fused Silica	60676-86-0	86	0.05286				
				Carbon Black	1333-86-4	0.3	0.00018				
				Epoxy	85954-11-6	13.7	0.00842				
		Semiconductor Device	0.00224075	Doped Silicon	7440-21-3	100	0.00293				
		15	Interface Drivers Receivers	Wire Bond	0.00021902	Calcium	7440-70-2		0.000457	0.0000000013	0.51419
						Yttrium	7440-65-5		0.000913	0.0000000026	
Gold	7440-57-5					99.99772	0.0002868018				
Silver	7440-22-4					0.000913	0.0000000026				
Die Attach Adhesive	0.0010068000			Silver	7440-22-4	75	0.000989				
				Epoxy	85954-11-6	25	0.0003296				
Lead Frame	0.1785800000			Copper	7440-50-8	97.05	0.226953				
				Iron	7439-89-6	2.6	0.006080				
				Phosphorus	7723-14-0	0.15	0.000351				
				Zinc	7440-66-6	0.2	0.000468				
Lead Frame Plating	0.00062000			Nickel	7440-02-0	95.12	0.000772				
				Gold	7440-57-5	0.78	0.000006				
				Palladium	7440-05-3	4.1	0.000033				
Mold Compound	0.20855000			Fused Silica	60676-86-0	89.5	0.24442				
				Carbon Black	1333-86-4	0.5	0.00137				
				Chlorine	7782-50-5	0.002	0.00001				
				Epoxy	85954-11-6	9.998	0.02730				
Semiconductor Device	0.00368275			Doped Silicon	7440-21-3	100	0.00482				
16	DC Converters			Ferrite core	0.024350	Iron oxide (Fe2O3)	1332-37-2	30	0.00957	0.07505	
		Copper oxide	1317-38-0			20	0.00638				

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		Nickel monoxide	1313-99-1	40	0.01275
		Zinc oxide	1314-13-2	10	0.00319
Wire	0.007013	Polyurethane ester foam	9009-54-5	10	0.00092
		Copper	7440-50-8	90	0.00827
Epoxy	0.00456600	Bisphenol-A-(epichlorhydrin); epoxy resin	25068-38-6	100	0.00598
Terminal	0.000310	Silver	7440-22-4	100	0.00041
Plating	0.000540	Nickel	7440-02-0	33	0.00023
		Tin	7440-31-5	67	0.00047
Marking	0.000001	Cellulose, nitrate	9004-70-0	20	0.0000026
		Nitrogen	7727-37-9	80	0.0000105
Paste	0.00100000	Amines, tallow alkyl, ethoxylated	61791-26-2	20	0.00026
		Carboxylic acids, di	68937-72-4	10	0.00013
		Silver	7440-22-4	25	0.00033
		Tin	7440-31-5	45	0.00059
Plating	0.00353152	Copper	7440-50-8	100	0.00462
Solder mask	0.00034954	Modified epoxy resin	Trade Secret	16	0.00462
		organic substance	Trade secret	30	0.00014
		Barium sulphate	7727-43-7	7	0.00003
		1-Butanol,3-methoxy-3-methyl-,acetate)	Trade secret	7	0.00003
		Solvent naphtha(heavy arom)	Trade secret	25	0.00011
		Talc (Mg3H2(SiO3)4)	14807-96-6	10	0.00005
Prepreg	0.00155642	Silicon ,vitreous	Trade secret	5	0.00002
		Silicon dioxide	7631-86-9	60	0.00122
		Glass, oxide, chemicals	65997-17-3	35	0.00071
		epoxy resin b	trade secret	5	0.00010

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		ABF	0.00609300	Silicon dioxide	7631-86-9	48	0.00383		
				reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	25068-38-6	15	0.00120		
				Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol	9003-36-5	15	0.00120		
				Oxirane, 2,2'-[1,6-naphthalenediylbis(oxymethylene)]bis-	27610-48-6	20	0.00160		
				Solvent naphtha (petroleum), heavy arom.	64742-94-5	2	0.00016		
		Ceramics / Glass	0.00191160	Silicon	7440-21-3	100	0.00250		
17	Polyphenylene Sulfide	Fiber glass	0.00350	Carbon black	1333-86-4	58.5	0.00268	0.00458	
				Glass Fiber	65997-17-3	40	0.00183		
				Polyphenylene	26125-40-6	0.5	0.00002		
18	Shunt	Copper Alloy	47.6550	Copper	7440-50-8	99.95	62.37339	71.04669	
				Oxygen	7782-44-7	0.05	0.03120		
		Resistance Material	6.5910	Copper	7440-50-8	86	7.42263		
				Manganese	7439-96-5	12	1.03572		
				Nickel	7440-02-0	2	0.17262		
Plating	0.0050	Nickel	7440-02-0	100	0.00655				
19	Top housing	Resin	3.6300	Polyphenylene Sulfide	26125-40-6	59.5	2.82834	7.98931	
				2.4400	Glass fiber	65997-17-3	40		0.11599
				0.0310	Carbon Black	1333-86-4	0.5		0.00020
20	Bottom housing	Resin	3.154	Polyphenylene Sulfide	26125-40-6	59.5	2.45746	6.94170	
				2.120	Glass Fiber	65997-17-3	40		0.13027
				0.027	Carbon Black	1333-86-4	0.5		0.02065

MATERIAL DECLARATION SHEET



21	Conformal coating	Coating Silica	0.700	Dichlorodimethyl	68611-44-9	97	0.88916	0.91666
				Aminopropyltriethoxysilane	919-30-2	3	0.02750	
22	Adhesive	Silicone	0.800	Limestone	1317-65-3	90	0.94285	1.04761
				Trimethoxyvinylsilane	2768-02-7	5	0.05238	
				3-(Trimethoxysilyl) propylamine	13822-56-5	4	0.04190	
				Quartz (SiO ₂)	14808-60-7	1	0.01048	
23	PCB Multilayer	Copper Alloy	5.450	Copper	7440-50-8	100	7.13682	7.14197
		Conformal Coating	0.00015	Epoxy Resin	26265-08	45	0.00009	
			0.00350	Glass Fiber	26265-08-7	45	0.00206	
			0.00029	Silicon dioxide	65997-17-3	10	0.00004	
24	Solder Preform	Tin - Silver	0.10420	Silver	7440-22-4	3.5	0.00478	0.13645
				Tin	7440-31-5	96.5	0.13167	
		Total Weight	76.36					

This Document was updated on: 1/30/2023

Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.