


MATERIAL DECLARATION SHEET



Material Number	EM14 series			
Product Line	Potentiometer			
Compliance Date	11/5/2004			
RoHS Compliant	Yes	MSL	N/A	

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	Cover	PBT	0.285	Glass	65997-17-3	30	0.6672	2.224		
				Polybutylene terephthalate	30965-26-5	54	1.2010			
				Antimony Oxide	1309-64-4	4	0.0890			
				Carbon Black	1333-86-4	1	0.0222			
				TBBPA polycarbonate polymer (flame retardant)	Trade secret	11	0.2446			
2	Trimmer	Ceramic	0.0084	Aluminum Oxide	1344-28-1	95		0.065		
				Silicon dioxide	14808-60-7	5				
				Silver	7440-22-4	0.81	0.000008		0.001	
		Ag/Pd conductor	0.0001	0.000006	0.00002	Lead Oxide Glass	1317-36-8	0.03	0.00000001	0.00004
						Bismuth Trioxide	1304-76-3	0.12	0.0000001	0.0001
						Nickel Oxide	1313-99-1	0.06	0.00000005	0.00007
						Palladium	7440-05-3	0.17	0.0000003	0.0002
						Ruthenium Dioxide	12036-10-1	0.60	0.000003	0.0007
		Metal Glaze Resistor	0.00010	0.00011		Lead Oxide Glass	1317-36-8	0.65	0.000004	0.0008
						Iron	7439-89-6	12.47	0.00161	0.015
		Copper pins	0.0002	0.0002	0.0002	Copper	7440-50-8	0.21	0.000003	0.0005
						Nickel	7440-02-0	0.21	0.000003	0.0005
		Plating	0.0002	0.0002	0.0002	Tin	7440-31-5	1.19	0.00001	0.001
						Iron	7439-89-6	18.43	0.00441	0.025
Stainless Steel	0.0008	0.0003	0.0003	Chromium III	7440-47-3	4.79	0.0002	0.006		
				Nickel	7440-02-1	2.09	0.00005	0.002		

MATERIAL DECLARATION SHEET



	Seal	Polyurethane Resin	0.0002	Polyurethane	9009-54-5	1.44	0.00002	0.001
			0.0001	Resin	18358-13-9	0.78	0.000007	0.001
3	Resistor	Resistor	0.002	Aluminum	7429-90-5	88.7	0.0148	0.016
				Nickel	7440-02-0	2.3	0.0003	
				Matte Tin	7440-31-5	2	0.0003	
				Ruthenium Dioxide	12036-10-1	2	0.0003	
				Glass	1344-28-1	2	0.0003	
				Silver-Palladium	7440-22-4 7440-05-3	1.2	0.0002	
				Nichrome	7440-02-0 7440-47-3	0.2	0.00003	
				Epoxy Overcoat	29690-82-2	1.6	0.0002	
4	LED	Substrate	0.007	Epoxy Resin		45.24	0.0247	0.054
				Copper	7440-50-8	50.4	0.0275	
				Gold	7440-57-5	0.32	0.0001	
				Nickel	7440-02-0	4.04	0.0022	
		Silver Compound	0.012	Silver	7440-22-4	80	0.0749	0.093
				Epoxy Resin		20	0.0187	
		Bonding Wire	0.009	Gold	7440-57-5	100	0.0702	0.070
		Lens	0.009	Epoxy Resin		100	0.0702	0.070
		DIE	0.011	Gallium	7440-55-3	34.43	0.0295	0.085
				Arsenic	1344-28-1	57.71	0.0495	
	Aluminum	7429-90-5		7.86	0.0067			
5	PCB (LED)	Laminate	0.241	Fiberglass	65997-17-3	52	0.9780	1.880
		PBT		Epoxy Resin	26265-08-7	35	0.6583	
		Copper		Copper	7440-50-8	9.5	0.1786	
		Masking		Epoxy Acrylate Resin	9300-19-4	3	0.0564	
		Surface		Nickel	7440-02-0	0.5	0.0094	

MATERIAL DECLARATION SHEET



		Plating	0.024	Gold	7440-57-5	100	0.1873	0.187
6	Dome	Stainless Steel	0.01	Carbon	7440-44-0	0.15	0.0001	0.078
				Manganese	7439-96-5	2	0.0015	
				Silicon	7740-21-3	1	0.0007	
				Chromium III	7740-47-3	18	0.0140	
				Nickel	7440-02-0	9	0.0070	
				Iron	7439-89-6	69.85	0.0545	
7	Disc / Hub	PBT.	0.07	Polybutylene terephthalate	30965-26-5	54	0.29484	0.546
				Antimony Oxide	1309-64-4	4	0.02184	
				Glass fiber	65997-17-3	30	0.1638	
				Carbon Black	1333-86-4	1	0.00546	
				TBBPA polycarbonate polymer (flame retardant)	Trade secret	11	0.06006	
		Stainless Steel	0.05	Carbon	7440-44-0	0.08	0.0003	0.390
				Manganese	7439-96-5	2	0.0078	
				Silicon	7440-21-3	1	0.0039	
				Chromium [3]	7440-47-3	19	0.0741	
				Nickel	7440-02-0	9.5	0.0370	
				Iron	7439-98-7	68.42	0.2669	
8	Phase Plate	Nickel	0.011	Nickel	7440-02-0	100	0.0858	0.085
9	Rotor Detent	Delrin	0.089	Polyoxymethylene Homopolymer	30846-29-8	98	0.68012	0.694
				Carbon Black	1333-86-4	2	0.01388	
10	Shaft	Brass	5.725	Copper	7440-50-8	61.5	27.3591	44.486
				Zinc	7440-66-6	35.5	15.7927	
				Lead	7439-92-1	3	1.3345	
		Plating	0.057	Nickel	7440-02-0	100	0.4448	0.444
11	O Ring	Silicone	0.025	Silicone	63394-02-5	100	0.1951	0.195
12	Housing	Nylon 6/6	1.578	Nylon	32131-17-2	45	5.5420	12.315
				Glass	65997-17-3	40	4.9262	
				PTFE	9002-84-0	13	1.6010	

MATERIAL DECLARATION SHEET



				Silicon	7440-21-3	2	0.2463	
13	Bushing	Aluminum	0.982	Silicon	7440-21-3	0.7	0.0536	7.664
				Iron	7439-89-6	0.34	0.0260	
				Copper	7440-50-8	0.34	0.0260	
				Manganese	7439-96-3	0.09	0.0068	
				Magnesium	7439-98-5	0.9	0.0689	
				Chromium	7440-47-3	0.09	0.0068	
				Zinc	7440-66-6	0.05	0.0038	
				Titanium	7440-32-6	0.02	0.0015	
				Aluminum	7429-90-5	97.47	7.4702	
14	PCB (ASIC)	Laminate	1.764	Fiberglass	65997-17-3	53	7.3215	13.814
				Epoxy Resin	26265-08-7	35	4.8349	
				Copper	7440-50-8	9	1.2432	
				Epoxy Acryl ate Resin	9300-19-4	3	0.4144	
		Under Plating	0.006	Nickel	7440-02-0	100	0.0468	0.046
Finish Plating	0.018	Gold	7440-57-5	100	0.1404	0.140		
16	Terminal	Brass	0.3	Copper	7440-50-8	70	1.6389	2.341
				Zinc	7440-66-6	29.88	0.6996	
				Lead	7439-92-1	0.07	0.0016	
		Under Plating	0.0002	Iron	7439-89-6-	0.05	0.0011	0.001
		Finish Plating	0.0002	Nickel	7440-02-0	100	0.0015	0.001
17	Solder	Bar Solder	0.018	Tin	7440-31-5	100	0.0015	0.001
				Tin	7440-31-5	95.6	0.1343	0.140
				Silver	7440-22-4	3	0.0042	
18	Adhesive Conductive	LMIS	0.021	Copper	7440-50-8	0.5	0.0007	0.163
				Silver	7440-22-4	80	0.1311	
				Aromatic Amine		5	0.0081	
19	ASIC	Silicon - Circuit	0.032	Epoxy Resin		15	0.0245	0.249
				Silicon	7440-21-3	100	0.2497	

MATERIAL DECLARATION SHEET



20	Wire	Gold	0.002	Gold	7440-57-5	100	0.0156	0.015
21	Adhesive Resin	Silicone	0.004	Silicone	63394-02-5	100	0.0359	0.035
22	Detent Spring	Stainless Steel	0.04	Carbon	7440-44-0	50	0.1560	0.312
				Iron	7439-89-6	5	0.0156	
				Carbon	7440-44-0	15	0.0468	
				Chromium III	7440-47-3	18	0.0561	
				Manganese	7439-96-3	2	0.0062	
				Nickel	7440-02-0	9	0.0280	
				Silicon	7440-21-3	1	0.0031	
23	Actuator	Silicone	0.023	Carbon	7440-44-0	20	0.0359	0.179
		Polydimethylsiloxane		Silicone Rubber	63394-02-5	30	0.0539	
				Polydimethylsiloxane	9016-00-6	50	0.089	
24	Wire harness	Flat Cable	1.389	Stranded Conductor		100	10.840	10.840
		Housing	0.001	Nylon	32131-17-2	100	0.007	0.007
		Terminal x 6	0.009	Copper	7440-50-8	94.8	0.073	0.077
				Tin	7440-31-5	5	0.003	
				Phosphorus	7723-44-0	0.2	0.0001	
		Plating	0.0001	Tin	7440-31-5	100	0.0007	0.0007
Total Weight	12.812							

This Document was updated on: Jan 3, 2008

Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.
2. RoHS exemptions: 7c-I, 6c
3. Per [Product Update Memo SC2436](#), this MDS is under revision. The updated version will be posted soon.