

Material Declaration
M8-1-XXXJ

Total mass: 0.380g

17-Jan-2007

Part Name	Breakdown of component	Material Name	Weight (mg)	Substance name	CAS No.	Composition by weight	
						(%)	(mg)
Conformal Coated SIP Thick Film Resistor Array	Substrate	Alumina	124.7	Aluminum oxide	1344-28-1	92.00	114.72
				Silica	7631-86-9	4.80	5.99
				Magnesium oxide	1309-48-4	2.40	2.99
				Calcium oxide	1305-78-8	0.80	1.00
	Thick film	Metals and Oxides	6.1	Silver	7440-22-4	62.47	3.80
				Lead monoxide (II)	1317-36-8	15.46	0.94
				Silica	7631-86-9	8.62	0.52
				Boron trioxide	1303-86-2	3.01	0.18
				Zinc oxide	1314-13-2	1.31	0.08
				Ruthenium oxide	12036-10-1	1.82	0.11
				Trilead tetroxide	1314-41-6	1.64	0.10
				Calcium oxide	1305-78-8	1.05	0.06
				Chromium oxide (III)	1308-38-9	0.49	0.03
				Aluminum oxide	1344-28-1	1.44	0.09
				Palladium	7440-05-3	0.65	0.04
				Manganese carbonate (II)	598-62-9	0.18	0.01
				Tantalum oxide (V)	1314-61-0	0.14	0.01
				Copper	7440-50-8	0.33	0.02
				Copper oxide (I)	1317-38-0	0.33	0.02
				Copper oxide (II)	1317-39-1	0.33	0.02
	Bismuth oxide	1304-76-3	0.33	0.02			
	Rest	-	0.39	0.02			
	Conformal coat and Marking	Epoxy / Acrylic	129.5	Biphenyl A7 epichlorhydrin based epoxy resin	25068-38-6	30.00	38.85
				Silica	7631-86-9	30.00	38.85
				Aluminum hydroxide	24645-51-2	22.00	28.49
				TBBA epichlorhydrin oligomer	40039-93-8	10.87	14.08
				Trimellitic anhydride	552-30-7	3.50	4.53
				Antimony trioxide	1309-64-4	1.50	1.94
				Triphenyl phosphine	603-35-0	0.20	0.26
				C.I.pigment, red 144	5280-78-4	0.17	0.22
				Acrylic monomer oligomer	29570-58-9	0.14	0.19
				Carbon black	1333-86-4	0.05	0.06
				Sensitizer	21245-01-2	0.01	0.01
				Rest	-	1.56	2.02
	Termination	Steel and Tin/Copper plating	68.0	Steel	7439-89-6	93.43	63.53
				Copper	7440-50-8	2.06	1.40
				Tin	7440-31-5	3.65	2.48
				Manganese	7439-96-5	0.24	0.16
	Rest	-	0.63	0.43			
	Solder	Lead-free solder	52.0	Tin	7440-31-5	96.50	50.18
				Silver	7440-22-4	3.00	1.56
				Copper	7440-50-8	0.50	0.26

Material Declaration
M8-3-XXXJ

Total mass: 0.380g

17-Jan-2007

Part Name	Breakdown of component	Material Name	Weight (mg)	Substance name	CAS No.	Composition by weight	
						(%)	(mg)
Conformal Coated SIP Thick Film Resistor Array	Substrate	Alumina	124.7	Aluminum oxide	1344-28-1	92.00	114.72
				Silica	7631-86-9	4.80	5.99
				Magnesium oxide	1309-48-4	2.40	2.99
				Calcium oxide	1305-78-8	0.80	1.00
	Thick film	Metals and Oxides	5.7	Silver	7440-22-4	63.13	3.57
				Lead monoxide (II)	1317-36-8	16.43	0.93
				Silica	7631-86-9	8.48	0.48
				Boron trioxide	1303-86-2	2.96	0.17
				Zinc oxide	1314-13-2	1.27	0.07
				Ruthenium oxide	12036-10-1	1.30	0.07
				Trilead tetroxide	1314-41-6	1.27	0.07
				Calcium oxide	1305-78-8	0.75	0.04
				Chromium oxide (III)	1308-38-9	0.53	0.03
				Aluminum oxide	1344-28-1	1.39	0.08
				Palladium	7440-05-3	0.66	0.04
				Manganese carbonate (II)	598-62-9	0.13	0.01
				Tantalum oxide (V)	1314-61-0	0.10	0.01
				Copper	7440-50-8	0.33	0.02
				Copper oxide (I)	1317-38-0	0.33	0.02
				Copper oxide (II)	1317-39-1	0.33	0.02
				Bismuth oxide	1304-76-3	0.33	0.02
				Rest	-	0.28	0.02
	Conformal coat and Marking	Epoxy / Acrylic	129.5	Biphenyl A7 epichlorhydrin based epoxy resin	25068-38-6	30.00	38.85
				Silica	7631-86-9	30.00	38.85
				Aluminum hydroxide	24645-51-2	22.00	28.49
				TBBA epichlorhydrin oligomer	40039-93-8	10.87	14.08
				Trimellitic anhydride	552-30-7	3.50	4.53
				Antimony trioxide	1309-64-4	1.50	1.94
				Triphenyl phosphine	603-35-0	0.20	0.26
				C.I.pigment, red 144	5280-78-4	0.17	0.22
				Acrylic monomer oligomer	29570-58-9	0.14	0.19
				Carbon black	1333-86-4	0.05	0.06
				Sensitizer	21245-01-2	0.01	0.01
				Rest	-	1.56	2.02
	Termination	Steel and Tin/Copper plating	68.0	Steel	7439-89-6	93.43	63.53
				Copper	7440-50-8	2.06	1.40
				Tin	7440-31-5	3.65	2.48
				Manganese	7439-96-5	0.24	0.16
				Rest	-	0.63	0.43
	Solder	Lead-free solder	52.0	Tin	7440-31-5	96.50	50.18
				Silver	7440-22-4	3.00	1.56
				Copper	7440-50-8	0.50	0.26

Material Declaration
M8-5-XXX/XXXJ

Total mass: 0.402g

17-Jan-2007

Part Name	Breakdown of component	Material Name	Weight (mg)	Substance name	CAS No.	Composition by weight	
						(%)	(mg)
Conformal Coated SIP Thick Film Resistor Array	Substrate	Alumina	124.7	Aluminum oxide	1344-28-1	92.00	114.72
				Silica	7631-86-9	4.80	5.99
				Magnesium oxide	1309-48-4	2.40	2.99
				Calcium oxide	1305-78-8	0.80	1.00
	Thick film	Metals and Oxides	12.0	Silver	7440-22-4	42.77	5.12
				Lead monoxide (II)	1317-36-8	23.41	2.80
				<i>This is ap</i>			
				Silica	7631-86-9	13.52	1.62
				Boron trioxide	1303-86-2	4.53	0.54
				Zinc oxide	1314-13-2	2.13	0.26
				Ruthenium oxide	12036-10-1	3.47	0.41
				Trilead tetroxide	1314-41-6	2.73	0.33
				Calcium oxide	1305-78-8	1.99	0.24
				Chromium oxide (III)	1308-38-9	0.72	0.09
				Aluminum oxide	1344-28-1	2.06	0.25
				Palladium	7440-05-3	0.44	0.05
				Manganese carbonate (II)	598-62-9	0.35	0.04
				Tantalum oxide (V)	1314-61-0	0.27	0.03
				Copper	7440-50-8	0.22	0.03
				Copper oxide (I)	1317-38-0	0.22	0.03
				Copper oxide (II)	1317-39-1	0.22	0.03
				Bismuth oxide	1304-76-3	0.22	0.03
	Rest	-	0.75	0.09			
	Conformal coat and Marking	Epoxy / Acrylic	129.5	Biphenyl A7 epichlorhydrin based epoxy resin	25068-38-6	30.00	38.85
				Silica	7631-86-9	30.00	38.85
				Aluminum hydroxide	24645-51-2	22.00	28.49
				TBBA epichlorhydrin oligomer	40039-93-8	10.87	14.08
				Trimellitic anhydride	552-30-7	3.50	4.53
				Antimony trioxide	1309-64-4	1.50	1.94
				Triphenyl phosphine	603-35-0	0.20	0.26
				C.I.pigment, red 144	5280-78-4	0.17	0.22
				Acrylic monomer oligomer	29570-58-9	0.10	0.13
				Carbon black	1333-86-4	0.03	0.05
				Sensitizer	21245-01-2	0.01	0.01
				Rest	-	1.61	2.09
	Termination	Steel and Tin/Copper plating	68.0	Steel	7439-89-6	93.43	63.53
				Copper	7440-50-8	2.06	1.40
				Tin	7440-31-5	3.65	2.48
				Manganese	7439-96-5	0.24	0.16
	Rest	-	0.63	0.43			
	Solder	Lead-free solder	68.0	Tin	7440-31-5	96.50	65.62
				Silver	7440-22-4	3.00	2.04
				Copper	7440-50-8	0.50	0.34

Material Declaration
M9-1-XXXJ, M9-2-XXXJ

Total mass: 0.431g

17-Jan-2007

Part Name	Breakdown of component	Material Name	Weight (mg)	Substance name	CAS No.	Composition by weight	
						(%)	(mg)
Conformal Coated SIP Thick Film Resistor Array	Substrate	Alumina	141.2	Aluminum oxide	1344-28-1	92.00	129.89
				Silica	7631-86-9	4.80	6.78
				Magnesium oxide	1309-48-4	2.40	3.39
				Calcium oxide	1305-78-8	0.80	1.13
	Thick film	Metals and Oxides	7.0	Silver	7440-22-4	62.47	4.34
				Lead monoxide (II)	1317-36-8	15.46	1.07
				Silica	7631-86-9	8.62	0.60
				Boron trioxide	1303-86-2	3.01	0.21
				Zinc oxide	1314-13-2	1.31	0.09
				Ruthenium oxide	12036-10-1	1.82	0.13
				Trilead tetroxide	1314-41-6	1.64	0.11
				Calcium oxide	1305-78-8	1.05	0.07
				Chromium oxide (III)	1308-38-9	0.49	0.03
				Aluminum oxide	1344-28-1	1.44	0.10
				Palladium	7440-05-3	0.65	0.05
				Manganese carbonate (II)	598-62-9	0.18	0.01
				Tantalum oxide (V)	1314-61-0	0.14	0.01
				Copper	7440-50-8	0.33	0.02
				Copper oxide (I)	1317-38-0	0.33	0.02
				Copper oxide (II)	1317-39-1	0.33	0.02
				Bismuth oxide	1304-76-3	0.33	0.02
	Rest	-	0.39	0.03			
	Conformal coat and Marking	Epoxy / Acrylic	148.0	Biphenyl A7 epichlorhydrin based epoxy resin	25068-38-6	30.00	44.40
				Silica	7631-86-9	30.00	44.40
				Aluminum hydroxide	24645-51-2	22.00	32.56
				TBBA epichlorhydrin oligomer	40039-93-8	10.87	16.09
				Trimellitic anhydride	552-30-7	3.50	5.18
				Antimony trioxide	1309-64-4	1.50	2.22
				Triphenyl phosphine	603-35-0	0.20	0.30
				C.I.pigment, red 144	5280-78-4	0.17	0.25
				Acrylic monomer oligomer	29570-58-9	0.13	0.19
				Carbon black	1333-86-4	0.04	0.06
				Sensitizer	21245-01-2	0.01	0.01
				Rest	-	1.58	2.34
	Termination	Steel and Tin/Copper plating	76.5	Steel	7439-89-6	93.43	71.47
				Copper	7440-50-8	2.06	1.58
				Tin	7440-31-5	3.65	2.79
				Manganese	7439-96-5	0.24	0.18
	Rest	-	0.63	0.48			
	Solder	Lead-free solder	58.5	Tin	7440-31-5	96.50	56.45
				Silver	7440-22-4	3.00	1.76
				Copper	7440-50-8	0.50	0.29

Material Declaration
M10-1-XXXJ

Total mass: 0.482g

17-Jan-2007

Part Name	Breakdown of component	Material Name	Weight (mg)	Substance name	CAS No.	Composition by weight	
						(%)	(mg)
Conformal Coated SIP Thick Film Resistor Array	Substrate	Alumina	157.7	Aluminum oxide	1344-28-1	92.00	145.05
				Silica	7631-86-9	4.80	7.57
				Magnesium oxide	1309-48-4	2.40	3.78
				Calcium oxide	1305-78-8	0.80	1.26
	Thick film	Metals and Oxides	7.8	Silver	7440-22-4	62.47	4.89
				Lead monoxide (II)	1317-36-8	15.46	1.21
				Silica	7631-86-9	8.62	0.67
				Boron trioxide	1303-86-2	3.01	0.24
				Zinc oxide	1314-13-2	1.31	0.10
				Ruthenium oxide	12036-10-1	1.82	0.14
				Trilead tetroxide	1314-41-6	1.64	0.13
				Calcium oxide	1305-78-8	1.05	0.08
				Chromium oxide (III)	1308-38-9	0.49	0.04
				Aluminum oxide	1344-28-1	1.44	0.11
				Palladium	7440-05-3	0.65	0.05
				Manganese carbonate (II)	598-62-9	0.18	0.01
				Tantalum oxide (V)	1314-61-0	0.14	0.01
				Copper	7440-50-8	0.33	0.03
				Copper oxide (I)	1317-38-0	0.33	0.03
				Copper oxide (II)	1317-39-1	0.33	0.03
	Bismuth oxide	1304-76-3	0.33	0.03			
	Rest	-	0.39	0.03			
	Conformal coat and Marking	Epoxy / Acrylic	166.5	Biphenyl A7 epichlorhydrin based epoxy resin	25068-38-6	30.00	49.95
				Silica	7631-86-9	30.00	49.95
				Aluminum hydroxide	24645-51-2	22.00	36.63
				TBBA epichlorhydrin oligomer	40039-93-8	10.87	18.10
				Trimellitic anhydride	552-30-7	3.50	5.83
				Antimony trioxide	1309-64-4	1.50	2.50
				Triphenyl phosphine	603-35-0	0.20	0.33
				C.I.pigment, red 144	5280-78-4	0.17	0.28
				Acrylic monomer oligomer	29570-58-9	0.12	0.20
				Carbon black	1333-86-4	0.04	0.07
				Sensitizer	21245-01-2	0.01	0.01
				Rest	-	1.59	2.65
	Termination	Steel and Tin/Copper plating	85.0	Steel	7439-89-6	93.43	79.41
				Copper	7440-50-8	2.06	1.75
				Tin	7440-31-5	3.65	3.10
				Manganese	7439-96-5	0.24	0.20
	Rest	-	0.63	0.53			
	Solder	Lead-free solder	65.0	Tin	7440-31-5	96.50	62.73
				Silver	7440-22-4	3.00	1.95
				Copper	7440-50-8	0.50	0.33

Material Declaration
M10-3-XXXJ

Total mass: 0.481g

17-Jan-2007

Part Name	Breakdown of component	Material Name	Weight (mg)	Substance name	CAS No.	Composition by weight	
						(%)	(mg)
Conformal Coated SIP Thick Film Resistor Array	Substrate	Alumina	157.7	Aluminum oxide	1344-28-1	92.00	145.05
				Silica	7631-86-9	4.80	7.57
				Magnesium oxide	1309-48-4	2.40	3.78
				Calcium oxide	1305-78-8	0.80	1.26
	Thick film	Metals and Oxides	7.1	Silver	7440-22-4	63.13	4.46
				Lead monoxide (II)	1317-36-8	16.4	1.16
				Silica	7631-86-9	8.48	0.60
				Boron trioxide	1303-86-2	2.96	0.21
				Zinc oxide	1314-13-2	1.27	0.09
				Ruthenium oxide	12036-10-1	1.30	0.09
				Trilead tetroxide	1314-41-6	1.27	0.09
				Calcium oxide	1305-78-8	0.75	0.05
				Chromium oxide (III)	1308-38-9	0.53	0.04
				Aluminum oxide	1344-28-1	1.39	0.10
				Palladium	7440-05-3	0.66	0.05
				Manganese carbonate (II)	598-62-9	0.13	0.01
				Tantalum oxide (V)	1314-61-0	0.10	0.01
				Copper	7440-50-8	0.33	0.02
				Copper oxide (I)	1317-38-0	0.33	0.02
				Copper oxide (II)	1317-39-1	0.33	0.02
				Bismuth oxide	1304-76-3	0.33	0.02
	Rest	-	0.28	0.02			
	Conformal coat and Marking	Epoxy / Acrylic	166.5	Biphenyl A7 epichlorhydrin based epoxy resin	25068-38-6	30.00	49.95
				Silica	7631-86-9	30.00	49.95
				Aluminum hydroxide	24645-51-2	22.00	36.63
				TBBA epichlorhydrin oligomer	40039-93-8	10.87	18.10
				Trimellitic anhydride	552-30-7	3.50	5.83
				Antimony trioxide	1309-64-4	1.50	2.50
				Triphenyl phosphine	603-35-0	0.20	0.33
				C.I.pigment, red 144	5280-78-4	0.17	0.28
				Acrylic monomer oligomer	29570-58-9	0.12	0.20
				Carbon black	1333-86-4	0.04	0.07
				Sensitizer	21245-01-2	0.01	0.01
				Rest	-	1.59	2.65
	Termination	Steel and Tin/Copper plating	85.0	Steel	7439-89-6	93.43	79.41
				Copper	7440-50-8	2.06	1.75
				Tin	7440-31-5	3.65	3.10
				Manganese	7439-96-5	0.24	0.20
	Rest	-	0.63	0.53			
	Solder	Lead-free solder	65.0	Tin	7440-31-5	96.50	62.73
				Silver	7440-22-4	3.00	1.95
				Copper	7440-50-8	0.50	0.33

Material Declaration
M10-5-XXX/XXXJ

Total mass: 0.510g

17-Jan-2007

Part Name	Breakdown of component	Material Name	Weight (mg)	Substance name	CAS No.	Composition by weight	
						(%)	(mg)
Conformal Coated SIP Thick Film Resistor Array	Substrate	Alumina	157.7	Aluminum oxide	1344-28-1	92.00	145.05
				Silica	7631-86-9	4.80	7.57
				Magnesium oxide	1309-48-4	2.40	3.78
				Calcium oxide	1305-78-8	0.80	1.26
	Thick film	Metals and Oxides	15.5	Silver	7440-22-4	42.77	6.61
				Lead monoxide (II)	1317-36-8	23.41	3.62
				Silica	7631-86-9	13.52	2.09
				Boron trioxide	1303-86-2	4.53	0.70
				Zinc oxide	1314-13-2	2.13	0.33
				Ruthenium oxide	12036-10-1	3.47	0.54
				Trilead tetroxide	1314-41-6	2.73	0.42
				Calcium oxide	1305-78-8	1.99	0.31
				Chromium oxide (III)	1308-38-9	0.72	0.11
				Aluminum oxide	1344-28-1	2.06	0.32
				Palladium	7440-05-3	0.44	0.07
				Manganese carbonate (II)	598-62-9	0.35	0.05
				Tantalum oxide (V)	1314-61-0	0.27	0.04
				Copper	7440-50-8	0.22	0.03
				Copper oxide (I)	1317-38-0	0.22	0.03
				Copper oxide (II)	1317-39-1	0.22	0.03
				Bismuth oxide	1304-76-3	0.22	0.03
	Rest	-	0.75	0.12			
	Conformal coat and Marking	Epoxy / Acrylic	166.5	Biphenyl A7 epichlorhydrin based epoxy resin	25068-38-6	30.00	49.95
				Silica	7631-86-9	30.00	49.95
				Aluminum hydroxide	24645-51-2	22.00	36.63
				TBBA epichlorhydrin oligomer	40039-93-8	10.87	18.10
				Trimellitic anhydride	552-30-7	3.50	5.83
				Antimony trioxide	1309-64-4	1.50	2.50
				Triphenyl phosphine	603-35-0	0.20	0.33
				C.I.pigment, red 144	5280-78-4	0.17	0.28
				Acrylic monomer oligomer	29570-58-9	0.15	0.25
				Carbon black	1333-86-4	0.05	0.08
				Sensitizer	21245-01-2	0.01	0.02
				Rest	-	1.55	2.58
	Termination	Steel and Tin/Copper plating	85.0	Steel	7439-89-6	93.43	79.41
				Copper	7440-50-8	2.06	1.75
				Tin	7440-31-5	3.65	3.10
				Manganese	7439-96-5	0.24	0.20
				Rest	-	0.63	0.53
	Solder	Lead-free solder	85.0	Tin	7440-31-5	96.50	82.03
				Silver	7440-22-4	3.00	2.55
				Copper	7440-50-8	0.50	0.43