



# Material Declaration Data Sheet

## RSF12 (Formerly RSF 1/2)

**General Purpose Metal Oxide Resistor**

Date: **November 9, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)  
 Component Weight (g): **0.3313**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (g)	BOM Item % of Component
Ceramic core	aluminum oxide	1344-28-1	0.0710	214,447	96.00%	0.0740	22.34%
	silicon oxide	7631-86-9	0.0015	4,468	2.00%		
	magnesium oxide	1309-48-4	0.0007	2,234	1.00%		
	calcium oxide	1305-78-8	0.0007	2,234	1.00%		
Resistive element	tin-dioxide	18282-10-5	0.0001	392	100.00%	0.0001	0.04%
Cap and lead assembly	iron	7439-89-6	0.0774	233,646	34.94%	0.2215	66.86%
	copper	7440-50-8	0.1218	367,676	54.99%		
	tin	7440-31-5	0.0223	67,317	10.07%		
Over-coat / marking	silicone resin	9016-00-6	0.0297	89,655	83.33%	0.0356	10.76%
	silicone dioxide	14808-60-7	0.0028	8,573	7.97%		
	xylene	1330-20-7	0.0003	906	0.84%		
	aromatic solvent	64742-94-5	0.0028	8,452	7.86%		
Total Weight			0.3313				

\* Weights are approximate



# Material Declaration Data Sheet

## RSF1 (Formerly RSF 1)

**General Purpose Metal Oxide Resistor**

Date: **November 9, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)  
 Component Weight (g): **0.5903**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (g)	BOM Item % of Component
Ceramic core	aluminum oxide	1344-28-1	0.1990	337,159	96.00%	0.2073	35.12%
	silicon oxide	7631-86-9	0.0041	7,024	2.00%		
	magnesium oxide	1309-48-4	0.0021	3,512	1.00%		
	calcium oxide	1305-78-8	0.0021	3,512	1.00%		
Resistive element	tin-dioxide	18282-10-5	0.0002	390	100.00%	0.0002	0.04%
Cap and lead assembly	iron	7439-89-6	0.1142	193,477	34.93%	0.3269	55.38%
	copper	7440-50-8	0.1798	304,617	55.00%		
	tin	7440-31-5	0.0329	55,739	10.06%		
Over-coat / marking	silicone resin	9016-00-6	0.0485	82,152	86.87%	0.0558	9.46%
	silicone dioxide	14808-60-7	0.0041	6,997	7.40%		
	xylene	1330-20-7	0.0003	508	0.54%		
	aromatic solvent	64742-94-5	0.0029	4,913	5.20%		
Total Weight			0.5903				

\* Weights are approximate



# Material Declaration Data Sheet

## RSF2 (Formerly RSF 2)

**General Purpose Metal Oxide Resistor**

Date: **November 9, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)

Component Weight (g): **1.1830**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (g)	BOM Item % of Component
Ceramic core	aluminum oxide	1344-28-1	0.5189	438,603	96.00%	0.5405	45.69%
	silicon oxide	7631-86-9	0.0108	9,138	2.00%		
	magnesium oxide	1309-48-4	0.0054	4,569	1.00%		
	calcium oxide	1305-78-8	0.0054	4,569	1.00%		
Resistive element	tin-dioxide	18282-10-5	0.0004	363	100.00%	0.0004	0.04%
Cap and lead assembly	iron	7439-89-6	0.1873	158,322	34.93%	0.5362	45.32%
	copper	7440-50-8	0.2949	249,275	55.00%		
	tin	7440-31-5	0.0540	45,646	10.07%		
Over-coat / marking	silicone resin	9016-00-6	0.0897	75,831	84.71%	0.1059	8.95%
	silicone dioxide	14808-60-7	0.0076	6,458	7.21%		
	xylene	1330-20-7	0.0056	4,691	5.24%		
	aromatic solvent	64742-94-5	0.0030	2,536	2.83%		
Total Weight			1.1830				

\* Weights are approximate



# Material Declaration Data Sheet

## RSF3 (Formerly RSF 3)

**General Purpose Metal Oxide Resistor**

Date: **November 9, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)  
 Component Weight (g): **3.8939**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (g)	BOM Item % of Component
Ceramic core	aluminum oxide	1344-28-1	2.5848	663,811	96.00%	2.6925	69.15%
	silicon oxide	7631-86-9	0.0539	13,829	2.00%		
	magnesium oxide	1309-48-4	0.0269	6,915	1.00%		
	calcium oxide	1305-78-8	0.0269	6,915	1.00%		
Resistive element	tin-dioxide	18282-10-5	0.0013	321	100.00%	0.0013	0.03%
Cap and lead assembly	iron	7439-89-6	0.3158	81,102	34.93%	0.9041	23.22%
	copper	7440-50-8	0.4973	127,713	55.00%		
	tin	7440-31-5	0.0910	23,370	10.07%		
Over-coat / marking	silicone resin	9016-00-6	0.2602	66,813	87.88%	0.2960	7.60%
	silicone dioxide	14808-60-7	0.0222	5,691	7.49%		
	xylene	1330-20-7	0.0097	2,494	3.28%		
	aromatic solvent	64742-94-5	0.0040	1,027	1.35%		
Total Weight			3.8939				

\* Weights are approximate



# Material Declaration Data Sheet

## RSF5 (Formerly RSF 5)

**General Purpose Metal Oxide Resistor**

Date: **November 9, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)  
 Component Weight (g): **6.1039**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (g)	BOM Item % of Component
Ceramic core	aluminum oxide	1344-28-1	4.4355	726,669	96.00%	4.6203	75.69%
	silicon oxide	7631-86-9	0.0924	15,139	2.00%		
	magnesium oxide	1309-48-4	0.0462	7,569	1.00%		
	calcium oxide	1305-78-8	0.0462	7,569	1.00%		
Resistive element	tin-dioxide	18282-10-5	0.0020	328	100.00%	0.0020	0.03%
Cap and lead assembly	iron	7439-89-6	0.3158	51,738	34.93%	0.9041	14.81%
	copper	7440-50-8	0.4973	81,473	55.00%		
	tin	7440-31-5	0.0910	14,909	10.07%		
Over-coat / marking	silicone resin	9016-00-6	0.5261	86,188	91.10%	0.5775	9.46%
	silicone dioxide	14808-60-7	0.0377	6,172	6.52%		
	xylene	1330-20-7	0.0097	1,591	1.68%		
	aromatic solvent	64742-94-5	0.0040	655	0.69%		
Total Weight			6.1039				

\* Weights are approximate



# Material Declaration Data Sheet

## RSMF12 (Formerly RSMF 1/2)

**Mini - General Purpose Metal Oxide Resistor**

Date: **November 9, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)  
 Component Weight (g): **0.2127**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (g)	BOM Item % of Component
Ceramic core	aluminum oxide	1344-28-1	0.0348	163,354	96.00%	0.0362	17.02%
	silicon oxide	7631-86-9	0.0007	3,403	2.00%		
	magnesium oxide	1309-48-4	0.0004	1,702	1.00%		
	calcium oxide	1305-78-8	0.0004	1,702	1.00%		
Resistive element	tin-dioxide	18282-10-5	0.0001	282	100.00%	0.0001	0.03%
Cap and lead assembly	iron	7439-89-6	0.0544	255,711	34.94%	0.1557	73.19%
	copper	7440-50-8	0.0856	402,369	54.98%		
	tin	7440-31-5	0.0157	73,799	10.08%		
Over-coat / marking	silicone resin	9016-00-6	0.0154	72,154	73.87%	0.0208	9.77%
	silicone dioxide	14808-60-7	0.0016	7,662	7.84%		
	xylene	1330-20-7	0.0010	4,701	4.81%		
	aromatic solvent	64742-94-5	0.0028	13,162	13.47%		
Total Weight			0.2127				

\* Weights are approximate



# Material Declaration Data Sheet

## RSMF1 (Formerly RSMF 1)

**Mini - General Purpose Metal Oxide Resistor**

Date: **November 9, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)  
 Component Weight (g): **0.3313**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (g)	BOM Item % of Component
Ceramic core	aluminum oxide	1344-28-1	0.0710	214,447	96.00%	0.0740	22.34%
	silicon oxide	7631-86-9	0.0015	4,468	2.00%		
	magnesium oxide	1309-48-4	0.0007	2,234	1.00%		
	calcium oxide	1305-78-8	0.0007	2,234	1.00%		
Resistive element	tin-dioxide	18282-10-5	0.0001	392	100.00%	0.0001	0.04%
Cap and lead assembly	iron	7439-89-6	0.0774	233,646	34.94%	0.2215	66.86%
	copper	7440-50-8	0.1218	367,676	54.99%		
	tin	7440-31-5	0.0223	67,317	10.07%		
Over-coat / marking	silicone resin	9016-00-6	0.0297	89,655	83.33%	0.0356	10.76%
	silicone dioxide	14808-60-7	0.0028	8,573	7.97%		
	xylene	1330-20-7	0.0003	906	0.84%		
	aromatic solvent	64742-94-5	0.0028	8,452	7.86%		
Total Weight			0.3313				

\* Weights are approximate



# Material Declaration Data Sheet

## RSMF2 (Formerly RSMF 2)

**Mini - General Purpose Metal Oxide Resistor**

Date: **November 9, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)  
 Component Weight (g): **0.5903**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (g)	BOM Item % of Component
Ceramic core	aluminum oxide	1344-28-1	0.1990	337,159	96.00%	0.2073	35.12%
	silicon oxide	7631-86-9	0.0041	7,024	2.00%		
	magnesium oxide	1309-48-4	0.0021	3,512	1.00%		
	calcium oxide	1305-78-8	0.0021	3,512	1.00%		
Resistive element	tin-dioxide	18282-10-5	0.0002	390	100.00%	0.0002	0.04%
Cap and lead assembly	iron	7439-89-6	0.1142	193,477	34.93%	0.3269	55.38%
	copper	7440-50-8	0.1798	304,617	55.00%		
	tin	7440-31-5	0.0329	55,739	10.06%		
Over-coat / marking	silicone resin	9016-00-6	0.0485	82,152	86.87%	0.0558	9.46%
	silicone dioxide	14808-60-7	0.0041	6,997	7.40%		
	xylene	1330-20-7	0.0003	508	0.54%		
	aromatic solvent	64742-94-5	0.0029	4,913	5.20%		
Total Weight			0.5903				

\* Weights are approximate





# Material Declaration Data Sheet

## RSMF3 (Formerly RSMF 3)

**Mini - General Purpose Metal Oxide Resistor**

Date: **November 9, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)  
 Component Weight (g): **1.1830**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (g)	BOM Item % of Component
Ceramic core	aluminum oxide	1344-28-1	0.5189	438,603	96.00%	0.5405	45.69%
	silicon oxide	7631-86-9	0.0108	9,138	2.00%		
	magnesium oxide	1309-48-4	0.0054	4,569	1.00%		
	calcium oxide	1305-78-8	0.0054	4,569	1.00%		
Resistive element	tin-dioxide	18282-10-5	0.0004	363	100.00%	0.0004	0.04%
Cap and lead assembly	iron	7439-89-6	0.1873	158,322	34.93%	0.5362	45.32%
	copper	7440-50-8	0.2949	249,275	55.00%		
	tin	7440-31-5	0.0540	45,646	10.07%		
Over-coat / marking	silicone resin	9016-00-6	0.0897	75,831	84.71%	0.1059	8.95%
	silicone dioxide	14808-60-7	0.0076	6,458	7.21%		
	xylene	1330-20-7	0.0056	4,691	5.24%		
	aromatic solvent	64742-94-5	0.0030	2,536	2.83%		
Total Weight			1.1830				

\* Weights are approximate



# Material Declaration Data Sheet

## RSMF5 (Formerly RSMF 5)

**Mini - General Purpose Metal Oxide Resistor**

Date: **November 9, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)  
 Component Weight (g): **3.8939**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (g)	BOM Item % of Component
Ceramic core	aluminum oxide	1344-28-1	2.5848	663,811	96.00%	2.6925	69.15%
	silicon oxide	7631-86-9	0.0539	13,829	2.00%		
	magnesium oxide	1309-48-4	0.0269	6,915	1.00%		
	calcium oxide	1305-78-8	0.0269	6,915	1.00%		
Resistive element	tin-dioxide	18282-10-5	0.0013	321	100.00%	0.0013	0.03%
Cap and lead assembly	iron	7439-89-6	0.3158	81,102	34.93%	0.9041	23.22%
	copper	7440-50-8	0.4973	127,713	55.00%		
	tin	7440-31-5	0.0910	23,370	10.07%		
Over-coat / marking	silicone resin	9016-00-6	0.2602	66,813	87.88%	0.2960	7.60%
	silicone dioxide	14808-60-7	0.0222	5,691	7.49%		
	xylene	1330-20-7	0.0097	2,494	3.28%		
	aromatic solvent	64742-94-5	0.0040	1,027	1.35%		
Total Weight			3.8939				

\* Weights are approximate