



Material Declaration Data Sheet

FRN14 (Formerly FRN 1/4)

Fusing Resistor

Date: November 7, 2012 Component Weight (g): 2.1000	Max Temp: 260°C (Contact factory for detailed soldering recommendations.)
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BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (mg)	BOM Item % of Component
Alumina core	aluminum oxide	1344-28-1	0.3520	167,634	96.00%	0.3667	17.46%
	silicon oxide	7631-86-9	0.0073	3,492	2.00%		
	magnesium oxide	1309-48-4	0.0037	1,746	1.00%		
	calcium oxide	1305-78-8	0.0037	1,746	1.00%		
Resistive element	nickel	7440-02-0	0.0001	48	50.00%	0.0002	0.01%
	chromium	7440-47-3	0.0001	48	50.00%		
Cap and lead assembly	iron	7439-89-6	0.2946	140,286	18.63%	1.5817	75.32%
	copper	7440-50-8	1.2871	612,905	81.37%		
Termination plating	tin	7440-31-5	0.0500	23,810	100.00%	0.0500	2.38%
Under-coat	organo poly siloxane	9003-18-3	0.0202	9,619	100.00%	0.0202	0.96%
Color code ink	resin		0.0029	1,381	58.00%	0.0050	0.24%
	pigment		0.0021	1,000	42.00%		
Over-coat	bisphenol a, epichlorohydrin polymer	999999-46-7	0.0762	36,286	100.00%	0.0762	3.63%
Total Weight			2.1000				

* Weights are approximate.



Material Declaration Data Sheet

FRN1 (Formerly FRN 1)

Fusing Resistor

Date: **November 7, 2012** Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)
 Component Weight (g): **5.7001**

BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (mg)	BOM Item % of Component
Alumina core	aluminum oxide	1344-28-1	1.9902	349,148	96.00%	2.0731	36.37%
	silicon oxide	7631-86-9	0.0415	7,274	2.00%		
	magnesium oxide	1309-48-4	0.0207	3,637	1.00%		
	calcium oxide	1305-78-8	0.0207	3,637	1.00%		
Resistive element	nickel	7440-02-0	0.0003	53	50.00%	0.0006	0.01%
	chromium	7440-47-3	0.0003	53	50.00%		
Cap and lead assembly	iron	7439-89-6	0.9291	162,997	27.78%	3.3442	58.67%
	copper	7440-50-8	2.4151	423,694	72.22%		
Termination plating	tin	7440-31-5	0.0719	12,614	100.00%	0.0719	1.26%
Under-coat	organo poly siloxane	9003-18-3	0.0302	5,298	100.00%	0.0302	0.53%
Color code ink	resin		0.0091	1,596	59.09%	0.0154	0.27%
	pigment		0.0063	1,105	40.91%		
Over-coat	bisphenol a, epichlorohydrin polymer	999999-46-7	0.1647	28,894	100.00%	0.1647	2.89%
Total Weight			5.7001				

* Weights are approximate.



Material Declaration Data Sheet

FRN 2 (Formerly FRN 2)

Fusing Resistor

Date: November 7, 2012 Component Weight (g): 13.0000	Max Temp: 260°C (Contact factory for detailed soldering recommendations.)
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BOM Item	Material	CAS Number	Material Weight (g)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (mg)	BOM Item % of Component
Alumina core	aluminum oxide	1344-28-1	6.1489	472,992	96.00%	6.1489	48.25%
	silicon oxide	7631-86-9	0.1281	9,854	2.00%		
	magnesium oxide	1309-48-4	0.0641	4,927	1.00%		
	calcium oxide	1305-78-8	0.0641	4,927	1.00%		
Resistive element	nickel	7440-02-0	0.0013	100	50.00%	0.0026	0.02%
	chromium	7440-47-3	0.0013	100	50.00%		
Cap and lead assembly	iron	7439-89-6	2.1398	164,600	36.86%	5.8058	45.56%
	copper	7440-50-8	3.6660	282,000	63.14%		
Termination plating	tin	7440-31-5	0.1183	9,100	100.00%	0.1183	0.93%
Under-coat	organo poly siloxane	9003-18-3	0.0897	6,900	100.00%	0.0897	0.70%
Color code ink	resin		0.0182	1,400	60.87%	0.0299	0.23%
	pigment		0.0117	900	39.13%		
Over-coat	bisphenol a, epichlorohydrin polymer	999999-46-7	0.5486	42,200	100.00%	0.5486	4.30%
Total Weight			13.0000				

* Weights are approximate.