Stackpole Electronics, Inc.
Resistive Product Solutions

Material Declaration Data Sheet

RNCP0402

High Power Anti-Sulfur Thin Film Chip Resistor

Date: **November 7, 2012**

Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)

Component Weight (mg): **0.5271**

BOM Item	Material	CAS Number	Material Weight (mg)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (mg)	BOM Item % of Component
Ceramic substrate	aluminum oxide	1344-28-1	0.4027	763,968	96.00%		
	silicon dioxide	14808-60-7	0.0168	31,832	4.00%	0.4195	79.58%
Conductor layer	nickel	7440-02-0	0.0014	2,600	52.00%		
	chromium	7440-47-3	0.0002	400	8.00%		
	copper	7440-50-8	0.0005	1,000	20.00%		
	titanium	7440-32-6	0.0001	100	2.00%	0.0026	0.50%
	tungsten	7440-33-7	0.0005	900	18.00%		
Resistive element	nickel	7440-02-0	0.0011	2,100	50.00%		
	chromium	7440-47-3	0.0011	2,100	50.00%	0.0022	0.42%
Over-coating	epoxy	25068-38-6	0.0506	96,000	100.00%	0.0506	9.60%
End teminal	nickel	7440-02-0	0.0005	880	80.00%		
	chromium	7440-47-3	0.0001	220	20.00%	0.0006	0.11%
Plating layer	nickel	7440-02-0	0.0273	51,700	52.81%		
	tin	7440-31-5	0.0244	46,200	47.19%	0.0516	9.79%
Total Weight			0.5271				

Weights listed are approximate.

Stackpole Electronics, Inc.
Resistive Product Solutions

Material Declaration Data Sheet

RNCP0603

High Power Anti-Sulfur Thin Film Chip Resistor

Date: **November 7, 2012**
Component Weight (mg): **2.0490**

Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)

BOM Item	Material	CAS Number	Material Weight (mg)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (mg)	BOM Item % of Component
Ceramic substrate	aluminum oxide silicon dioxide	1344-28-1 14808-60-7	1.5622 0.0651	762,432 31,768	96.00% 4.00%	1.6273	79.42%
Conductor layer	nickel chromium copper titanium tungsten	7440-02-0 7440-47-3 7440-50-8 7440-32-6 7440-33-7	0.0053 0.0008 0.0020 0.0002 0.0018	2,600 400 1,000 100 900	52.00% 8.00% 20.00% 2.00% 18.00%	0.0102	0.50%
Resistive element	nickel chromium	7440-02-0 7440-47-3	0.0043 0.0043	2,100 2,100	50.00% 50.00%	0.0086	0.42%
Over-coating	epoxy	25068-38-6	0.1965	95,900	100.00%	0.1965	9.59%
Marking	resin phenolic	25085-99-8	0.0033	1,600	100.00%	0.0033	0.16%
End teminal	nickel chromium	7440-02-0 7440-47-3	0.0020 0.0005	960 240	80.00% 20.00%	0.0025	0.12%
Plating layer	nickel tin	7440-02-0 7440-31-5	0.1059 0.0947	51,700 46,200	52.81% 47.19%	0.2006	9.79%
Total Weight			2.0490				

Weights listed are approximate.

Stackpole Electronics, Inc.
Resistive Product Solutions

Material Declaration Data Sheet

RNCP0805

High Power Anti-Sulfur Thin Film Chip Resistor

Date: **November 7, 2012**
Component Weight (mg): **4.7096**

Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)

BOM Item	Material	CAS Number	Material Weight (mg)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (mg)	BOM Item % of Component
Ceramic substrate	aluminum oxide silicon dioxide	1344-28-1 14808-60-7	3.5907 0.1496	762,432 31,768	96.00% 4.00%	3.7404	79.42%
Conductor layer	nickel chromium copper titanium tungsten	7440-02-0 7440-47-3 7440-50-8 7440-32-6 7440-33-7	0.0122 0.0019 0.0047 0.0005 0.0042	2,600 400 1,000 100 900	52.00% 8.00% 20.00% 2.00% 18.00%	0.0235	0.50%
Resistive element	nickel chromium	7440-02-0 7440-47-3	0.0099 0.0099	2,100 2,100	50.00% 50.00%	0.0198	0.42%
Over-coating	epoxy	25068-38-6	0.4517	95,900	100.00%	0.4517	9.59%
Marking	resin phenolic	25085-99-8	0.0075	1,600	100.00%	0.0075	0.16%
End teminal	nickel chromium	7440-02-0 7440-47-3	0.0045 0.0011	960 240	80.00% 20.00%	0.0057	0.12%
Plating layer	nickel tin	7440-02-0 7440-31-5	0.2435 0.2176	51,700 46,200	52.81% 47.19%	0.4611	9.79%
Total Weight			4.7096				

Weights listed are approximate.

Stackpole Electronics, Inc.
Resistive Product Solutions

Material Declaration Data Sheet

RNCP1206

High Power Anti-Sulfur Thin Film Chip Resistor

Date: **November 7, 2012**
Component Weight (mg): **9.1248**

Max Temp: **260°C** (Contact factory for detailed soldering recommendations.)

BOM Item	Material	CAS Number	Material Weight (mg)	Material PPM of Component	Material % of BOM Item	BOM Item Weight (mg)	BOM Item % of Component
Ceramic substrate	aluminum oxide silicon dioxide	1344-28-1 14808-60-7	7.1533 0.2981	783,936 32,664	96.00% 4.00%	7.4513	81.66%
Conductor layer	nickel chromium copper titanium tungsten	7440-02-0 7440-47-3 7440-50-8 7440-32-6 7440-33-7	0.0237 0.0036 0.0091 0.0009 0.0082	2,600 400 1,000 100 900	52.00% 8.00% 20.00% 2.00% 18.00%	0.0456	0.50%
Resistive element	nickel chromium	7440-02-0 7440-47-3	0.0192 0.0192	2,100 2,100	50.00% 50.00%	0.0383	0.42%
Over-coating	epoxy	25068-38-6	0.6771	74,200	100.00%	0.6771	7.42%
Marking	resin phenolic	25085-99-8	0.0109	1,200	100.00%	0.0109	0.12%
End teminal	nickel chromium	7440-02-0 7440-47-3	0.0066 0.0016	720 180	80.00% 20.00%	0.0082	0.09%
Plating layer	nickel tin	7440-02-0 7440-31-5	0.4718 0.4216	51,700 46,200	52.81% 47.19%	0.8933	9.79%
Total Weight			9.1248				

Weights listed are approximate.