



Content Data IMS RCI Series Resistors – Lead Free (PbF) Terminations

Construction	Material	Substance
Substrate	Ceramic	Al ₂ O ₃ , MgO, SiO ₂
Resistor	RuO ₂ thick film	Ag, Pd, RuO ₂ , PbO, SiO ₂ , B ₂ O ₃ , CuO, MnO ₂ , SbO ₃ , ZnO
Protective Coating	Glass thick film	PbO, SiO ₂ , B ₂ O ₃ , Cr ₂ O ₃ , CuO, MnO ₂ , Al ₂ O ₃
Inner Termination	Ag-Pd thick film	Ag, Pd, PbO, SiO ₂ , B ₂ O ₃ , Bi ₂ O ₃ , CuO, MnO ₂ , V ₂ O ₅ , ZnO, ZrO ₂
2 nd Termination	Plating (Ni)	Ni
3 rd Termination	Plating (Sn)	Sn

Substance			RCI-0402	RCI-0603	RCI-0805	RCI-1206	RCI-1210	RCI-2010	RCI-2512
Name	Symbol	CAS No.	weight %	weight %	weight %	weight %	weight %	weight %	weight %
Silver	Ag	7440-22-4	8.865	6.994	5.56	4.773	4.532	2.552	2.736
Nickel	Ni	7440-02-0	5.657	3.867	3.385	2.719	2.677	1.848	1.458
Palladium	Pd	7440-05-3	0.37	0.242	0.198	0.195	0.201	0.23	0.2
Tin	Sn	7440-31-5	4.901	2.917	2.932	2.356	2.319	1.601	1.263
Alumina	Al ₂ O ₃	1344-28-1	68.186	75.331	77.598	78.915	78.912	82.026	83.237
Diboron Trioxide	B ₂ O ₃	1303-86-2	1.787	1.48	1.425	1.527	1.615	1.647	1.52
Bismuth Trioxide	Bi ₂ O ₃	1304-76-3	0.136	0.088	0.061	0.059	0.057	0.038	0.051
Chromium Oxide	Cr ₂ O ₃	1308-38-9	0.123	0.135	0.129	0.159	0.14	0.152	0.142
Cupric Oxide	CuO	1317-38-0	0.209	0.201	0.182	0.205	0.185	0.181	0.171
Magnesium Oxide	MgO	1309-48-4	0.778	0.869	0.889	0.904	0.902	0.938	0.952
Manganese Dioxide	MnO ₂	1313-13-9	0.164	0.161	0.149	0.178	0.159	0.17	0.161
Lead Oxide	PbO	1317-36-8	5.005	4.245	4.111	4.493	4.688	4.843	4.477
Ruthenium Dioxide	RuO ₂	12036-10-1	0.42	0.259	0.216	0.222	0.235	0.31	0.258
Antimony Trioxide	Sb ₂ O ₃	1309-64-4	0.014	0.009	0.007	0.007	0.008	0.01	0.009
Silica	SiO ₂	14808-60-7	3.279	3.133	3.11	3.24	3.325	3.42	3.323
Vandium Pentoxide	V ₂ O ₅	1314-62-1	0.027	0.018	0.012	0.012	0.011	0.008	0.01
Zinc Oxide	ZnO	1314-13-2	0.034	0.022	0.016	0.016	0.015	0.013	0.015
Zirconium Dioxide	ZrO ₂	1314-23-4	0.045	0.029	0.02	0.02	0.019	0.013	0.017
	reference weight (mg)		0.63	2.2	5.1	10	16	24	39