

Material Declaration



Package Type	5 x 7
Package Size	5 x 7 mm
Terminal Finish	Gold
Finish Thickness	0.5 microns
Weight (mg)	170.000
MSL	1

Series	CAL
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Item	Material	Element	Content (mg)	Content (wt%)	CAS #	
Cover	Kovar	Nickel (Ni)	7.221	4.248%	7440-02-0	
		Cobalt (Co)	4.204	2.473%	7440-48-4	
		Iron (Fe)	13.503	7.943%	7439-89-6	
	Plating	Nickel (Ni)	1.033	0.608%	7440-02-0	
Base	Ceramic	Alumina (Al2O3)	81.958	48.211%	1344-28-1	
		Silicon Dioxide (SiO2)	3.252	1.913%	7631-86-9	
		Chromium Oxide (Cr2O3)	3.499	2.058%	1308-38-9	
		Titanium Oxide (TiO2)	0.904	0.532%	13463-67-7	
		Calcium Oxide (CaO)	0.305	0.180%	1305-79-9	
		Magnesium Oxide (MgO)	0.458	0.269%	1309-48-4	
		Molybdenum (Mo)	0.505	0.297%	7439-98-7	
		Metallization	Tungsten (W)	16.204	9.532%	7440-33-7
	Nickel Plating	Nickel (Ni)	2.090	1.229%	7440-02-0	
		Cobalt (Co)	0.528	0.311%	7440-48-4	
	Gold Plating	Gold (Au)	0.728	0.428%	7440-57-5	
	Seal ring	Iron (Fe)	13.151	7.736%	7439-89-6	
		Nickel (Ni)	7.069	4.158%	7440-02-0	
	Silver solder	Cobalt (Co)	4.145	2.438%	7440-48-4	
		Silver (Ag)	3.088	1.817%	7440-22-4	
		Copper (Cu)	0.540	0.318%	7440-50-8	
IC	IC	Aluminum (Al)	0.003	0.002%	7429-90-5	
		Titanium (Ti)	0.001	0.001%	7440-32-6	
		Silicon (Si)	1.245	0.732%	7440-21-3	
		Gold Wire	Gold (Au)	0.337	0.198%	7440-57-5
	Adhesive	Silver (Ag)	0.0002	0.00013%	7440-22-4	
Epoxy		0.0001	0.00004%			
Capacitor 1	Body	Nickel (Ni)	0.010	0.006%	7440-02-0	
		BaTiO3	0.830	0.488%	12047-27-7	
		Termination	Nickel (Ni)	0.013	0.008%	7440-02-0
		Tin (Sn)	0.019	0.011%	7440-31-5	
		Copper (Cu)	0.025	0.015%	7440-50-8	
Capacitor 2	Body	Nickel (Ni)	0.010	0.006%	7440-02-0	
		BaTiO3	0.830	0.488%	12047-27-7	
		Termination	Nickel (Ni)	0.013	0.008%	7440-02-0
		Tin (Sn)	0.019	0.011%	7440-31-5	
		Copper (Cu)	0.025	0.015%	7440-50-8	
Resistor	Body	Aluminum Oxide (Al2O3)	0.849	0.499%	1344-28-1	
		Silicon Oxide (SiO2)	0.043	0.025%	7631-86-9	
		Magnesium Oxide (MgO)	0.010	0.006%	1309-48-4	
		Calcium Oxide (CaO)	0.009	0.005%	1305-78-8	
		Silver (Ag)	0.061	0.036%	7440-22-4	
		Palladium (Pd)	0.002	0.001%	7440-05-3	
		Boron Trioxide (B2O3)	0.012	0.007%	1303-86-2	
		Lead Oxide (PbO)	0.010	0.006%	1317-36-8	
		Ruthenium Oxide (RuO2)	0.006	0.004%	12036-10-1	
		Copper Oxide (Cu2O)	0.001	0.001%	1317-38-0	
		Epoxy	0.037	0.022%	67762-95-2	
		Termination	Nickel (Ni)	0.032	0.019%	7440-02-0
			Tin (Sn)	0.058	0.034%	7440-31-5
	Crystal	Crystal	Quartz (SiO2)	1.080	0.635%	14808-60-7
		Electrode	Silver (Ag)	0.022	0.013%	7440-22-4
Nickel (Ni)			0.0002	0.0001%	7440-02-0	
Adhesive		Silver (Ag)	0.0004	0.00026%	7440-22-4	
		Silicon (Si)	0.0001	0.000086%	7440-21-3	
TOTAL			170.000	100.000%		



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