

Materials Declaration

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Product Family : Ceramic 5x7mm TCXO (FOX331 type)

	Material Name	Component	Content (mg)	Content (wt %)	(CAS#)	
Cover	Kovar	Nickel (Ni)	3.4800	1.97%	7440-02-0	
		Cobalt (Co)	2.0400	1.15%	7440-48-4	
		Iron (Fe)	6.4800	3.67%	7439-89-6	
	Plating	Nickel (Ni)	0.3997	0.23%	7440-02-0	
		Phosphorus (P)	0.0003	0.0002%	7723-14-0	
Crystal Base	Ceramic	Alumina (Al ₂ O ₃)	33.920	19.20%	1344-28-1	
		Silicon Dioxide (SiO ₂)	2.120	1.20%	7631-86-9	
	Metallization	Tungsten (W)	3.710	2.10%	7440-33-7	
		Molybdenum (Mo)	1.060	0.60%	7439-98-7	
	Nickel Plate	Nickel (Ni)	1.150	0.65%	7440-02-0	
	Gold Plate	Gold (Au)	0.280	0.16%	7440-57-5	
	Kovar Ring	Nickel (Ni)	2.560	1.45%	7440-02-0	
		Cobalt (Co)	1.500	0.85%	7440-48-4	
		Iron (Fe)	4.770	2.70%	7439-89-6	
	Silver Solder	Silver (Ag)	1.590	0.90%	7440-22-4	
		Copper (Cu)	0.28	0.16%	7440-50-8	
H/I C	I C	Aluminum (Al)	0.006	0.003%	7429-90-5	
		Silicon (Si)	1.994	1.13%	7440-21-3	
	Wirebond	Gold (Au)	0.100	0.06%	7440-57-5	
	Ceramic Base	Alumina (Al ₂ O ₃)	76.810	43.49%	1344-28-1	
		Silicon Dioxide (SiO ₂)	3.460	1.96%	7631-86-9	
		Chromium Oxide (Cr ₂ O ₃)	2.200	1.25%	1308-38-9	
		Titanium Oxide (TiO ₂)	1.450	0.82%	13463-67-7	
	Conductor	Tungsten (W)	4.730	2.68%	7440-33-7	
	Nickel Plate	Nickel (Ni)	1.650	0.93%	7440-02-0	
	Gold Plate	Gold (Au)	0.806	0.46%	7440-57-5	
	Die bond Paste	Epoxy Resin	0.807	0.46%	80-05-7	
	Sealing Resin	Bisphenol A Epoxy resin	0.190	0.11%	25068-38-6	
		Epoxy Resin	0.210	0.12%	2386-87-0	
		Acid anhydride curing agent	0.950	0.54%	25550-51-0	
		4-Methyltetrahydrophthalic anhydride	0.110	0.06%	34090-76-1	
		Silica, Amorphous(fumed)	0.400	0.23%	7631-86-9	
		Silica, Amorphous(fused)	3.100	1.76%	60676-86-0	
		Proprietary Resin	0.510	0.29%		
		Carbon Black	0.030	0.02%	1333-86-4	
	Solder	Tin (Sn)	4.250	2.41%	7440-31-5	
		Antimony (Sb)	0.230	0.13%	7440-36-0	
	Chip Capacitor(3)	Ceramic	Barium Titanate (BaTiO ₃)	3.660	2.07%	12047-27-7
			Nickel (Ni)	0.150	0.08%	7440-02-0
Electrode		Copper (Cu)	0.720	0.41%	7440-50-8	
		Nickel (Ni)	0.090	0.05%	7440-02-0	
		Tin (Sn)	0.180	0.10%	7440-31-5	
Crystal	Quartz	Silicon Dioxide (SiO ₂)	1.2500	0.71%	14808-60-7	
		Nickel (Ni)	0.0025	0.001%	7440-02-0	
	Electrode	Gold (Au)	0.2475	0.14%	7440-57-5	
		Silver (Ag)	0.8800	0.50%	7440-22-4	
	Adhesive	Silicone resin	0.1200	0.07%		
TOTAL			176.63	100.00%		