

# Material Data Sheet

Product Name : Crystal Resonator  
 Product Type : CX2016DB series  
 Product Weight : 5.639 mg

Component Name	Mass(mg)	CAS Number	Substance Name	Concentration (wt%)	Mass(mg)	ELV Exempted Application	RoHS Exempted Application	Remark
Quartz chip	0.216	14808-60-7	Quartz (SiO <sub>2</sub> )	100	0.216			
Electrode	0.003	7440-57-5	Gold	100	0.003			
Electrode underlayer	0.001	7440-47-3	Chromium	100	0.001			
Base (Ceramic)	2.692	1344-28-1	Aluminium oxide	92.6	2.492792			
		1317-34-6	Manganese oxide	3.4	0.091528			
		7631-86-9	Silicon dioxide	3.2	0.086144			
		1313-27-5	Molybdenum trioxide	0.5	0.01346			
		1309-48-4	Magnesium oxide	0.3	0.008076			
Base (Metalized)	0.459	7439-98-7	Molybdenum	100	0.459			
Base (electrolytic Ni plating film)	0.136	7440-02-0	Nickel	80	0.1088			
		7440-48-4	Cobalt	20	0.0272			
Base (Au plating film)	0.038	7440-57-5	Gold	99.998	0.03799924			
		7440-28-0	Thallium	0.002	0.00000076			
Lid (Kovar)	1.067	7439-89-6	Iron	53.8	0.574046			
		7440-02-0	Nickel	29.6	0.315832			
		7440-48-4	Cobalt	16.3	0.173921			
		7439-96-5	Manganese	0.3	0.003201			
Lid (Ni clad foil)	0.1	7440-02-0	Nickel	99.8	0.0998			
		7439-96-5	Manganese	0.2	0.0002			
Lid (Cu)	0.629	7440-50-8	Copper	100	0.629			
Lid (Ag brazing alloy)	0.288	7440-22-4	Silver	85	0.2448			
		7440-50-8	Copper	15	0.0432			
Conductive adhesive	0.01	7440-22-4	Silver	80	0.008			
		-	Silicone resin	9	0.0009			
		14808-60-7	Quartz (SiO <sub>2</sub> )	7	0.0007			
		-	Misc., not to declare	4	0.0004			

This component is compliant with the European RoHS material requirements.