



MODEL 532 SERIES OSCILLATOR

MATERIAL CONTENT DECLARATION REPORT

CTS Electronic Components follows the Joint Industry Guidelines (JIG) industry consortia recommendations as defined in controlling document JIG-101 for "Green Compliance" Level A and Level B material content restrictions and standardized reporting.

RoHS COMPLIANT YES
 RoHS EXEMPTIONS NO

Level A – Restricted Material/Substance	Material/Substance Category intentionally added or present (Y/N) above threshold level	If Yes, Material Substance Mass (g/PPM)	If Yes, Detailed Material Substance Information
Asbestos	N		
Azo colorants ¹	N		
Cadmium/Cadmium compounds ²	N		
Hexavalent Chromium / Hexavalent Chromium Compounds ²	N		
Lead / Lead Compounds ²	N		
Mercury / Mercury Compounds ²	N		
Ozone Depleting Substances (CFCs, HCFCs, HBFCs, carbon tetrachloride, etc)	N		
Polybrominated Biphenyls (PBBs) ²	N		
Polybrominated Diphenylethers (PBDEs) ²	N		
Polychlorinated Biphenyls (PCBs)	N		
Polychlorinated Naphthalenes (more than 3 chlorine atoms)	N		
Radioactive Substances	N		
Shortchain Chlorinated Paraffins	N		
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	N		
Tributyl Tin Oxide (TBTO)	N		

(1) Applicable to products and subparts that may come into direct contact with human skin.
 (2) Reported substances per EU RoHS Directive 2002/95/EC.

Level B – Reported Material/Substance	Material/Substance Category intentionally added or present (Y/N) above threshold level	If Yes, Material Substance Mass (g/PPM)	If Yes, Detailed Material Substance Information
Antimony/Antimony Compounds	N		
Arsenic/Arsenic Compounds	N		
Beryllium/Beryllium Compounds	N		
Bismuth/ Bismuth Compounds	N		
Brominated Flame Retardants (other than PBBs or PBDEs)	N		
Nickel/Nickel Compounds (external applications only)	N		
Phthalates	N		
Selenium/Selenium Compounds	N		
Polyvinyl Chloride (PVC)	N		



ELEMENTAL ANALYSIS

MODEL 532 SERIES OSCILLATOR

RoHS/Green
Compliant
(6/6)

WEIGHT
(mg)
56.2000

MSL
RATING
1

MAX
REFLOW
260°C



PRODUCT BREAKDOWN	MATERIAL	CAS NUMBER	WEIGHT OF BOM ITEM (g)	% BY WEIGHT COMP. ITEM	mg/UNIT	% BY WEIGHT OF UNIT	REMARKS/SOURCE OF INFORMATION
Package							
Ceramic	Al ₂ O ₃ (aluminium trioxide)	1344-28-1	0.036950	90.00%	33.255000	59.17%	
	SiO ₂ (silicon dioxide)	15468-32-3		6.00%	2.217000	3.94%	
	Cr ₂ O ₃ (chromium III oxide)	1308-38-9		2.00%	0.739000	1.31%	
	Mo (molybdenum)	7439-98-7		2.00%	0.739000	1.31%	
				100.00%	36.950000		
Conductor, Base Metal	W (tungsten) [Base]	7440-33-7	0.001591	100.00%	1.590784	2.83%	
				100.00%	1.590784		
Conductor, Barrier Plating	Ni (nickel) plate [Barrier]	7440-02-0	0.000168	100.00%	0.168256	0.30%	
				100.00%	0.168256		
Conductor, Finish Plating	Au (gold) plate [Finish]	7440-57-5	0.000191	100.00%	0.190740	0.34%	
				100.00%	0.190740		
Seal Ring	Fe (iron) kovar	7439-89-6	0.005683	53.00%	3.012107	5.36%	
	Ni (nickel) Kovar	7440-02-0		29.00%	1.648134	2.93%	
	Co (cobalt) Kovar	7440-48-4		18.00%	1.022980	1.82%	
				100.00%	5.683220		
Sub-Assembly							
Silicon Die (IC)	Si (silicon)	7440-21-3	0.001080	98.50%	1.063800	1.89%	
	Al (aluminium)	7429-90-5		1.50%	0.016200	0.03%	
				100.00%	1.080000		
Die Adhesive	Ag (silver)	7440-22-4	0.000960	88.00%	0.844800	1.50%	
	Epoxy Resin	129915-35-1		12.00%	0.115200	0.20%	
				100.00%	0.960000		
Die Bond Wire	Au (gold)	7440-57-5	0.000182	100.00%	0.182000	0.32%	
				100.00%	0.182000		
Final Assembly							
Crystal, Quartz Blank	SiO ₂ (silicon dioxide) [quartz]	1408-60-7	0.001030	100.00%	1.030000	1.83%	
				100.00%	1.030000		
Crystal, Electrode Plating	Ag plate (silver)	7440-22-4	0.000230	95.75%	0.220225	0.39%	
	Ni plate (nickel)	7440-02-0		4.25%	0.009775	0.02%	
				100.00%	0.230000		
Crystal, Blank Adhesive	Ag (silver)	7440-22-4	0.000380	88.00%	0.334400	0.60%	
	Epoxy Resin	129915-35-1		12.00%	0.045600	0.08%	
				100.00%	0.380000		
Metal Cover	Fe (iron) kovar	7439-89-6	0.007755	53.00%	4.110150	7.31%	
	Ni (nickel) Kovar	7440-02-0		29.00%	2.248950	4.00%	
	Co (cobalt) Kovar	7440-48-4		17.00%	1.318350	2.35%	
	Ni (nickel) kovar, plate	7440-02-0		1.00%	0.077550	0.14%	
				100.00%	7.755000		
		Totals:	0.0562000		56.200000	100.00%	



MATERIALS COMBINED	CAS NUMBER	WEIGHT OF MATERIAL (mg)	% BY WEIGHT OF UNIT
Ag (silver)	7440-22-4	1.399425	2.49%
Al (aluminum)	7429-90-5	0.016200	0.03%
Al ₂ O ₃ (aluminium trioxide)	1344-28-1	33.255000	59.17%
Au (gold)	7440-57-5	0.372740	0.66%
C ₈ -C ₁₂ (Aromatic Hydrocarbon)	64742-94-5	0.160800	0.29%
Co (cobalt)	7440-48-4	2.341330	4.17%
Cr ₂ O ₃ (chromium III oxide)	1308-38-9	0.739000	1.31%
Fe (iron)	7439-89-6	7.122257	12.67%
Mo (molybdenum)	7439-98-7	0.739000	1.31%
Ni (nickel)	7440-02-0	4.152665	7.39%
Si (silicon)	7440-21-3	1.063800	1.89%
SiO ₂ (silicon dioxide)	15468-32-3	2.217000	3.94%
SiO ₂ (silicon dioxide) [quartz]	1408-60-7	1.030000	1.83%
W (tungsten)	7440-33-7	1.590784	2.83%
		56.2000	100.00%