

Material Declaration



Package Type	Half
Package Size	13.2 x 13.2 mm
Terminal Finish	
Finish Thickness	
Weight (mg)	2140.000
MSL	

Series	CTH11
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Item	Material	Element	Content (mg)	Content (wt%)	CAS #	
Cover	Stainless Steel	Nickel (Ni)	32.482	1.518%	7440-02-0	
		Chromium (Cr)	72.430	3.385%	7740-47-3	
		Iron (Fe)	285.882	13.359%	7439-89-6	
		Manganese (Mn)	4.130	0.193%	7439-96-5	
		Silicon (Si)	1.906	0.089%	7440-21-3	
		Carbon (C)	0.175	0.008%	7440-44-0	
		Sulphur (S)	0.004	0.0002%	7704-34-9	
Header	Iron Alloy	Phosphorus (P)	0.083	0.0039%	7723-14-0	
		Iron (Fe)	1090.803	50.972%	7439-89-6	
		Carbon (C)	0.546	0.026%	7440-44-0	
		Silicon (Si)	0.109	0.005%	7440-21-3	
		Manganese (Mn)	2.517	0.118%	7439-96-5	
		Phosphorus (P)	0.153	0.007%	7723-14-0	
		Sulphur (S)	0.055	0.003%	7704-34-9	
	PTH Glass	Glass Frit	6.651	0.311%	65997-18-4	
	Standoff Glass	Glass Frit	23.230	1.086%	65997-18-4	
	Kovar leads	Iron (Fe)	12.533	0.586%	7439-89-6	
		Nickel (Ni)	6.924	0.324%	7440-02-0	
		Cobalt (Co)	4.070	0.190%	7440-48-4	
	Solder Dip	Tin (Sn)	2.395	0.112%	7440-31-5	
		Silver (Ag)	0.074	0.003%	7440-22-4	
Copper (Cu)		0.012	0.001%	7440-50-8		
H/I C	IC Die	Aluminum (Al)	0.016	0.000076%	7429-90-5	
		Molybdenum (Mo)	0.0002	0.000009%	7439-98-7	
		Silicon (Si)	0.854	0.040%	7440-21-3	
		Titanium (Ti)	0.0004	0.000%	7440-32-6	
		Arsenic (As)	0.0000083	0.0000004%	7440-38-2	
		Chromium (Cr)	0.0000075	0.00000035%	7440-47-3	
		Mold	Epoxy Resin	4.755	0.222%	129915-35-1
			Organic Phosphorus	0.423	0.020%	
			Metal Hydroxide	1.849	0.086%	
			Silica (SiO2)	41.953	1.960%	60676-86-0
	Carbon Black		0.160	0.007%	1333-86-4	
	Phenol		3.729	0.174%	9003-35-4	
	Gold	Gold (Au)	0.142	0.007%	7440-57-5	
	Adhesive	Silver (Ag)	0.038	0.002%	7440-22-4	
		Epoxy Resin	0.012	0.0006%	129915-35-1	
	Leadframe	Copper (Cu)	18.823	0.880%	7440-50-8	
		Silver (Ag)	0.483	0.023%	7440-22-4	
	Leadframe Plating	Tin (Sn)	0.687	0.032%	7440-31-5	
		Silver (Ag)	0.017	0.0008%	7440-22-4	
	Ceramic Substrate	Alumina (Al2O3)	385.558	18.017%	1344-28-1	
		Silicon Oxide (SiO)	9.649	0.451%	11126-22-0	
		Titanium Oxide (TiO2)	0.041	0.0019%	13463-67-7	
		Iron Oxide (Fe2O3)	0.243	0.011%	1309-37-1	
		Calcium Oxide (CaO)	1.463	0.068%	1305-78-8	
		Sodium Oxide (Na2O)	0.973	0.045%	1313-59-3	
		Magnesium Oxide (MgO)	3.810	0.178%	1309-48-4	
		Potassium Oxide (K2O)	3.243	0.152%	12136-45-7	
		Conductor	Silver (Ag)	6.046	0.283%	7440-22-4
			Glycol Ethyl Ether	0.356	0.017%	109-87-5
	Terpineol		0.356	0.017%	8000-41-7	
	Di(2-ethylhexyl) Phthalate		0.071	0.003%	117-81-7	
	Resin, Hydrogenated, methyl ester		0.366	0.017%	8050-15-5	
	Conductor Overglaze	Glass Frit	9.511	0.444%	65997-18-4	
		Glycol Ethyl Ether	0.610	0.028%	109-87-5	
		Terpineol	1.097	0.051%	8000-41-7	
		Di(2-ethylhexyl) Phthalate	0.488	0.023%	117-81-7	
		Nickel (Ni)	0.122	0.006%	7440-02-0	
		Chip Cap	Barium Titanate (BaTiO3)	1.219	0.057%	12047-27-7
	Nickel (Ni)		0.0024	0.00011%	7440-02-0	
	Copper (Cu)		0.0001	0.0000047%	7440-50-8	
	Nickel (Ni) (Plating)		0.0001	0.0000047%	7440-02-0	
	Tin (Sn) (Plating)		0.0001	0.0000047%	7440-31-5	
	SMD Solder		Tin (Sn)	15.689	0.733%	7440-31-5
		Silver (Ag)	0.569	0.027%	7440-22-4	
		Substrate attach solder	Tin (Sn)	19.611	0.916%	7440-31-5
	Silver (Ag)		0.610	0.028%	7440-22-4	
	Copper (Cu)		0.102	0.005%	7440-50-8	
	Crystal	Crystal	Silicon Dioxide (SiO2)	40.644	1.899%	14808-60-7
		Electrode	Silver (Ag)	6.097	0.285%	7440-22-4
		Blank Adhesive	Silver (Ag)	8.291	0.387%	7440-22-4
			Silicon (Si)	2.073	0.097%	7440-21-3
	TOTAL			2140.000	100.000%	



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