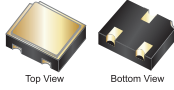


Material Composition Specification

UB Case



Device average mass 40.983 mg
 Fluctuation margin +/-10%

Component	Material	Material		Substance	CAS No.	Substance		
		(%wt)	(mg)			(%wt)	(mg)	(ppm)
active device	doped Si	0.098%	0.04	Si	7440-21-3	0.098%	0.040	976
bond wire	Al wire	0.005%	0.002	Al	7429-90-5	0.005%	0.002	49
header	ceramic	54.503%	22.337	Aluminum Oxide	1344-28-1	49.423%	20.255	494,229
				Chromium Oxide	1308-38-9	2.116%	0.867	21,155
				Silicon Oxide	7631-86-9	1.954%	0.801	19,545
				Titanium Oxide	13463-67-7	0.551%	0.226	5,514
				Magnesium Oxide	1309-48-4	0.276%	0.113	2,757
				Calcium Oxide	1305-78-8	0.183%	0.075	1,830
	metal	7.059%	2.893	Tungsten	7440-33-7	6.852%	2.808	68,516
				Molybdenum	7439-98-7	0.207%	0.085	2,074
	inner plating	0.437%	0.179	Nickel	7440-02-0	0.344%	0.141	3,440
				Cobalt	7440-48-4	0.093%	0.038	927
outer plating	0.712%	0.292	Gold	7440-57-5	0.712%	0.292	7,125	
lid/solder	Kovar	30.988%	12.7	Iron	7439-89-6	16.669%	6.831	166,687
				Nickel	7440-02-0	9.179%	3.762	91,788
				Cobalt	7440-48-4	5.033%	2.062	50,325
				Manganese	7439-96-5	0.081%	0.033	806
				Silicon	7440-21-3	0.012%	0.005	124
				Chromium	7440-47-3	0.003%	0.001	31
				Copper	7440-50-8	0.003%	0.001	31
				Aluminum	7429-90-5	0.003%	0.001	31
				Molybdenum	7439-98-7	0.003%	0.001	31
				Phosphorus	7723-14-0	0.003%	0.001	31
	plating	6.198%	2.54	Gold	7440-57-5	4.978%	2.040	49,777
				Tin	7440-31-5	1.220%	0.500	12,200

Disclaimer

The information provided in this Material Composition data sheet is, to the best of our knowledge, correct. However, there is no guarantee to completeness or accuracy, as some information is derived from data sources outside the company.

R0 (20-June 2016)