

Supplier Name: **Texas Instruments Inc. (DUNS# 00-732-1904)**
 Contact Info: ti.com/support
 Form/Declaration Type: **Distribute - RoHS and IEC 62474 DB**
 Created on: **06/10/2022**

Details for "TP550301SHKH"

Current Product Information

TI part number	Lead finish/Ball material	MSL rating/peak reflow	Assembly site	Package Pins	Package body size (mm)	Total device mass (mg)*
TP550301SHKH	AU	Level-NC-NC-NC	Ext-Mfg	HKH 20	12.7x2.9x2.54	1491.4

***Total Device Mass**

The summary mass is a rounded value and will be within approximately +/- 10% of the detailed mass value.

Environmental Ratings Information

RoHS	REACH	Green	IEC 62474 DB
Exempt-7(c)-1	Yes	Yes	Yes

Component Information

Component	Substance	CAS Number	Amount (mg)	Homogeneous Material Level		Component Level	
				Percentage %	ppm	Percentage %	ppm
Bond Wire							
Aluminum and Its Alloys	Aluminum	7429-90-5	0.178897	99.130035	991300	0.01341	134
Copper and Its Alloys	Copper	7440-50-8	0.000003	0.001662	17	0	0
Copper and Its Alloys	Iron	7439-89-6	0.000005	0.002771	28	0	0
Magnesium and Its Alloys	Magnesium	7439-95-4	0.000001	0.000554	6	0	0
Other Inorganic Materials	Silicon	7440-21-3	0.001556	0.862207	8622	0.000117	1
Other Nonferrous Metals and Alloys	Calcium	7440-70-2	0.000001	0.000554	6	0	0
Precious Metals	Silver	7440-22-4	0.000004	0.002216	22	0	0
Sub-Total			0.180467	100	1000000	0.013527	135
Die Attach Adhesive							
Other Nonferrous Metals and Alloys	Lead Borate Glass	65997-18-4	0.413504	15.000007	150000	0.030996	310
Other Plastics and Rubber	Other Filler		0.137835	5.000015	50000	0.010332	103
Precious Metals	Silver	7440-22-4	2.205353	79.999978	800000	0.165309	1653
Sub-Total			2.756692	100	1000000	0.206637	2066
Header - Braze							
Copper and Its Alloys	Copper	7440-50-8	5.3008	25.943618	259436	0.397338	3973
Precious Metals	Silver	7440-22-4	15.1312	74.056382	740564	1.134207	11342
Sub-Total			20.432	100	1000000	1.531546	15315
Header - Ceramic							
Magnesium and Its Alloys	Magnesium Oxide	1309-48-4	1.08791	0.5	5000	0.081548	815
Other Inorganic Materials	Aluminum Oxide	1344-28-1	196.91171	90.5	905000	14.760144	147601
Other Inorganic Materials	Silicon Dioxide	7631-86-9	7.658886	3.52	35200	0.574096	5741
Other Nonferrous Metals and Alloys	Calcium Oxide	1305-78-8	1.32725	0.61	6100	0.099488	995
Other Nonferrous Metals and Alloys	Chromium Oxide	1308-38-9	8.420423	3.87	38700	0.63118	6312
Other Nonferrous Metals and Alloys	Titanium Dioxide	13463-67-7	2.17582	1	10000	0.163096	1631
Sub-Total			217.581999	100	1000000	16.309551	163096
Header - Heat Sink							
Copper and Its Alloys	Copper	7440-50-8	67.5422	10	100000	5.062841	50628
Other Nonferrous Metals and Alloys	Tungsten	7440-33-7	607.8798	90	900000	45.565566	455656
Sub-Total			675.422	100	1000000	50.628406	506284
Header - Lead Frame							
Copper and Its Alloys	Iron	7439-89-6	108.78422	58	580000	8.154268	81543
Nickel and Its Alloys	Nickel	7440-02-0	78.77478	42	420000	5.904814	59048
Sub-Total			187.559	100	1000000	14.059082	140591
Header - Plating							
Copper and Its Alloys	Phosphorus	7723-14-0	0.228497	0.62041	6204	0.017128	171
Nickel and Its Alloys	Nickel	7440-02-0	14.106892	38.302721	383027	1.057427	10574
Other Nonferrous Metals and Alloys	Boron	7440-42-8	0.006312	0.017138	171	0.000473	5
Other Nonferrous Metals and Alloys	Cobalt	7440-48-4	0.92056	2.499484	24995	0.069004	690
Other Nonferrous Metals and Alloys	Lead	7439-92-1	0.001323	0.003592	36	0.000099	1
Other Nonferrous Metals and Alloys	Thallium	7440-28-0	0.000458	0.001244	12	0.000034	0
Precious Metals	Gold	7440-57-5	21.49357	58.358865	583589	1.611119	16111
Precious Metals	Palladium	7440-05-3	0.072388	0.196546	1965	0.005426	54
Sub-Total			36.83	100	1000000	2.76071	27607
Header - Routing							
Other Nonferrous Metals and Alloys	Molybdenum	7439-98-7	0.26739	1	10000	0.020043	200
Other Nonferrous Metals and Alloys	Tungsten	7440-33-7	26.47161	99	990000	1.984264	19843
Sub-Total			26.739	100	1000000	2.004307	20043
Lid							
Aluminum and Its Alloys	Aluminum	7429-90-5	0.010796	0.008	80	0.000809	8
Copper and Its Alloys	Copper	7440-50-8	0.134949	0.1	1000	0.010116	101
Copper and Its Alloys	Iron	7439-89-6	72.045223	53.387001	533870	5.400379	54004
Magnesium and Its Alloys	Magnesium	7439-95-4	0.350867	0.26	2600	0.0263	263
Nickel and Its Alloys	Nickel	7440-02-0	40.106843	29.72	297200	3.006336	30063
Other Inorganic Materials	Silicon	7440-21-3	0.001349	0.001	10	0.000101	1
Other Nonferrous Metals and Alloys	Chromium	7440-47-3	0.013495	0.01	100	0.001012	10
Other Nonferrous Metals and Alloys	Cobalt	7440-48-4	22.25309	16.49	164900	1.668051	16681
Other Nonferrous Metals and Alloys	Manganese	7439-96-5	0.001349	0.001	10	0.000101	1
Other Nonferrous Metals and Alloys	Molybdenum	7439-98-7	0.013495	0.01	100	0.001012	10
Other Nonferrous Metals and Alloys	Titanium	7440-32-6	0.002699	0.002	20	0.000202	2
Other Nonferrous Metals and Alloys	Zirconium	7440-67-7	0.013495	0.01	100	0.001012	10
Other Plastics and Rubber	Carbon	7440-44-0	0.001349	0.001	10	0.000101	1
Sub-Total			134.948999	100	1000000	10.115532	101155
Lid - Plating							
Nickel and Its Alloys	Nickel	7440-02-0	5.86176	48	480000	0.439387	4394
Precious Metals	Gold	7440-57-5	6.35024	52	520000	0.476002	4760
Sub-Total			12.212	100	1000000	0.915389	9154
Lid - Seal							
Other Nonferrous Metals and Alloys	Tin	7440-31-5	2.4852	20	200000	0.186286	1863
Precious Metals	Gold	7440-57-5	9.9408	80	800000	0.745144	7451
Sub-Total			12.426	100	1000000	0.93143	9314
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	6.988991	100	1000000	0.523882	5239
Sub-Total			6.988991	100	1000000	0.523882	5239
Total			1334.077148			100	1000000

Important Note

The ppm calculations are at the **homogeneous material** level and are maximum concentration values. The ppm displayed represents the **homogeneous material** with the highest ppm for that substance. The amount (mg) calculations represent the maximum total amount of each substance within the component.

The ppm calculations are at the **component** level and are average concentration values. The amount (mg) calculations represent the average total amount of each substance within the **component**.
[See Glossary of Terms for more details.](#)

Important Part Information

There is a remote possibility the Customer Part Number (CPN) your company uses could reference more than one TI part number. This is due to two or more users (EMSI's or subcontractors) using the same CPN for different TI part numbers. If this occurs, please check your Customer Part Number and cross reference it with the TI part number seen on this page.

Product Content Methodology

[For an explanation of the methods used to determine material weights, See Product Content Methodology](#)

Material Declaration Certificate for Semiconductor IC Packaged Products

TI certifies that the material content information provided by TI is representative and accurate to the best of their knowledge based on material information provided by its suppliers and their combination into finished IC packaged products. TI semiconductor products designated to be "Pb-free", "Green" or "RoHS Exempt" fully meets the latest EU RoHS Directive requirements along with other legislation as seen in the former JIG-101 list that has been transferred to the IEC 62474 database.

Important Information/Disclaimer

TI bases its material content information on information provided by third-party suppliers and has taken, and continues to take, reasonably diligent steps to provide any required or available information. TI may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers may consider certain information to be proprietary, and thus certain information may not be available for release by TI. The material content information is provided by TI "as is."

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[Signature: \(click here for a fuller statement with a signed certificate\)](#)

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 For further environmental statements, please go to www.ti.com/ecoinfo
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RoHS: Means TI semiconductor products that are compliant with the current RoHS requirement that the maximum concentration values of the ten substances listed in RoHS Annex II do not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI semiconductor products labeled as "RoHS Compliant" are suitable for use in specified lead-free processes. TI may also reference these types of semiconductor products as "Pb-Free." These TI semiconductor products are also fully compliant with GADSL and the IEC 62474 database for electronic requirements.

RoHS Exempt: Means TI semiconductor products that contain lead (Pb) above the RoHS Annex II threshold, but that fall within one of the specific RoHS exemptions noted above or documented in <http://www.ti.com/lit/pdf/szzq088>

Green: Means the content of Chlorine (Cl) and Bromine (Br)-based flame retardants meet JS709B low halogen requirements of <=1 000ppm threshold; Antimony trioxide (Sb2O3) contained in halogen based flame retardant materials meets the <=1 000ppm threshold requirement; and Beryllium Oxide (BeO) is <=1000ppm.