

Supplier Name: **Texas Instruments Inc. (DUNS# 00-732-1904)**  
 Contact Info: [ti.com/support](http://ti.com/support)  
 Form/Declaration Type: **Distribute - RoHS and IEC 62474 DB**  
 Created on: **06/12/2022**

**Details for "TP57H5001HFT/EM"**

**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)*
TP57H5001HFT/EM	NIAU	Level-NC-NC-NC	Ext-Mfg	HFT   22	6.21x7.696x2.428	735.8

**\*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
Yes	Yes	Yes	Yes

**Component Information**

Component	Substance	CAS Number	Amount (mg)	Homogeneous Material Level		Component Level	
				Percentage %	ppm	Percentage %	ppm
<b>Bond Wire</b>							
Aluminum and Its Alloys	Aluminum	7429-90-5	0.056826	99.131254	991313	0.008905	89
Copper and Its Alloys	Copper	7440-50-8	0.000001	0.001744	17	0	0
Copper and Its Alloys	Iron	7439-89-6	0.000002	0.003489	35	0	0
Other Inorganic Materials	Silicon	7440-21-3	0.000494	0.861768	8618	0.000077	1
Precious Metals	Silver	7440-22-4	0.000001	0.001744	17	0	0
Sub-Total			<b>0.057324</b>	<b>100</b>	<b>1000000</b>	<b>0.008983</b>	<b>90</b>
<b>Die Attach Adhesive</b>							
Other Plastics and Rubber	Other Filler		0.010982	0.499982	5000	0.001721	17
Precious Metals	Silver	7440-22-4	1.757182	80.000018	800000	0.27535	2754
Thermoplastics	Epoxy	85954-11-6	0.428313	19.499999	195000	0.067117	671
Sub-Total			<b>2.196477</b>	<b>100</b>	<b>1000000</b>	<b>0.344188</b>	<b>3442</b>
<b>Header - Braze</b>							
Copper and Its Alloys	Copper	7440-50-8	0.6699	15	150000	0.104973	1050
Precious Metals	Silver	7440-22-4	3.7961	85	850000	0.594848	5948
Sub-Total			<b>4.466</b>	<b>100</b>	<b>1000000</b>	<b>0.699822</b>	<b>6998</b>
<b>Header - Ceramic</b>							
Magnesium and Its Alloys	Magnesium Oxide	1309-48-4	1.54024	0.5	5000	0.241355	2414
Other Inorganic Materials	Aluminum Oxide	1344-28-1	278.78344	90.5	905000	43.685323	436853
Other Inorganic Materials	Silicon Dioxide	7631-86-9	10.84329	3.52	35200	1.699142	16991
Other Nonferrous Metals and Alloys	Calcium Oxide	1305-78-8	1.879093	0.61	6100	0.294454	2945
Other Nonferrous Metals and Alloys	Chromium Oxide	1308-38-9	11.921458	3.87	38700	1.868091	18681
Other Nonferrous Metals and Alloys	Titanium Dioxide	13463-67-7	3.08048	1	10000	0.482711	4827
Sub-Total			<b>308.048001</b>	<b>100</b>	<b>1000000</b>	<b>48.271075</b>	<b>482711</b>
<b>Header - Lead Frame</b>							
Copper and Its Alloys	Iron	7439-89-6	95.38668	54	540000	14.947078	149471
Nickel and Its Alloys	Nickel	7440-02-0	51.22618	29	290000	8.027135	80271
Other Nonferrous Metals and Alloys	Cobalt	7440-48-4	30.02914	17	170000	4.705562	47056
Sub-Total			<b>176.642</b>	<b>100</b>	<b>1000000</b>	<b>27.679775</b>	<b>276798</b>
<b>Header - Plating</b>							
Nickel and Its Alloys	Nickel	7440-02-0	8.392425	31.429948	314299	1.315092	13151
Other Nonferrous Metals and Alloys	Boron	7440-42-8	0.003185	0.011928	119	0.000499	5
Other Nonferrous Metals and Alloys	Cobalt	7440-48-4	0.69064	2.586473	25865	0.108223	1082
Other Nonferrous Metals and Alloys	Lead	7439-92-1	0.000221	0.000828	8	0.000035	0
Other Nonferrous Metals and Alloys	Thallium	7440-28-0	0.000352	0.001318	13	0.000055	1
Precious Metals	Gold	7440-57-5	17.578648	65.832699	658327	2.754571	27546
Precious Metals	Palladium	7440-05-3	0.03653	0.136806	1368	0.005724	57
Sub-Total			<b>26.702001</b>	<b>100</b>	<b>1000000</b>	<b>4.1842</b>	<b>41842</b>
<b>Header - Routing</b>							
Other Nonferrous Metals and Alloys	Molybdenum	7439-98-7	0.1423	1	10000	0.022298	223
Other Nonferrous Metals and Alloys	Tungsten	7440-33-7	14.0877	99	990000	2.20754	22075
Sub-Total			<b>14.23</b>	<b>100</b>	<b>1000000</b>	<b>2.229839</b>	<b>22298</b>
<b>Lid</b>							
Aluminum and Its Alloys	Aluminum	7429-90-5	0.006152	0.008	80	0.000964	10
Copper and Its Alloys	Copper	7440-50-8	0.0769	0.1	1000	0.01205	121
Copper and Its Alloys	Iron	7439-89-6	41.054603	53.387	533870	6.43325	64333
Magnesium and Its Alloys	Magnesium	7439-95-4	0.19994	0.26	2600	0.031331	313
Nickel and Its Alloys	Nickel	7440-02-0	22.85468	29.72	297200	3.581325	35813
Other Inorganic Materials	Silicon	7440-21-3	0.000769	0.001	10	0.000121	1
Other Nonferrous Metals and Alloys	Chromium	7440-47-3	0.00769	0.01	100	0.001205	12
Other Nonferrous Metals and Alloys	Cobalt	7440-48-4	12.68081	16.49	164900	1.987081	19871
Other Nonferrous Metals and Alloys	Manganese	7439-96-5	0.000769	0.001	10	0.000121	1
Other Nonferrous Metals and Alloys	Molybdenum	7439-98-7	0.00769	0.01	100	0.001205	12
Other Nonferrous Metals and Alloys	Titanium	7440-32-6	0.001538	0.002	20	0.000241	2
Other Nonferrous Metals and Alloys	Zirconium	7440-67-7	0.00769	0.01	100	0.001205	12
Other Plastics and Rubber	Carbon	7440-44-0	0.000769	0.001	10	0.000121	1
Sub-Total			<b>76.9</b>	<b>100</b>	<b>1000000</b>	<b>12.050218</b>	<b>120502</b>
<b>Lid - Plating</b>							
Nickel and Its Alloys	Nickel	7440-02-0	6.76	65	650000	1.059291	10593
Precious Metals	Gold	7440-57-5	3.64	35	350000	0.570387	5704
Sub-Total			<b>10.4</b>	<b>100</b>	<b>1000000</b>	<b>1.629678</b>	<b>16297</b>
<b>Lid - Seal</b>							
Other Nonferrous Metals and Alloys	Tin	7440-31-5	1.76	20	200000	0.275792	2758
Precious Metals	Gold	7440-57-5	7.04	80	800000	1.103167	11032
Sub-Total			<b>8.8</b>	<b>100</b>	<b>1000000</b>	<b>1.378959</b>	<b>13790</b>
<b>Semiconductor Device</b>							
Ceramics / Glass	Doped Silicon	7440-21-3	9.720908	100	1000000	1.523265	15233
Sub-Total			<b>9.720908</b>	<b>100</b>	<b>1000000</b>	<b>1.523265</b>	<b>15233</b>
<b>Total</b>			<b>638.162711</b>			<b>100</b>	<b>1000000</b>

**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 (EMSIs 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.

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 For further environmental statements, please go to [www.ti.com/ecoinfo](http://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 JE709B 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.