

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: 06/06/2022

Details for "SN74HC193QPWRG4Q1"

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)*
SN74HC193QPWRG4Q1	NIPDAU	Level-1-260C-UNLIM	TI MALAYSIA A/T	PW 16	4.4x5x1.15	58.6

***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
Bond Wire							
Other Nonferrous Metals and Alloys	Yttrium	7440-65-5	0.000001	0.000621	6	0.000002	0
Precious Metals	Gold	7440-57-5	0.161121	99.998138	999981	0.274937	2749
Precious Metals	Silver	7440-22-4	0.000002	0.001241	12	0.000003	0
Sub-Total			0.161124	100	1000000	0.274942	2749
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.398322	70.000053	700001	0.679697	6797
Thermoplastics	Epoxy	85954-11-6	0.170709	29.999947	299999	0.291298	2913
Sub-Total			0.569031	100	1000000	0.970995	9710
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	21.91725	97.41	974100	37.399625	373996
Copper and Its Alloys	Iron	7439-89-6	0.54	2.4	24000	0.921457	9215
Copper and Its Alloys	Phosphorus	7723-14-0	0.00675	0.03	300	0.011518	115
Other Nonferrous Metals and Alloys	Lead	7439-92-1	0.00675	0.03	300	0.011518	115
Other Nonferrous Metals and Alloys	Tin	7440-31-5	0.00675	0.03	300	0.011518	115
Zinc and Its Alloys	Zinc	7440-66-6	0.0225	0.1	1000	0.038394	384
Sub-Total			22.5	100	1000000	38.39403	383940
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	0.342432	95.12	951200	0.584326	5843
Precious Metals	Gold	7440-57-5	0.002808	0.78	7800	0.004792	48
Precious Metals	Palladium	7440-05-3	0.01476	4.1	41000	0.025186	252
Sub-Total			0.36	100	1000000	0.614304	6143
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	27.921197	85.500002	855000	47.644768	476448
Other Nonferrous Metals and Alloys	Metal Hydroxide	Trade Secret	0.979691	3	30000	1.671746	16717
Other Organic Materials	Chlorine	7782-50-5	0.005531	0.019999	200	0.011145	111
Other Plastics and Rubber	Carbon Black	1333-86-4	0.097969	0.3	3000	0.167174	1672
Other Plastics and Rubber	Organic Phosphorus	1330-78-5	0.032656	0.099999	1000	0.055724	557
Thermoplastics	Epoxy	85954-11-6	3.618326	11.080001	110800	6.174316	61743
Sub-Total			32.65637	100	1000000	55.724873	557249
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	2.356336	100	1000000	4.020855	40209
Sub-Total			2.356336	100	1000000	4.020855	40209
Total			58.602861			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 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: [\(click here for a fuller statement with a signed certificate\)](#)

Name/Title: Hubie Payne, Vice President, Worldwide SC Quality
 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 I5709B 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.