

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: **08/28/2022**

Details for "ISOW7821DWE"

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)*
ISOW7821DWE	NIPDAU	Level-3-260C-168 HR	TI TAIWAN A/T	DWE 16	10.3x7.5x2.35	479.8

***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
Bond Wire							
Copper and Its Alloys	Iron	7439-89-6	0.000001	0.000142	1	0	0
Other Nonferrous Metals and Alloys	Beryllium	7440-41-7	0.000001	0.000142	1	0	0
Other Nonferrous Metals and Alloys	Calcium	7440-70-2	0.000002	0.000284	3	0	0
Other Nonferrous Metals and Alloys	Yttrium	7440-65-5	0.000005	0.000711	7	0.000001	0
Precious Metals	Gold	7440-57-5	0.703291	99.997583	999976	0.146595	1466
Precious Metals	Silver	7440-22-4	0.000008	0.001137	11	0.000002	0
Sub-Total			0.703308	100	1000000	0.146598	1466
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.797742	75	750000	0.166282	1663
Thermoplastics	Epoxy	85954-11-6	0.265914	25	250000	0.055427	554
Sub-Total			1.063656	100	1000000	0.221709	2217
Die Attach Adhesive 2							
Precious Metals	Silver	7440-22-4	0.797742	75	750000	0.166282	1663
Thermoplastics	Epoxy	85954-11-6	0.265914	25	250000	0.055427	554
Sub-Total			1.063656	100	1000000	0.221709	2217
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	170.85504	97.52	975200	35.61316	356132
Copper and Its Alloys	Iron	7439-89-6	4.0296	2.3	23000	0.839933	8399
Copper and Its Alloys	Phosphorus	7723-14-0	0.05256	0.03	300	0.010956	110
Zinc and Its Alloys	Zinc	7440-66-6	0.2628	0.15	1500	0.054778	548
Sub-Total			175.2	100	1000000	36.518827	365188
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	3.99504	95.12	951200	0.832729	8327
Precious Metals	Gold	7440-57-5	0.03276	0.78	7800	0.006829	68
Precious Metals	Palladium	7440-05-3	0.1722	4.1	41000	0.035894	359
Sub-Total			4.2	100	1000000	0.875451	8755
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	243.057063	89.5	895000	50.663007	506630
Other Organic Materials	Chlorine	7782-50-5	0.005431	0.002	20	0.001132	11
Other Plastics and Rubber	Carbon Black	1333-86-4	1.357861	0.5	5000	0.283034	2830
Thermoplastics	Epoxy	85954-11-6	27.151782	9.998	99980	5.659539	56595
Sub-Total			271.572137	100	1000000	56.606711	566067
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	5.537393	100	1000000	1.154219	11542
Sub-Total			5.537393	100	1000000	1.154219	11542
Semiconductor Device 2							
Ceramics / Glass	Doped Silicon	7440-21-3	5.537393	100	1000000	1.154219	11542
Sub-Total			5.537393	100	1000000	1.154219	11542
Substrate							
Copper and Its Alloys	Copper	7440-50-8	3.013273	20.257296	202573	0.628089	6281
Nickel and Its Alloys	Nickel	7440-02-0	0.104408	0.701902	7019	0.021763	218
Other Inorganic Materials	Silica	7631-86-9	5.336823	35.877799	358778	1.112412	11124
Other Nonferrous Metals and Alloys	Barium Sulfate	7727-43-7	0.094382	0.634501	6345	0.019673	197
Precious Metals	Gold	7440-57-5	0.016958	0.114003	1140	0.003535	35
Thermoplastics	Epoxy	85954-11-6	6.309157	42.414498	424145	1.315086	13151
Sub-Total			14.875001	100	1000000	3.100557	31006
Total			479.752544			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 (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.

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."

[For additional information, please contact TI customer support.](#)

[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 J5709B 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.