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: **05/09/2022**

Details for "TL082IDRE4"

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)*
TL082IDRE4	NIPDAU	Level-1-260C-UNLIM	TI AGUASCALIENTES	D | 8	3.91x4.9x1.58	107.9

***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

				Homogeneous Material Level		Component Level	
Component	**Substance**	**CAS Number**	**Amount (mg)**	**Percentage %**	**ppm**	**Percentage %**	**ppm**
Bond Wire							
Precious Metals	Gold	7440-57-5	0.049219	99.997968	999980	0.045632	456
Precious Metals	Silver	7440-22-4	0.000001	0.002032	20	0.000001	0
Sub-Total			**0.04922**	**100**	**1000000**	**0.045633**	**456**
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.455854	79.000052	790001	0.422632	4226
Thermoplastics	Epoxy	85954-11-6	0.121176	20.999948	209999	0.112345	1123
Sub-Total			**0.57703**	**100**	**1000000**	**0.534977**	**5350**
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	40.49388	96.414	964140	37.542726	375427
Copper and Its Alloys	Iron	7439-89-6	1.092	2.6	26000	1.012416	10124
Copper and Its Alloys	Phosphorus	7723-14-0	0.063	0.15	1500	0.058409	584
Nickel and Its Alloys	Nickel	7440-02-0	0.336	0.8	8000	0.311513	3115
Other Nonferrous Metals and Alloys	Lead	7439-92-1	0.0042	0.01	100	0.003894	39
Precious Metals	Gold	7440-57-5	0.0042	0.01	100	0.003894	39
Precious Metals	Palladium	7440-05-3	0.00672	0.016	160	0.00623	62
Sub-Total			**42**	**100**	**1000000**	**38.939082**	**389391**
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	3.99504	95.12	951200	3.703885	37039
Precious Metals	Gold	7440-57-5	0.03276	0.78	7800	0.030372	304
Precious Metals	Palladium	7440-05-3	0.1722	4.1	41000	0.15965	1597
Sub-Total			**4.2**	**100**	**1000000**	**3.893908**	**38939**
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	51.863821	88	880000	48.084037	480840
Other Plastics and Rubber	Carbon Black	1333-86-4	0.176808	0.299999	3000	0.163922	1639
Other Plastics and Rubber	Organic Phosphorus	1330-78-5	0.324149	0.55	5500	0.300525	3005
Thermoplastics	Epoxy	85954-11-6	6.571382	11.15	111500	6.092466	60925
Sub-Total			**58.93616**	**100**	**1000000**	**54.640951**	**546410**
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	2.098377	100	1000000	1.945449	19454
Sub-Total			**2.098377**	**100**	**1000000**	**1.945449**	**19454**
Total			107.860787			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
Created on: 05/09/2022

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 (Sb203) contained in halogen based flame retardant materials meets the <=1 000ppm threshold requirement; and Beryllium Oxide (BeO) is <=1000ppm.