

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: 05/08/2022

Details for "TLE2021IDG4"

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)*
TLE2021IDG4	NIPDAU	Level-1-260C-UNLIM	TI TAIWAN A/T	D 8	3.91x4.9x1.58	84.9

*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

Component	Substance	CAS Number	Amount (mg)	Homogeneous Material Level		Component Level	
				Percentage %	ppm	Percentage %	ppm
Bond Wire							
Precious Metals	Gold	7440-57-5	0.055851	99.99821	999982	0.065786	658
Precious Metals	Silver	7440-22-4	0.000001	0.00179	18	0.000001	0
Sub-Total			0.055852	100	1000000	0.065788	658
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.384412	80	800000	0.452795	4528
Thermoplastics	Epoxy	85954-11-6	0.096103	20	200000	0.113199	1132
Sub-Total			0.480515	100	1000000	0.565994	5660
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	24.25509	97.41	974100	28.569829	285698
Copper and Its Alloys	Iron	7439-89-6	0.5976	2.4	24000	0.703907	7039
Copper and Its Alloys	Phosphorus	7723-14-0	0.00747	0.03	300	0.008799	88
Other Nonferrous Metals and Alloys	Lead	7439-92-1	0.00747	0.03	300	0.008799	88
Other Nonferrous Metals and Alloys	Tin	7440-31-5	0.00747	0.03	300	0.008799	88
Zinc and Its Alloys	Zinc	7440-66-6	0.0249	0.1	1000	0.029329	293
Sub-Total			24.9	100	1000000	29.329462	293295
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	0.355273	95.119946	951199	0.418473	4185
Precious Metals	Gold	7440-57-5	0.002913	0.77992	7799	0.003431	34
Precious Metals	Palladium	7440-05-3	0.015314	4.100134	41001	0.018038	180
Sub-Total			0.3735	100	1000000	0.439942	4399
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	50.614793	88.000002	880000	59.618661	596187
Other Plastics and Rubber	Carbon Black	1333-86-4	0.17255	0.299999	3000	0.203245	2032
Other Plastics and Rubber	Organic Phosphorus	1330-78-5	0.316342	0.549999	5500	0.372616	3726
Thermoplastics	Epoxy	85954-11-6	6.413124	11.15	111500	7.553955	75540
Sub-Total			57.516809	100	1000000	67.748477	677485
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	1.570891	100	1000000	1.850337	18503
Sub-Total			1.570891	100	1000000	1.850337	18503
Total			84.897567			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: 05/08/2022

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 (Sb2O3) contained in halogen based flame retardant materials meets the <=1 000ppm threshold requirement; and Beryllium Oxide (BeO) is <=1000ppm.