

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: 06/09/2022

Details for "TLV70228DSER"

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)*
TLV70228DSER	NIPDAUAG	Level-1-260C-UNLIM	Ext-Mfg	DSE 6	1.5x1.5x0.75	3.4

*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	Copper	7440-50-8	0.013667	97.663284	976633	0.401159	4012
Precious Metals	Palladium	7440-05-3	0.000327	2.336716	23367	0.009598	96
Sub-Total			0.013994	100	1000000	0.410757	4108
Die Attach Adhesive							
Other Inorganic Materials	Aluminum Oxide	1344-28-1	0.011773	29.99949	299995	0.345565	3456
Other Inorganic Materials	Silica	7631-86-9	0.001766	4.500051	45001	0.051836	518
Thermoplastics	Epoxy	85954-11-6	0.025705	65.500459	655005	0.754502	7545
Sub-Total			0.039244	100	1000000	1.151904	11519
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	0.876994	97.443778	974438	25.741837	257418
Copper and Its Alloys	Iron	7439-89-6	0.021145	2.349444	23494	0.620655	6207
Copper and Its Alloys	Phosphorus	7723-14-0	0.000739	0.082111	821	0.021691	217
Zinc and Its Alloys	Zinc	7440-66-6	0.001122	0.124667	1247	0.032933	329
Sub-Total			0.9	100	1000000	26.417117	264171
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	0.00973	97.3	973000	0.285598	2856
Precious Metals	Gold	7440-57-5	0.00003	0.3	3000	0.000881	9
Precious Metals	Palladium	7440-05-3	0.00021	2.1	21000	0.006164	62
Precious Metals	Silver	7440-22-4	0.00003	0.3	3000	0.000881	9
Sub-Total			0.01	100	1000000	0.293524	2935
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	1.981474	90.500001	905000	58.160923	581609
Other Plastics and Rubber	Carbon Black	1333-86-4	0.010947	0.499983	5000	0.32132	3213
Thermoplastics	Epoxy	85954-11-6	0.197053	9.000016	90000	5.783969	57840
Sub-Total			2.189474	100	1000000	64.266212	642662
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	0.25417	100	1000000	7.460487	74605
Sub-Total			0.25417	100	1000000	7.460487	74605
Total			3.406882			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 (EMSLs 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: 06/09/2022

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