

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: **06/08/2022**

Details for "TL081CPSR"

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)*
TL081CPSR	NIPDAU	Level-1-260C-UNLIM	TI MALAYSIA A/T	PS 8	5.3x6.2x1.95	198.3

***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	0.05519	99.998188	999982	0.027833	278
Precious Metals	Silver	7440-22-4	0.000001	0.001812	18	0.000001	0
Sub-Total			0.055191	100	1000000	0.027833	278
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.270195	79.999941	799999	0.136263	1363
Thermoplastics	Epoxy	85954-11-6	0.067549	20.000059	200001	0.034066	341
Sub-Total			0.337744	100	1000000	0.170328	1703
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	80.834775	97.45	974500	40.76596	407660
Copper and Its Alloys	Iron	7439-89-6	1.9908	2.4	24000	1.003985	10040
Copper and Its Alloys	Phosphorus	7723-14-0	0.024885	0.03	300	0.01255	125
Zinc and Its Alloys	Zinc	7440-66-6	0.09954	0.12	1200	0.050199	502
Sub-Total			82.95	100	1000000	41.832694	418327
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	0.085608	95.12	951200	0.043173	432
Precious Metals	Gold	7440-57-5	0.000702	0.78	7800	0.000354	4
Precious Metals	Palladium	7440-05-3	0.00369	4.1	41000	0.001861	19
Sub-Total			0.09	100	1000000	0.045388	454
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	100.101374	88	880000	50.48234	504823
Other Plastics and Rubber	Carbon Black	1333-86-4	0.341255	0.3	3000	0.172099	1721
Other Plastics and Rubber	Organic Phosphorus	1330-78-5	0.625634	0.55	5500	0.315515	3155
Thermoplastics	Epoxy	85954-11-6	12.683299	11.15	111500	6.396342	63963
Sub-Total			113.751562	100	1000000	57.366296	573663
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	1.105388	100	1000000	0.557461	5575
Sub-Total			1.105388	100	1000000	0.557461	5575
Total			198.289885			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."

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

[Signature: \(click here for a fuller statement with a signed certificate\)](#)

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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 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.