

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: 08/25/2022

Details for "LM393DR"

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)*
LM393DR	NIPDAU	Level-1-260C-UNLIM	TI AGUASCALIENTES	D 8	3.91x4.9x1.58	107.4

*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	0.054675	99.998171	999982	0.050898	509
Precious Metals	Silver	7440-22-4	0.000001	0.001829	18	0.000001	0
Sub-Total			0.054676	100	1000000	0.050899	509
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.076945	78.999784	789998	0.07163	716
Thermoplastics	Epoxy	85954-11-6	0.020454	21.000216	210002	0.019041	190
Sub-Total			0.097399	100	1000000	0.090671	907
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	40.493888	96.414	964140	37.69653	376965
Copper and Its Alloys	Iron	7439-89-6	1.092	2.6	26000	1.016564	10166
Copper and Its Alloys	Phosphorus	7723-14-0	0.063	0.15	1500	0.058648	586
Nickel and Its Alloys	Nickel	7440-02-0	0.336	0.8	8000	0.312789	3128
Other Nonferrous Metals and Alloys	Lead	7439-92-1	0.0042	0.01	100	0.00391	39
Precious Metals	Gold	7440-57-5	0.0042	0.01	100	0.00391	39
Precious Metals	Palladium	7440-05-3	0.00672	0.016	160	0.006256	63
Sub-Total			42	100	1000000	39.098606	390986
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	3.99504	95.12	951200	3.719059	37191
Precious Metals	Gold	7440-57-5	0.03276	0.78	7800	0.030497	305
Precious Metals	Palladium	7440-05-3	0.1722	4.1	41000	0.160304	1603
Sub-Total			4.2	100	1000000	3.909861	39099
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	53.42871	88.000002	880000	49.737812	497378
Other Plastics and Rubber	Carbon Black	1333-86-4	0.182143	0.299999	3000	0.16956	1696
Other Plastics and Rubber	Organic Phosphorus	1330-78-5	0.333929	0.549999	5500	0.310861	3109
Thermoplastics	Epoxy	85954-11-6	6.76966	11.15	111500	6.302006	63020
Sub-Total			60.714442	100	1000000	56.52024	565202
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	0.354192	100	1000000	0.329724	3297
Sub-Total			0.354192	100	1000000	0.329724	3297
Total			107.420709			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: [\(click here for a fuller statement with a signed certificate\)](#)

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