

Supplier Name: Texas Instruments Inc. (DUNS# 00-732-1904)  
 Contact Info: [ti.com/support](http://ti.com/support)  
 Form/Declaration Type: Distribute - RoHS and IEC 62474 DB  
 Created on: 05/28/2022

Details for "CALVC164245IDLREP"

**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)*
CALVC164245IDLREP	NIPDAU	Level-1-260C-UNLIM	TI MALAYSIA A/T	DL   48	7.49x15.88x2.59	659.9

\*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
<b>Bond Wire</b>							
Copper and Its Alloys	Iron	7439-89-6	0.000001	0.000185	2	0	0
Other Nonferrous Metals and Alloys	Beryllium	7440-41-7	0.000001	0.000185	2	0	0
Other Nonferrous Metals and Alloys	Calcium	7440-70-2	0.000001	0.000185	2	0	0
Other Nonferrous Metals and Alloys	Yttrium	7440-65-5	0.000004	0.000742	7	0.000001	0
Precious Metals	Gold	7440-57-5	0.539205	99.997589	999976	0.081704	817
Precious Metals	Silver	7440-22-4	0.000006	0.001113	11	0.000001	0
Sub-Total			<b>0.539218</b>	<b>100</b>	<b>1000000</b>	<b>0.081706</b>	<b>817</b>
<b>Die Attach Adhesive</b>							
Precious Metals	Silver	7440-22-4	0.845418	70	700000	0.128104	1281
Thermoplastics	Epoxy	85954-11-6	0.362322	30	300000	0.054902	549
Sub-Total			<b>1.20774</b>	<b>100</b>	<b>1000000</b>	<b>0.183006</b>	<b>1830</b>
<b>Lead Frame</b>							
Copper and Its Alloys	Copper	7440-50-8	109.23291	97.425	974250	16.551798	165518
Copper and Its Alloys	Iron	7439-89-6	2.69088	2.4	24000	0.407743	4077
Copper and Its Alloys	Phosphorus	7723-14-0	0.016818	0.015	150	0.002548	25
Other Nonferrous Metals and Alloys	Lead	7439-92-1	0.033636	0.03	300	0.005097	51
Other Nonferrous Metals and Alloys	Tin	7440-31-5	0.033636	0.03	300	0.005097	51
Zinc and Its Alloys	Zinc	7440-66-6	0.11212	0.1	1000	0.016989	170
Sub-Total			<b>112.12</b>	<b>100</b>	<b>1000000</b>	<b>16.989272</b>	<b>169893</b>
<b>Lead Frame Plating</b>							
Nickel and Its Alloys	Nickel	7440-02-0	1.65168	90	900000	0.250275	2503
Precious Metals	Gold	7440-57-5	0.04588	2.5	25000	0.006952	70
Precious Metals	Palladium	7440-05-3	0.13764	7.5	75000	0.020856	209
Sub-Total			<b>1.8352</b>	<b>100</b>	<b>1000000</b>	<b>0.278083</b>	<b>2781</b>
<b>Mold Compound</b>							
Other Inorganic Materials	Fused Silica	60676-86-0	474.528461	88	880000	71.904148	719041
Other Plastics and Rubber	Carbon Black	1333-86-4	1.617711	0.3	3000	0.245128	2451
Other Plastics and Rubber	Organic Phosphorus	1330-78-5	2.965803	0.55	5500	0.449401	4494
Thermoplastics	Epoxy	85954-11-6	60.124913	11.15	111500	9.110582	91106
Sub-Total			<b>539.236888</b>	<b>100</b>	<b>1000000</b>	<b>81.70926</b>	<b>817093</b>
<b>Semiconductor Device</b>							
Ceramics / Glass	Doped Silicon	7440-21-3	5.006829	100	1000000	0.758673	7587
Sub-Total			<b>5.006829</b>	<b>100</b>	<b>1000000</b>	<b>0.758673</b>	<b>7587</b>
<b>Total</b>			<b>659.945875</b>			<b>100</b>	<b>1000000</b>

**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**  
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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](http://www.ti.com/ecoinfo)  
 Created on: 05/28/2022

**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 meets I5709B 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.