

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: 06/04/2022

Details for "OPA3690IDG4"

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)*
OPA3690IDG4	NIPDAU	Level-2-260C-1 YEAR	TI MALAYSIA A/T	D 16	9x3.9x1.75	160.8

*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	Iron	7439-89-6	0.000001	0.000305	3	0.000001	0
Other Nonferrous Metals and Alloys	Calcium	7440-70-2	0.000001	0.000305	3	0.000001	0
Other Nonferrous Metals and Alloys	Tttrium	7440-65-5	0.000002	0.000611	6	0.000001	0
Precious Metals	Gold	7440-57-5	0.327334	99.997556	999976	0.203607	2036
Precious Metals	Silver	7440-22-4	0.000004	0.001222	12	0.000002	0
Sub-Total			0.327342	100	1000000	0.203612	2036
Die Attach Adhesive							
Other Inorganic Materials	Silica	7631-86-9	0.009592	2.000054	20001	0.005966	60
Precious Metals	Silver	7440-22-4	0.330915	68.999994	690000	0.205835	2058
Thermoplastics	Epoxy	85954-11-6	0.13908	28.999952	290000	0.08651	865
Sub-Total			0.479587	100	1000000	0.298311	2983
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	50.36097	97.41	974100	31.32539	313254
Copper and Its Alloys	Iron	7439-89-6	1.2408	2.4	24000	0.771799	7718
Copper and Its Alloys	Phosphorus	7723-14-0	0.01551	0.03	300	0.009647	96
Other Nonferrous Metals and Alloys	Lead	7439-92-1	0.01551	0.03	300	0.009647	96
Other Nonferrous Metals and Alloys	Tin	7440-31-5	0.01551	0.03	300	0.009647	96
Zinc and Its Alloys	Zinc	7440-66-6	0.0517	0.1	1000	0.032158	322
Sub-Total			51.7	100	1000000	32.15829	321583
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	0.737656	95.119929	951199	0.458835	4588
Precious Metals	Gold	7440-57-5	0.006049	0.780012	7800	0.003763	38
Precious Metals	Palladium	7440-05-3	0.031796	4.100059	41001	0.019778	198
Sub-Total			0.775501	100	1000000	0.482375	4824
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	91.087076	86	860000	56.65773	566577
Other Plastics and Rubber	Carbon Black	1333-86-4	0.317746	0.3	3000	0.197643	1976
Other Plastics and Rubber	Organic Phosphorus	1330-78-5	0.582534	0.55	5500	0.362346	3623
Thermoplastics	Epoxy	85954-11-6	13.927849	13.15	131500	8.663362	86634
Sub-Total			105.915205	100	1000000	65.881081	658811
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	1.569619	100	1000000	0.97633	9763
Sub-Total			1.569619	100	1000000	0.97633	9763
Total			160.767254			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: \(click here for a fuller statement with a signed certificate\)](#)

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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.