

Current Production Information							
TI Part Number		TLV2785AID	Assembly Site		TI TAIWAN A/T		
Lead/Ball Finish		CU NIPDAU	Package Type / Pins		D 16		
Planned Lead/Ball Finish			Package Body Size (WxLxH) mm		3.91x9.9x1.58		
MSL / Reflow Ratings		Level-1-260C-UNLIM	Total Device Mass (mg)		155.110606		
Environmental Ratings Information							
Part Number Type		Std	JIG Material Content Compliance		Level A & B		
RoHS & High-Temp Compliant		Y	Green Compliant		Y		
Pb-Free (RoHS) Conversion Date		15-Feb-2004 (DC 0408)	Green Conversion Date		01-Feb-2005 (DC 0506)		
Pb-Free (RoHS) Available Supply Date		24-Nov-2004	Green Available Supply Date		31-Jul-2006		
Component Information							
Component	Substance	CAS Number	Amount (mg)	Homogeneous Material Level		Component Level	
				Percentage %	ppm	Percentage %	ppm
Bond Wire							
Metallurgy	Gold	7440-57-5	0.19998	99.9925	999924	0.1289	1289
Trace Metal	Beryllium	7440-41-7	0.000002	0.001	10	0	0
Trace Metal	Calcium	7440-70-2	0.000002	0.001	10	0	0
Trace Metal	Indium	7440-74-6	0.000006	0.003	30	0	0
Trace Metal	Silver	7440-22-4	0.000005	0.0025	25	0	0
Sub-Total			0.199995	100	1000000	0.1289	1289
Die Attach Adhesive							
Conductive Material	Silver	7440-22-4	0.14	70	700000	0.0903	902
Polymer	Epoxy		0.026	13	129999	0.0168	167
Polymer	Proprietary Resin		0.011	5.5	54999	0.0071	70
Reactive Diluent	Proprietary Material		0.023	11.5	115000	0.0148	148
Sub-Total			0.2	100	1000000	0.1289	1287
Lead Frame							
Base Metal	Copper	7440-50-8	44.783353	97.425	974250	28.8719	288718
Base Metal	Iron	7439-89-6	1.103208	2.4	23999	0.7112	7112
Base Metal	Lead	7439-92-1	0.01379	0.03	299	0.0089	88
Base Metal	Phosphorus	7723-14-0	0.006895	0.015	149	0.0044	44
Base Metal	Tin	7440-31-5	0.01379	0.03	299	0.0089	88
Base Metal	Zinc	7440-66-6	0.045967	0.1	999	0.0296	296
Sub-Total			45.967003	100	1000000	29.635	296346
Lead Frame Plating							
Plating	Gold	7440-57-5	0.001037	0.7797	7796	0.0007	6
Plating	Nickel	7440-02-0	0.12651	95.1203	951203	0.0816	815
Plating	Palladium	7440-05-3	0.005453	4.1	41000	0.0035	35
Sub-Total			0.133	100	1000000	0.0857	856
Mold Compound							
Coloring	Carbon Black	1333-86-4	0.320432	0.3	3000	0.2066	2065
Filler	Fused Silica	60676-86-0	81.176061	76	759999	52.3343	523343
Flame Retardant Additive	Proprietary Non Halide		3.738371	3.5	34999	2.4101	24101
Hardener	Phenolic Novolac		8.010796	7.5	75000	5.1646	51645
Other additives	Catalyst Mold Release Adhesion Agent		3.951993	3.7	37000	2.5479	25478
Polymer	Cresol Novolac Epoxy		8.010796	7.5	75000	5.1646	51645
Stress Relief Agent	Proprietary		1.602159	1.5	14999	1.0329	10329
Sub-Total			106.810608	100	1000000	68.8609	688606
Semiconductor Device							
Silicon Chip	Doped Silicon	7440-21-3	1.8	100	1000000	1.1605	11604
Sub-Total			1.8	100	1000000	1.1605	11604
Total			155.110606			100	1000000

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's 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 Products

TI certifies that the material content information provided by TI as of the date of disclosure is representative and accurate. TI semiconductor products designated by TI as "Pb-Free" or "Green" (defined below) do not exceed any of the Joint Industry Guide (JIG) Level-A Substance thresholds and are compliant with the requirements of the European Union's Restriction on Use of Hazardous Substances ("RoHS") Directive, 2002/95/EC.

For TI semiconductor products NOT designated as "Pb-Free" or "Green", these products are RoHS compliant with the exception of Lead (Pb) which may be found in the leadframe plating or solder balls, or in RoHS exempt applications such as high-temperature solder die attach (exemption 7a) and flip-chip solder bumps (exemption 15). This situation is known as RoHS-5 or "5 of 6" compliant.

JIG Level-A Banned Substances	Threshold, Homogeneous Level (1)
Asbestos	Not intentionally added
Azo colorants	Not intentionally added
RoHS - Cadmium/Cadmium Compounds	75 ppm, Not intentionally added (RoHS threshold = 100ppm)
RoHS - Hexavalent Chromium/Hex.Chromium.Compounds	1000 ppm, Not intentionally added
RoHS - Lead/Lead Compounds	1000 ppm, Not intentionally added
RoHS - Mercury/Mercury Compounds	1000 ppm, Not intentionally added
Ozone Depleting Substances	Class I : Not intentionally added Class II : 1000ppm
RoHS - Polybrominated Biphenyls (PBBs)	1000 ppm, Not intentionally added
RoHS - Polybrominated Diphenyl Ethers (PBDEs)	1000 ppm, Not intentionally added
Polychlorinated Biphenyls (PCBs)	1000 ppm, Not intentionally added
Polychlorinated Naphthalenes (>3 Chlorine atoms)	1000 ppm, Not intentionally added
Radioactive Substances	1000 ppm, Not intentionally added
Shortchain Chlorinated Paraffins	1000 ppm, Not intentionally added
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	1000 ppm, Not intentionally added
Tributyl Tin Oxide (TBTO)	1000 ppm, Not intentionally added
(1) Threshold does not apply to applications covered by a RoHS substance exemption.	

Regarding the EU Directive 2004/12/EC concerning Packaging and Packaging Waste, TI's packing materials (boxes, trays, etc) comply with the directive's requirement that the total concentration of the 4 heavy metals (cadmium, hexavalent chromium, lead, and mercury) must not exceed 100 ppm. Material content details for TI's packing materials are available at www.ti.com/eoinfo.

TI bases its material content knowledge on information provided by third parties and has taken and continues to take commercially reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers consider certain limited information to be proprietary, and thus CAS numbers and other limited information may not be available for release. TI's standard warranty and limitation of liability provisions of TI's Standard Terms and Conditions (available at <http://www.ti.com/sc/docs/stdterms.htm>) apply to the representations herein unless otherwise provided by a written contract or other agreement signed by the parties.

Signature: [\(click here for signed certificate\)](#)

Name/Title: Cindy Allen, Vice President, Worldwide Quality

Date: September 27, 2006

Pb-Free: TI defines "Pb-Free" or "RoHS Compliant" to mean semiconductor products that are compliant with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials unless exempt. Where designed to be soldered at high temperatures, TI "Pb-Free" and "RoHS Compliant" products are suitable for use in specified lead-free processes.

Green: TI defines "Green" to mean Pb-Free/RoHS Compliant and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material).