Texas Instruments Inc.
Search results for "TPA3001D1PWPRG4"

Current Production Information

TI Part Number	TPA3001D1PWPRG4	**Assembly Site**	TI TAIWAN A/T
Lead/Ball Finish	CU NIPDAU	**Package Type / Pins**	PWP | 24
Planned Lead/Ball Finish		**Package Body Size (WxLxH) mm**	4.4x7.8x1.15
MSL / Reflow Ratings	Level-2-260C-1 YEAR	**Total Device Mass (mg)**	98.13978

Environmental Ratings Information

Part Number Type	Pb-Free	**JIG Material Content Compliance**	Level A & B
RoHS & High-Temp Compliant	Y	**Green Compliant**	Y
Pb-Free (RoHS) Conversion Date	01-Feb-2005 (DC 0506)	**Green Conversion Date**	01-Feb-2005 (DC 0506)
Pb-Free (RoHS) Available Supply Date	07-Feb-2006	**Green Available Supply Date**	07-Feb-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	0.399951	99.9922	999922	0.4075	4075
Trace Metal	Beryllium	7440-41-7	0.000004	0.001	10	0	0
Trace Metal	Calcium	7440-70-2	0.000005	0.0013	12	0	0
Trace Metal	Indium	7440-74-6	0.000012	0.003	30	0	0
Trace Metal	Silver	7440-22-4	0.00001	0.0025	25	0	0
Sub-Total			**0.399982**	**100**	**1000000**	**0.4076**	**4075**
Die Attach Adhesive							
Conductive Material	Silver	7440-22-4	0.28	70	700000	0.2853	2853
Polymer	Epoxy		0.036	9	89999	0.0367	366
Reactive Diluent	Proprietary Material		0.084	21	210000	0.0856	855
Sub-Total			**0.4**	**100**	**1000000**	**0.4076**	**4074**
Lead Frame							
Base Metal	Copper	7440-50-8	39.017545	97.425	974249	39.7571	397571
Base Metal	Iron	7439-89-6	0.961171	2.4	23999	0.9794	9793
Base Metal	Lead	7439-92-1	0.012015	0.03	300	0.0122	122
Base Metal	Phosphorus	7723-14-0	0.006007	0.015	149	0.0061	61
Base Metal	Tin	7440-31-5	0.012015	0.03	300	0.0122	122
Base Metal	Zinc	7440-66-6	0.040049	0.1	1000	0.0408	408
Sub-Total			**40.048802**	**100**	**1000000**	**40.8079**	**408077**
Lead Frame Plating							
Plating	Gold	7440-57-5	0.01628	2.5	25000	0.0166	165
Plating	Nickel	7440-02-0	0.58608	90	900000	0.5972	5971
Plating	Palladium	7440-05-3	0.04884	7.5	75000	0.0498	497
Sub-Total			**0.6512**	**100**	**1000000**	**0.6635**	**6633**
Mold Compound							
Coloring	Carbon Black	1333-86-4	0.213759	0.4	3999	0.2178	2178
Filler	Fused Silica	60676-86-0	45.423827	85	850000	46.2848	462848
Flame Retardant Additive	Metal Oxide		0.480958	0.9	8999	0.4901	4900
Hardener	Biphenyl hardener		1.603194	3	30000	1.6336	16335
Hardener	Phenolic Novolac		0.480958	0.9	8999	0.4901	4900
Hardener	Proprietary Hardener		0.480958	0.9	8999	0.4901	4900
Other additives	Catalyst Mold Release Adhesion Agent		0.694717	1.3	12999	0.7079	7078
Polymer	Biphenyl Epoxy		2.137592	4	40000	2.1781	21781
Stress Relief Agent	Proprietary		0.320639	0.6	6000	0.3267	3267
Stress Relief Agent	Silicone		1.603194	3	30000	1.6336	16335
Sub-Total			**53.439796**	**100**	**1000000**	**54.4527**	**544522**
Semiconductor Device							
Silicon Chip	Doped Silicon	7440-21-3	3.2	100	1000000	3.2607	32606
Sub-Total			**3.2**	**100**	**1000000**	**3.2607**	**32606**
Total			**98.13978**			**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 (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, SeeProduct 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/ecoinfo.

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).