Material Composition Declaration

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This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.

1752-2 1.1	IPC Web Site for Information on IPC-1752 Standard http://www.ipc.org/IPC-175x	**Form Type *** **Distribute**	**Declaration Class *** **Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Information**

Supplier Information

Company Name * **National Semiconductor**	Company Unique ID NATSEMI	Unique ID Authority 04-147-2986	**Response Date *** **11-30-2011**	Response Document ID	
Contact Name * Lorena Dudman	Title - Contact Product Stewardship Eng.	Phone - Contact * 1-408-721-8180	Email - Contact * Green.Project@nsc.com		
Authorized Representative * Lorena Dudman	Title - Representative Product Stewardship Eng.	Phone - Representative * 1-408-721-8180	Email - Representative * Green.Project@nsc.com	Supplier Comments or URL for Additional Information http://www.national.com/analog/quality/green	

	Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	**Weight ***	UOM	Unit Type
		LM1086CS-2.5	LM1086CS-2.5	11-30-2011			**1289.98**	mg	Each
	Alternate Recommendation				Alternate Item Comments				

Manufacturing Process Information

Terminal Plating / Grid Array Material	Terminal Base Alloy	J-STD-020 MSL Rating	Peak Process Body Temperature	Max Time at Peak Temperature	Number of Reflow Cycles
SnPb	**CU Alloy**	**3**	**235 C**	**30 seconds**	**4**

Comments

"Does not contain PFOS."

RoHS Material Type Declaration

Declaration Type * Custom

RoHS Directive 2002/95/EC	**RoHS Definition: Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB),Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium**

Subject to the limitations below, National Semiconductor Corporation ("National") certifies the following information as of the document date.

1. National products designated "ROHS Compliant" comply with the European Unions Directive on the Restriction of the Use of Hazardous Substances 2002/95/EC ("RoHS"). Certain National products contain lead in RoHS exempt applications 7(a) or 7(c)-I.
2. National products do not contain and are not manufactured with ozone depleting compounds.
3. National products do not contain substances identified by the European Chemical Agency ("ECHA") as substances of very high concern ("SVHC") per REACH Regulation (EC) No 1907/2006. National also complies with use restrictions as stipulated in Annex XVII of REACH.
4. National products are manufactured in conformance with National specifications (SC)CSP-9-111C1 Supplier Environmental Requirements for Materials and Products and (SC)CSP-9-111S2 Banned and Reportable Substances.
5. Nationals list of banned and reportable substances and management system is based on the current version of the Joint Industrial Guide, JIG-101.

National has taken commercially reasonable steps to provide representative and accurate information but may not have independently verified information provided or conducted chemical analysis of incoming materials. Equivalent compliant materials may have been substituted for those stated herein. Material concentrations are the maximum expected concentration of the substance in the device and may not represent the actual concentration. National and its suppliers consider certain limited information to be confidential and thus CAS numbers and other limited information may not be available for release. Nationals Standard Terms and Conditions of Sale apply to any issue arising out of or in connection with the information provided herein unless otherwise provided by a written contract signed by both parties.

NATIONAL ACCEPTS NO DUTY TO NOTIFY USERS OF THIS DECLARATION OF UPDATES OR CHANGES TO THIS DECLARATION

RoHS Declaration *	**2 - Item(s) contains RoHS restricted substances per the definition above and is not under exemption**	**Supplier Acceptance ***	**Accepted**

Exemptions: If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration and above and choose all applicable exemptions.

7(a). Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85 % by weight or more lead)

Declaration Signature

Supplier Signature John L Conn Vice President Quality **John L. Conn Vice President Quality**

Homogeneous Material Composition Declaration for Electronic Products

	Item/SubItem Name		Homogeneous Material	Weight	Unit of Measure		Level	Substance Category		Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance	PPM
			Leadframe	644.260	mg		Requester			Cu	7440-50-8		643.255	mg		998,440
							Requester			Sn	7440-31-5		0.966	mg		1,500
							Requester			P	7723-14-0		0.039	mg		60
			Plastic	625.040	mg		Requester			SiO2	60676-86-0		556.286	mg		890,000
							Requester			Epoxy Resin	25928-94-3		50.003	mg		80,000
							Requester			Mg(OH)2	1309-42-8		18.751	mg		30,000
			Ext. LeadFinish	5.771	mg		Requester			Sn	7440-31-5		4.905	mg		850,000
							Requester			Pb	7439-92-1		0.866	mg		150,000
			Lead Plating	5.670	mg		Requester			Ni	7440-02-0		5.670	mg		1,000,000
			Chip	5.120	mg		Requester			Si	7440-21-3		5.089	mg		994,000
							Requester			Al	7429-90-5		0.031	mg		6,000
			Die Attach	2.130	mg		Requester			Pb	7439-92-1		2.034	mg		955,000
							Requester			Ag	7440-22-4		0.053	mg		25,000
							Requester			Sn	7440-31-5		0.043	mg		20,000
			Int. LeadFinish	1.890	mg		Requester			Ag	7440-22-4		1.890	mg		1,000,000
			Wires	0.095	mg		Requester			Au or Cu	7440-57-5		0.095	mg		1,000,000