Company	DUNS#	URL For Additional Information
National Semiconductor	04-147-2986	http://www.national.com/analog/quality/green

Contact	Title	Phone	Email
Lorena Dudman	Product Stewardship Eng. Mgr	1-408-721-8180	Green.Project@nsc.com

Part Number	MSL Rating	Peak Body Temp C	MaxTime(Sec)	Cycles	Unit Type
LP55281RLX NOPB	1	260	40	4	Each

Document Date		Weight (mg)	
07-07-2011	European RoHS Compliant. China RoHS Compliant.	10.62	Does NOT Contain Halogens

Material Composition Declaration for Electronic Products

Item	Weight (mg)	Component	CAS#	Weight (mg)	Item-ppm	Part-ppm
Chip	6.448	Si	7440-21-3	6.409	994,000	603,200
		Al	7429-90-5	0.039	6,000	3,671
Bumps	2.609	Sn	7440-31-5	1.641	629,000	154,447
		Cu	7440-50-8	0.634	243,000	59,671
		Divinylbenzene co-polymer	9003-70-7	0.274	105,000	25,788
		Ag	7440-22-4	0.060	23,000	5,647
BacksideCoating	1.402	Calcium Carbonate filler	471-34-1	0.911	650,000	85,741
		Epoxy Resin	25928-94-3	0.491	350,000	46,212
Passivation	0.138	Benzocyclobutene	694-87-1	0.138	1,000,000	12,988
UnderbumpMetallization	0.028	Cu	7440-50-8	0.016	564,000	1,506
		Al	7429-90-5	0.006	212,000	565
		Ni	7440-02-0	0.006	207,000	565
		V	7440-62-2	0.000	17,000	0

Note: The device content disclosed herewith is approximate and is based on engineering estimates only. It has not been verified through analytical testing.

Additionally, the following should be noted:

1. One or more dopant materials may be present in the silicon die at sub-ppm levels to provide semiconductor properties.
2. Epoxy resin components listed are generic and may or may not be the specific compound used, which is considered proprietary.

RoHS Material Composition Declaration

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 7a or 7(c)-1.
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. National's 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.

John L Conn
Vice President Quality

John L. Conn
Vice President Quality

Banned Substance Monitoring

Part Number	Document Date
LP55281RLX NOPB	07-07-2011

European RoHS Compliant. China RoHS Compliant.

Item#	Material	Cd	CrVI	Pb	Hg	PBB	PBDE	Cl	Br	Ref#
1	CHIP	<1	<1	<1	<30	<10	<10	<75	<50	1000
2	BACKCOAT	<2	<2	<2	<2	<5	<5	170	<50	576
3	BUMPS	<2	N/D	<2	<2	<5	<5	<50	<50	618
4	PASSIVATION	<2	<2	<2	<2	<5	<5	N/A	N/A	633

* Cd: Cadmium, CrVI: Hexavalent Chromuim, Pb: Lead, Hg: Mercury, NA: Not Applicable

* Unless otherwise noted, units are in PPM (parts-per-million)

Ref#	3rd Party Analysis (available upon request, subject to a non-disclosure agreement)
1000	Analysis on 01/24/2011 by Balazs as per Report# 11-00322-00
576	Analysis on 04/29/2011 by SGS per Report# LPCI/04425(B)/11
618	Analysis on 04/29/2011 by SGS per Report# LPCI/04375(B)/11
633	Analysis on 04/29/2011 by SGS per Report# LPCI/04475(B)/11