

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

Contact	Title	Phone	Email
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Part Number	MSL Rating	Peak Body Temp C	MaxTime(Sec)	Cycles	Unit Type
LM113H NOPB	1	NA	NA	NA	Each

Document Date	European RoHS Compliant. China RoHS Compliant.	Weight (mg)	Does NOT Contain Halogens
01-17-2012		257.34	

Material Composition Declaration for Electronic Products

Item	Weight (mg)	Component	CAS#	Weight (mg)	Item-ppm	Part-ppm
Lid	72.500	Ni	7440-02-0	72.500	1,000,000	281,724
Plating1	4.900	Ni	7440-02-0	4.900	1,000,000	19,041
Leads	37.800	Fe	7439-89-6	20.412	540,000	79,318
		Ni	7440-02-0	10.962	290,000	42,597
		Co	7440-48-4	6.426	170,000	24,970
Plating2	3.600	Au	7440-57-5	3.600	1,000,000	13,989
Glass	2.400	SiO2	60676-86-0	1.934	806,000	7,515
		B2O3	1303-86-2	0.312	130,000	1,212
		Na2O	12401-86-4	0.096	40,000	373
		Al2O3	1344-28-1	0.058	24,000	225
Eyelet	131.300	Fe	7439-89-6	70.902	540,000	275,514
		Ni	7440-02-0	38.077	290,000	147,961
		Co	7440-48-4	22.321	170,000	86,736
Ext. LeadFinish	1.990	Sn	7440-31-5	1.920	965,000	7,461
		Ag	7440-22-4	0.060	30,000	233
		Cu	7440-50-8	0.010	5,000	39
Chip	1.840	Si	7440-21-3	1.829	994,000	7,107
		Al	7429-90-5	0.011	6,000	43
Die Attach	1.010	Au	7440-57-5	0.990	980,000	3,847
		Si	7440-21-3	0.020	20,000	78
Wires	0.004	Al	7429-90-5	0.004	1,000,000	16

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:

- One or more dopant materials may be present in the silicon die at sub-ppm levels to provide semiconductor properties.
- 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
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Subject to the limitations below, National Semiconductor Corporation ("National") certifies the following information as of the document date.

- 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.
- National products do not contain and are not manufactured with ozone depleting compounds.
- 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.
- 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.
- 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
John L. Conn
Vice President Quality

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Vice President Quality

Banned Substance Monitoring

Part Number		Document Date
LM113H	NOPB	01-17-2012

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	EPOXY	<2	<2	<2	<2	<5	<5	<50	<50	32
3	HEADER	<2	<2	<2	<2	<5	<5	N/A	N/A	672
4	WIRE	<2	N/D	<2	<2	<5	<5	N/A	N/A	604

* Cd: Cadmium, CrVI: Hexavalent Chromium, 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
32	Analysis on 04/29/2011 by SGS per Report# LPCI/04433(B)/11
672	Analysis on 04/29/2011 by SGS per Report# LPCI/04430(B)/11
604	Analysis on 04/29/2011 by SGS per Report# LPCI/04451(B)/11