

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
LM2502SMX NOPB	3	260	40	4	Each

Document Date	European RoHS Compliant. China RoHS Compliant.	Weight (mg)	Does NOT Contain Halogens
06-29-2009		35.58	

Homogeneous Material Composition Declaration for Electronic Products

Item	Weight (mg)	Component	CAS#	Weight (mg)	Item-ppm	Part-ppm
Plastic	17.10	SiO2	60676-86-0	15.134	885,000	425,327
		Epoxy Resin	25928-94-3	1.454	85,000	40,863
		Mg(OH)2	1309-42-8	0.513	30,000	14,417
Substrate	8.14	Cu	7440-50-8	3.443	423,000	96,762
		BT	N/A	2.532	311,000	71,160
		Ni	7440-02-0	1.188	146,000	33,388
		Solder Mask	N/A	0.783	96,200	22,006
		Au	7440-57-5	0.194	23,800	5,452
Solder Balls	5.12	Sn	7440-31-5	4.890	955,000	137,429
		Ag	7440-22-4	0.205	40,000	5,761
		Cu	7440-50-8	0.026	5,000	731
Chip	3.75	Si	7440-21-3	3.728	994,000	104,772
		Al	7429-90-5	0.023	6,000	646
Wires	0.97	Au	7440-57-5	0.974	1,000,000	27,373
Die Attach	0.50	Ag	7440-22-4	0.371	750,000	10,427
		Epoxy Resin	25928-94-3	0.124	250,000	3,485

Note: The device content disclosed herewith is approximate and is based on engineering estimates only. It has not been verified through analytical. 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 5, 7a or 7c.
- 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").
- 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.

 Gerry Edwards
Vice President Quality

Banned Substance Monitoring

Part Number		Document Date
LM2502SMX	NOPB	06-29-2009

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	NA	NA	1000
2	COMPOUND	< 2	< 2	< 2	< 2	< 5	< 5	< 50	< 50	640
3	DIEATTACH	<2	<5	<5	<1	10	10	NA	NA	625
4	EPOXY	< 2	< 2	< 2	< 2	< 5	< 5	290	< 50	150
5	SUBSTRATE	< 2	< 2	< 2	< 2	< 5	< 5	130	150	660
6	WIRE	< 2	< 2	< 2	< 2	NA	NA	NA	NA	75

* 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 03/01/2009 by BALAZ as per Report# E008516J #01/LMP7300D6/VIP050L23
640	Analysis on 03/01/2009 by SGS per Report# 04526/09
625	Analysis on 03/01/2009 by per Report#
150	Analysis on 03/01/2009 by SGS per Report# 04519/09
660	Analysis on 03/01/2009 by SGS per Report# 04553/09
75	Analysis on 03/01/2009 by SGS per Report# 04531/09