



Certificate Concerning “Pb-Free”, “RoHS Compliant” & Halogen-Free Semiconductor Products

Company Name: Microsemi Corporation – Analog Mixed Signal Group (AMSG)
 11861 Western Ave
 Garden Grove, CA 92841

To: **Microsemi - AMSG** customer(s)

Microsemi-AMSG certifies that to its knowledge semiconductor products designated by MSC-AMSG as ‘Pb-free’ or ‘RoHS Compliant’ conform to the requirements of the European Union’s Restriction on use of certain hazardous substances in electrical and electronic equipment Directive 2002/95/EC and are halogen-free*, see table below.

The MSC-AMSG term “RoHS Compliant/Pb-free” means plastic encapsulated semiconductor products are compatible with the current RoHS requirements for all six substances (see table below), including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designated to be soldered at high temperatures, these parts are both forward compatible with lead free reflow/wave processes and backwards compatible to older PbSn processes.

The MSC-AMSG term “RoHS Compliant” means semiconductor products compatible with the current RoHS requirements for 5 of 6 substances (see table below), excluding the requirement that lead not exceed 0.1% by weight in homogeneous materials. These devices utilize exemption(s) in the directives annex for Pb in high melting temperature solder (>85% Pb) or Pb in glass of electronic components (some hermetic devices).

Microsemi-AMSG also certifies that to its knowledge semiconductor products designated by MSC-AMSG as ‘Pb-free’ or ‘RoHS Compliant’ do not contain substances on the Candidate List of Substances of Very High Concern (SVHC) as defined by the European Chemicals Agency (ECHA), see table below.

Banned Substance	RoHS Directive Maximum Limit (ppm) ¹	Halogen-Free Limits (ppm)	REACH SVHC Reporting Threshold (ppm)
Cadmium (Cd)	100		
Lead (Pb)	1000		
Mercury (Hg)	1000		
Hexavalent Chromium (Cr6+)	1000		
Poly Brominated Biphenyls (PBB)	1000		
Poly Brominated Diphenyl Ethers (PBDE), including DecaBDE	1000		
Chlorine (Cl)		<800	
Bromine (Br), excluding PBB’s & PDDE’s		<800	
Chlorine + Bromine (Cl+Br)		<1000	
TBBP-A		Not Used	
PFOS, PFOA	1000		
REACH SVHC Candidate List as of 28.10.08			1000

¹ Maximum limits do not apply to applications covered by ROHS exemptions

Authorized signatory for **Microsemi – AMSG**

Mr. James R. Howell *Signature:*
 Director of Quality and Reliability

Date: 2/11/09

*** Important Information and Disclaimer:** MSC-AMSG represents and warrants that the information provided in this certificate and on our website is to the best of its knowledge and belief accurate as of the date that it was provided. MSC bases such knowledge and belief on information provided by third parties, and MSC makes no representation or warranty as to the accuracy of such third party information. MSC-AMSG has taken and will continue to take, reasonable steps to provide representative and accurate information to its Customers, but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. Certain MSC-AMSG suppliers consider “material content” to be Confidential Information and thereby proprietary, whereby CAS numbers for such materials may not be available for release to Customers. MSC-AMSG shall not be liable for loss of use, revenue, profit, or for any special, incidental, or consequential damages arising out of, connected with, or resulting from, the information provided in this certificate, or on its website, or otherwise; and in no event shall MSC-AMSG’s direct liability arising out of, connected with, or resulting from such information exceed the purchase price of the semiconductor component(s) referenced in this certificate that MSC-AMSG sold to the Customer during the three (3) months immediately prior to the date this certificate was provided.

See MSC-AMSG Terms and Conditions specified on our website; any inconsistent terms and conditions shall be controlled by the terms contained herein.