Central™
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RoHS™ Compliant

Pb-Free Plating

**CC Document**

# RoHS - Declaration of Compliance

**RoHS:**
The European Union has adopted Directives 2011/65/EU (RoHS 2) and 2015/863/EU (RoHS 3). This legislation bans the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenyl ethers (PBDE), and four phthalates (DEHP, BBP, DBP, DiBP).

**Central's Policy:**
Central Semiconductor is doing its part to help improve the environment by reducing or removing substances that are considered harmful to the environment, see table 1. Central has put procedures in place to comply with legislation pertaining to environmental concerns and has implemented procedures to comply with RoHS banned substances.

Table 1 (allowable limits for banned substances)

**Table 1:**

| Substance | Maximum Limit (ppm) |
|---|---|
| Cadmium (Cd) | 100 |
| Lead (Pb) | 1000 (1) (2) |
| Mercury (Hg) | 1000 |
| Hexavalent Chromium ($Cr^{6+}$) | 1000 |
| Poly Brominated Biphenyls (PBB) | 1000 |
| Poly Brominated Diphenyl Ethers (PBDE) | 1000 |
| Bis(2-Ethylhexyl) phthalate (DEHP) | 1000 |
| Benzyl butyl phthalate (BBP) | 1000 |
| Dibutyl phthalate (DBP) | 1000 |
| Diisobutyl phthalate (DIBP) | 1000 |

(1) Applicable to products with PbFree termination finish only.
(2) Maximum limit does not apply to applications for which exemptions have been granted by the RoHS directive.

Central's current products do not intentionally contain any of the following banned substances: Mercury, Cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenyl ethers (PBDE), Bis(2-Ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP), or Diisobutyl phthalate (DIBP). Nearly all of Central's products are currently available with lead free exterior finishes, in the form of 99.9% matte tin plating. Presently, some of Central's products are available in both Lead Free, and Tin/Lead finishes.

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## Special Notations

1. Tin Whisker Mitigation Methods:
   Central's PbFree plating meets the following criteria:
   a. External plating composition is >99.9% Matte Tin (Sn) minimum.
   b. External plating thickness is 315 micro-inches (8µm) minimum.
   c. External plating grain size is 40 micro-inches (1µm) minimum.
   d. External plating carbon content is 0.1% maximum.
   e. Devices do not have a Nickel (Ni) barrier underlayer.
   f. Some case types include a post plating anneal bake.
2. Central's PbFree devices are RoHS compliant.
3. Central's PbFree devices are compatible with both tin/lead and lead free solder processes.
4. Central's PbFree devices can withstand a MAX temperature of 260°C for 30 seconds maximum.
   Click here for Central's typical reflow & wave soldering temperature profile.
5. Many of Central's PbFree surface mount devices have a Moisture Sensitivity Level (MSL) of 1 (per JEDEC J-STD-020E). Please contact Central's sales department for additional detail.
6. Central's PbFree devices are not a change in form, fit or function.
7. Central's PbFree devices are controlled by an internal lot tracking system.
8. Parts may be available with PbFree or Tin/Lead plating:
   - For PbFree plating, add suffix "PBFREE" to part number.
   - For Tin/Lead plating, add suffix "TIN/LEAD" to part number.
   - No suffix designation allows for the supply of either lead free or tin/lead plated product depending on availability.
9. Devices ordered as PbFree are certified to contain less than 1000ppm Pb content on the terminal plating and will be labeled with Central's PbFree/RoHS Compliant Logo.
   Sample Label
10. Devices with tin/lead plating are still available for certain customer's requirements.
    Please contact Central's sales department for additional detail.

### REACH

The European Union's REACH (**R**egistration, **E**valuation, **A**uthorization, and restriction of **Ch**emicals) regulation applies to chemical substances manufactured in or imported to the EU in quantities of 1 tonne or more per year. It applies to chemical substances on their own, in preparations, or in articles (manufactured goods). The goal of REACH is to improve the protection of human health and the environment through better and earlier identification of chemical substances.