

RoHS Directive Compliance

PCA Electronics is ready to supply components that are in compliance with the EU RoHS Directive (EU Directive 2002/95/EC). PCA defines “RoHS Compliant” or “Pb-Free” to mean products that are compliant with the RoHS Directive for all (six) banned substances, including the requirement that lead (Pb) levels do not exceed 0.1% (1000ppm) by weight in homogeneous materials unless exempted by the RoHS Directive. Maximum Concentration Values (MCV) is: 0.1% for lead, mercury, hexavalent chromium, polybrominated biphenyls, and polybrominated diphenylethers and 0.01% for cadmium.

RoHS Lead-Free Identification - Components With Internal Solder Connections

This class of component includes filters and delay lines that use chip components in their construction. In order to build the component to withstand up to 260°C peak process temperatures, Sn10Pb88Ag02 (268-299C) solder is used. While this solder is not lead-free, it is exempted by the RoHS Directive and is currently the only cost-competitive way to meet this requirement. These components will be marked with the suffix ‘-RC’ to denote RoHS compliance. These products do not contain any banned substances except for lead in solders, but is exempted for lead in solder containing greater than 85% (Pb) as established by the RoHS Directive. These parts are generally SMD.

Components Without Internal Solder Connections

This class of component includes open-frame transformers and components built without any internal chip components or solder joints. These components may be supplied in a lead-free configuration. The solder used is Sn95Sb05. These components will be marked with the suffix ‘-LF’ to denote RoHS Lead-Free status without any exemptions. These products do not contain any banned hazardous substances above the allowable levels set by the RoHS Directive.

RoHS 5 and RoHS 6

RoHS 5 rating denotes that all homogenous materials within the part have less than the maximum concentration value (MCV), as defined by the RoHS Directive. RoHS 5 parts do not contain lead except in solder or terminal plating. Packaging is labeled with the following statement: “Does not contain RoHS banned substances except Pb in solders”.

RoHS 6 rating denotes that all homogenous materials within the part have less than the maximum concentration value (MCV) for all 6 banned substances established by the RoHS Directive.

Process Information - Lead-Finish

The final lead finish for Through-Hole or SMD is Hot Tin Dip (Sn or SnCu). Hot Tin Dip has been proven to retard the growth of Tin Whiskers. Typical lead frame plating originates with a Matte Tin over a Nickel flash barrier. Mitigation processes may include a fused tin process shortly after plating.


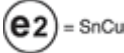
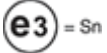
Peak Process Temperature

Package thickness and volume, determines peak process temperatures ranging from 245 to 260°C for SMD IAW IPC/JEDEC (J-STD-020C) at the rated MSL level. Through-Hole components are rated for ‘wave solder’ processing only.

Moisture Sensitivity Levels (MSL’s)

Molded SMD RoHS products are rated level 4 with a floor life of 72 hours in room conditions of ≤30C/60%RH. Open designs are rated level 1 with an unlimited floor life in room conditions of ≤30C/60%RH.

Packaging & Labeling

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| The lowest level of packaging containing RoHS compliant components will be identified with the words “RoHS Compliant” printed on the bar code label or on a separate label. | RoHS COMPLIANT |
| Lead-free components are identified using the lead-free symbol with the words “Pb-Free”. |  Pb-Free |
| For reels, tubes and trays, the label will be attached to the vacuum-sealed bag. |   |