

Lead-Free Information

Parts with 100% Sn termination finish (lead-free)

Legislation has been implemented worldwide to reduce the lead content and other hazardous substances in electronic products. This will reduce the environmental impact when such products are discarded. Nemco offers lead-free devices which meet RoHS requirements. The following information applies to Nemco solid tantalum capacitors.

Full Implementation dates of production changes

	Lead-free	RoHS Compliance
Surface Mount Devices (PCT, LSR)	01/01/2004	01/01/2004
Surface Mount Devices (MCT)	01/01/2005	01/01/2005
Surface Mount Devices (CGT)	09/01/2007	09/01/2007
Leaded Devices (TB)	01/01/2005	01/01/2005

Recommended solder alloy for reflow: SnAgCu

Lead-free (100% Sn) termination finish is compatible with all common lead-free solder pastes including SnCu, SnCuAgBi, etc.

Recommended solder alloy for wave soldering: SnCu

Recommended solder alloy for hand soldering: SnAgCu

Backward compatibility

Lead-free parts (100% Sn termination finish) can be used in a Sn/Pb process. The 100% Sn (Tin) termination finish is compatible with existing Sn/Pb solder pastes / systems in use today.

Forward compatibility

Parts with Sn/Pb can be used in a lead-free process depending on the solder and solder temperature. Solders with Bi are not compatible.

Visual standard

Lead-free solder joints are not as bright as tin-lead pastes and the fillet may not be as large.

Resin color

The encapsulant resin color may darken due to the increase in temperature required for the paste.

Self alignment

lead-free solder pastes do not allow the same self alignment as lead containing systems, Standard mounting pads are acceptable, but machine set up may need to be modified.

Lead-free termination finish: 100% matte Sn (3-5 microns fused / annealed over Ni flash)

Organizations/Associations

North America:

- **JEDEC** – <http://www.jedec.org/>
(JEDEC Solid State Technology Association)
- **IPC** – <http://www.ipc.org/>
(Interconnect and Packaging of Electronic Circuits)
- **iNEMI** – <http://www.inemi.org/>
(International National Electronics Manufacturing Initiative)

Asia:

- **JEITA** – <http://www.jeita.or.jp/>
(Japan Electronics and Information Technology Industries Association, formerly JEIDA)
- **JIEP** – <http://www.jeita.or.jp/>
(Japanese Institute of Electronic Packaging)

Europe:

- **European Commission** – <http://ec.europa.eu/>