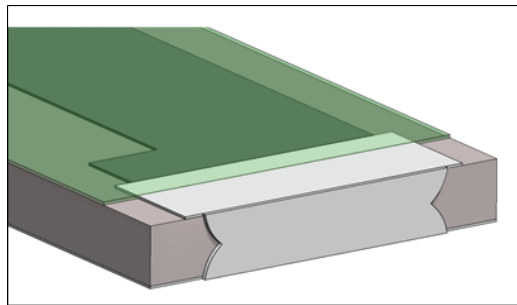


Tech Note

Hourglass End Wrap Explained

IMS chips are constructed using proprietary processes and materials which differ from the more typical plated end wraps found on many commercial thick film resistor components. IMS screen prints end wraps using high platinum thick film silver (PtAg) and gold (PtAu) to achieve excellent solderability with high leach resistance. IMS termination codes 3, C, P, 8, H, R, 7, Q and D are examples of part metallization codes where this process applies.

This manufacturing method results in an appearance that is unique in the industry. The resulting as-designed architecture is referred to by IMS as an “hourglass” end wrap and shows bare ceramic on the extreme edges. Component top and bottom terminals may extend wider than end wrap widths by design as well.



Many industry standards impose inspection requirements regarding the loss of metallization. For example, IPC-A-610, Acceptability of Electronic Assemblies, refers to metallization loss as a defect condition. In section 9, Component Damage subsection 9.1 Loss of Metallization, the defect condition is defined as “Metallization loss on the terminal end face exposing the ceramic”. Because the IMS wrap-around has bare ceramic on the end face by design, this described defect does not apply to the IMS “hourglass” endwrap. The presence of bare ceramic shall not be cause for rejection during inspection.

For even greater leach resistance in high temperature solder applications refer to IMS White Paper “Advantages of Multi-metal Terminations for NonMagnetic, High Temperature Solder Applications”, available at www.ims-resistors.com.