

Weld/Braze and 80Au20Sn Cover Seal Joining Improvements for Enhanced Package Hermeticity

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Improvements in hermetic package resistance cover seal joining for 80Au20Sn Solder cover sealing and Kovar™ 29Ni/17Co/Bal Fe alloy braze sealing are described. Problems in joining processes, including AuSn voiding per MIL-STD 2012.0 Lid Seal Voids and Rejection Criteria, as well as Kovar cracking per MIL-STD 2009 External Visual Criteria, are reviewed. Eliminating these problems in seal joints using newly developed processing capability, and the favorable results achieved with respect to leak rates specified in the most recent version MIL-883 Test Method 1014 Seal are presented.