멀티칩 패키지 균열의 유한요소 해석

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Finite Element Analysis of Multichip Package Cracks

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Key Words: Multichip package(멀티 칩), Chip crack(칩 균열), Delamination(박리)

Abstract : Chip crack analysis is conducted for multichip package subject to molding process and thermal-cycling test using finite element method. We investigate the effect of initial vertical crack length on energy release rates of the system, and evaluate the maximum allowable crack length under pressure during molding process. In thermal-cycling test, an initial delamination is assumed between the second chip and a barrier tape, which is located under the second chip. The effect of material properties and multichip geometries on delamination are clarified.

자동차용 냉각팬모터의 수명시험방법개발

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A Development of A Life Test Procedure For Cooling fan motor

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Key Words: Fan motor(팬모터), Reliability(신뢰성), Life test method(수명시험방법), Accelerated life test(가속수명시험), Field condition(필드조건)

Abstract : Reliability of automotive parts has been one of the most interesting fields in the automotive industry. Especially small DC motor was issued because of the increasing adoption for passengers' safety and convenience. For several years, small DC motors have been studied and some problems of a life test method were found out. The field condition was not considered enough in the old life test method. It also needed a lot of test time. For precise life estimation and accelerated life test, new life test procedure was developed based on measured field condition. The vibration condition on vehicle and lateral force on fan motor shaft were measured and correlated with each other.