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Abstract
Ferroelectric materials are excellent candidates for the applications in the data storage of digital memory systems, in addition to many other important applications such as piezoelectrics, pyroelectrics, and electro-optics in sensors, actuators, and micro electro mechanical systems (MEMS). Random-access memories (RAMs) based on semiconductor integrated technology have been a great success. To be competitive electrically erasable read-only memories (EEPROM), ferroelectric material memories (FeRAMs) are also developed for the nonvolatile random-access memories (NvRAMs) application. Among the ferroelectric materials, SrBi4Ti4O15 is one of the most popular materials attracting many investigators for many years.

The layer structured bismuth compound ferroelectric has the general formula: An-1Bi2BnO3n+3, where A is usually a divalent ion, such as Sr2+, Ba2+, or Pb2+, and B is Ti4+, Nb5+, or Ta5+ [1-3]. Within the bismuth family, SrBi4Ti4O15 ceramics is received as an attracted candidate because of its excellent fatigue endurance against repetitive switching of polarization even when in the form of thin film. In this study, SrBi4Ti4O15 is used as the based composition. (Sr,Ba)Bi4Ti4O15, SrBi4(Ti4-xZrx)O15, SrBi4Ti4O15 + xmol Bi2O3 three compositions are used to find the optimum relationship between sintering temperature and dielectric properties.
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