

CaZr(BO₃)₂ 세라믹스의 저온 소결 및 마이크로웨이브 유전 특성

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Low Temperature Sintered CaZr(BO₃)₂ Microwave Dielectric Ceramics for LTCC Application

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Abstract

The low temperature sintering of dolomite type borates, CaZr(BO₃)₂[CZB] ceramics and their microwave dielectric properties were investigated. The sintering temperature of CZB ceramics could be reduced from 1150°C to 925°C by the addition of sintering additive. CaZrO₃, ZrO₂ and CaB₂O₄ second phases were found in the CZB ceramics. The syntheses, sintering properties, microstructures, and dielectric properties of dolomite-type borates were examined by XRD, thermal analysis, electron microscopy, network analyzer, and the results are discussed intensively. The compatibility with silver electrode was also explored.

Key Words : dolomite type borate, CaZr(BO₃)₂, microwave dielectric properties, compatibility