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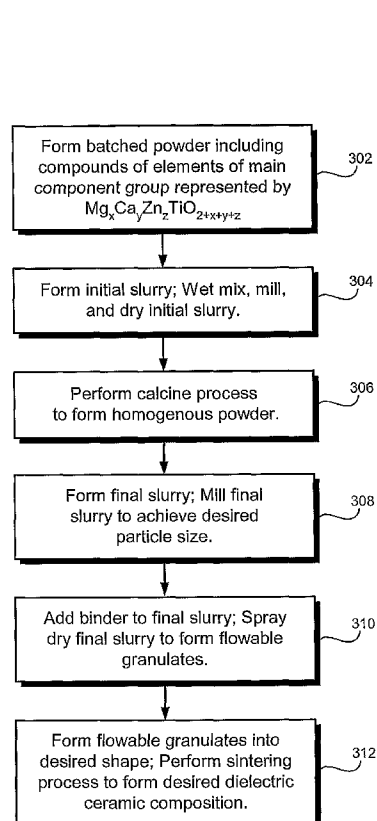
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[Continued on next page]

(54) Title: DIELECTRIC CERAMIC COMPOSITION HAVING WIDE SINTERING TEMPERATURE RANGE AND REDUCED EXAGGERATED GRAIN GROWTH



(57) Abstract: According to one exemplary embodiment, a dielectric ceramic composition includes a main component group, where the main component group is represented by $Mg_xCa_yZn_zTiO_{2+x+y+z}$, where the sum of x, y, and z is less than or equal to 1.0 such that the dielectric ceramic composition has a wider sintering temperature range and reduced exaggerated grain growth. According to one embodiment, x can be greater than 0.0 and less than 1.0, y can be greater than 0.0 and less than 1.0, and z can be greater than 0.0 and less than 1.0. The dielectric ceramic composition can further include between 0.0 and 50.0 percent by weight of aluminum oxide. The dielectric ceramic composition can further include copper oxide. The dielectric ceramic composition can further include boron oxide.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC: **C04B 35/46**(2006.01),**35/465**(2006.01)

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	JP 8-45348 A (UBE IND LTD) 16 February 1996 (16.02.1996), Tables page 3.	1-3,5-7,10-16
X	US 4,533,974 A (MAHER) 06 August 1985 (06.08.1985), column 2, lines 21-65.	1,2,4,12-16
X	US 5,547,908 A (FURUZAWA et al) 20 August 1996 (20.08.1996), column 2, lines 3-30.	1,2,5,6,12-16
X	US 5,147,835 A (FRANZAK) 15 September 1992 (15.09.1992), column 2, lines 3-55.	1,2,5,6,12-16
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X	US 5,916,834 A (TERASHI et al) 29 June 1999 (29.06.1999), columns 11 and 12.	1,2,5,6,8,9,12-16



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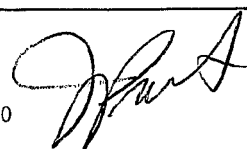
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PCT/US06/10060**C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,645,895 A (Sato et al) 11 November 2003 (11.11.2003), column 3, lines 13-56.	1,2,4-7,11-16