

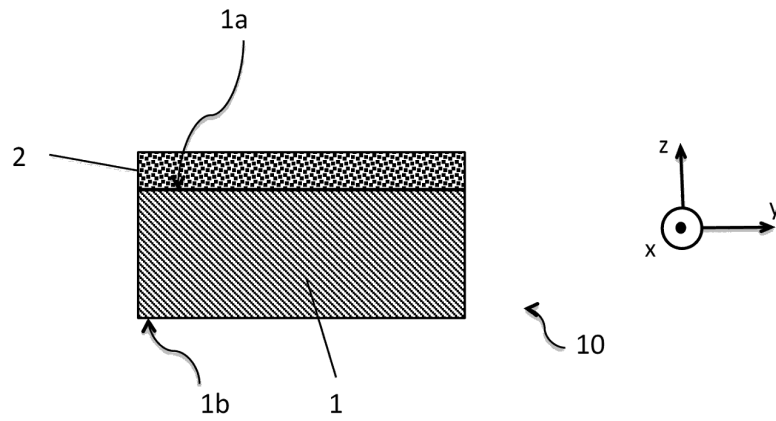


FIG.1a

Material	Thermal expansion coefficient ($\times 10^{-6}$) (/K)	Resistivity (ohm.cm)	Permittivity	Young's modulus (GPa)
SiO ₂	0,56	1,00E+17	3,9	66
Si ₃ N ₄	1.4~3.7 / 3.2	1e10 - 1e15	9.5-10.5	160-310
Al ₂ O ₃	8.1 - 8.4 / 6 - 7	>1E14	9,8	300-375
mullite (3Al ₂ O ₃ .2SiO ₂)	5,4	>1E13	5,8	151
AlN	4.3~5.6	1,00E+14	9	330

TAB.1

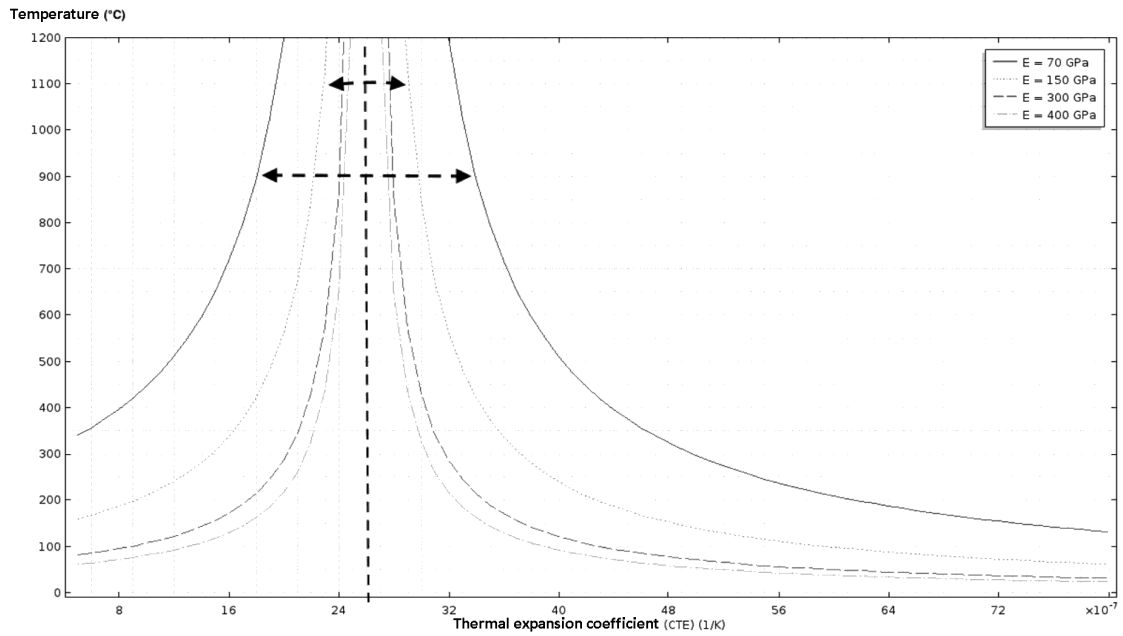


FIG.1b

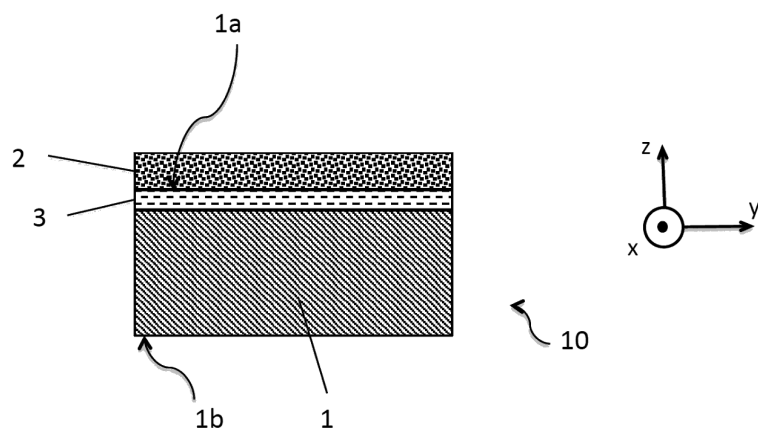


FIG.2a

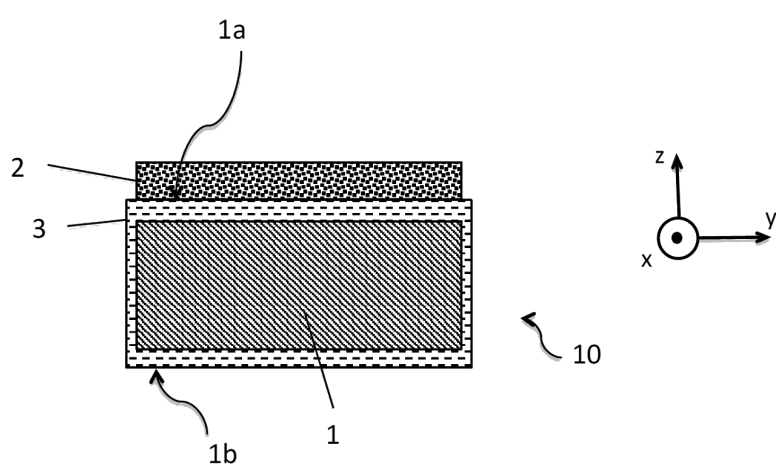


FIG.2b

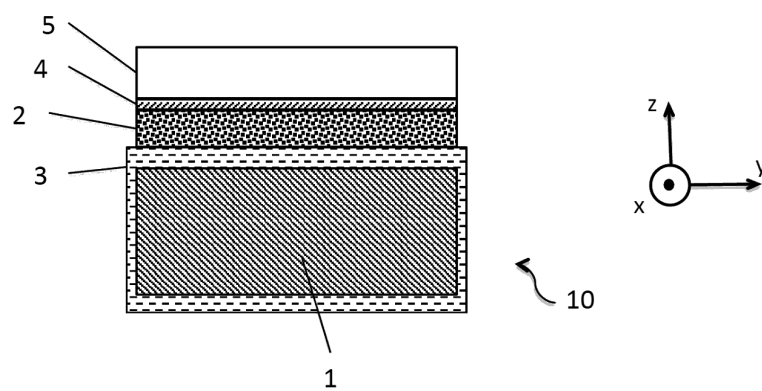


FIG.3a

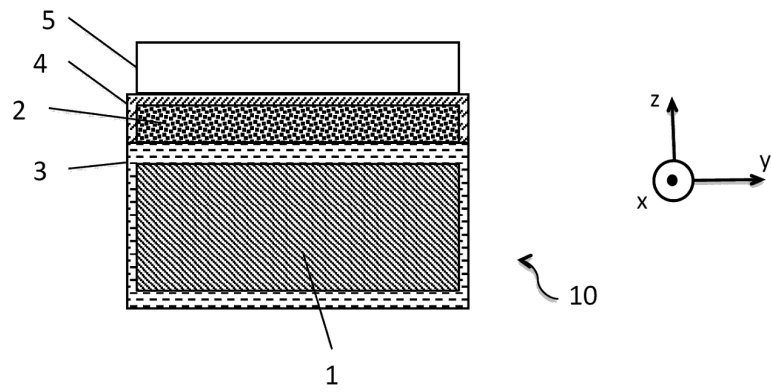


FIG.3b

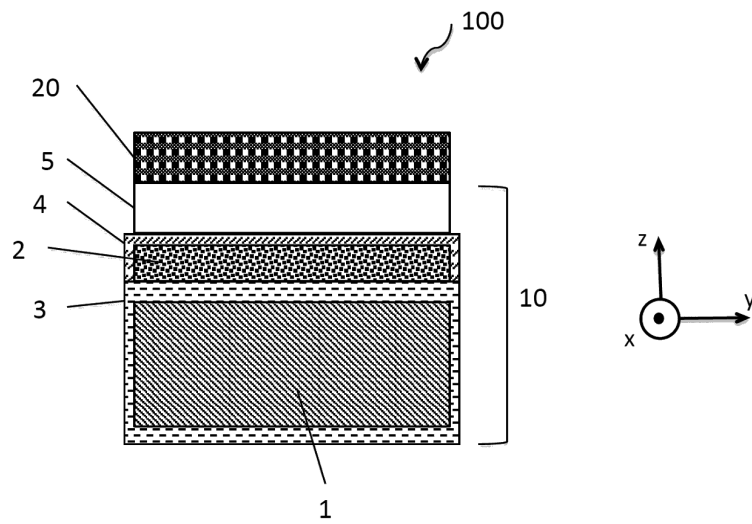


FIG.4

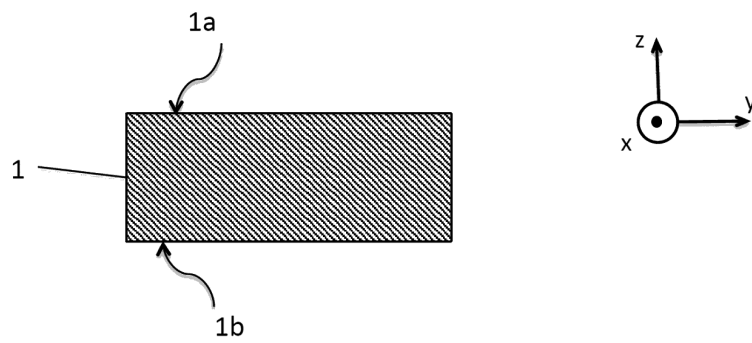


FIG.5a

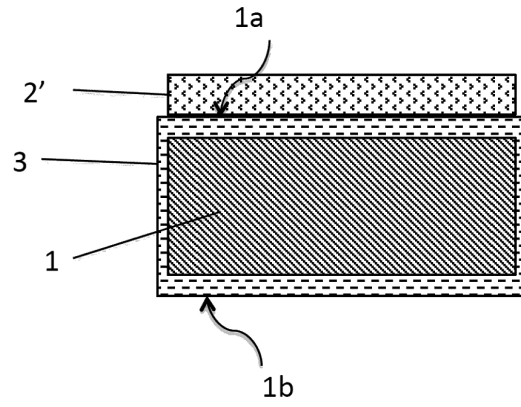


FIG.5b

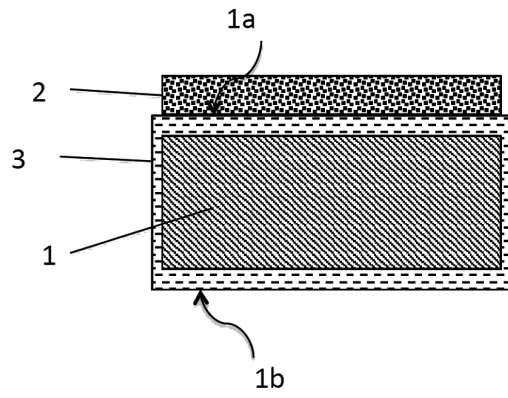


FIG.5c

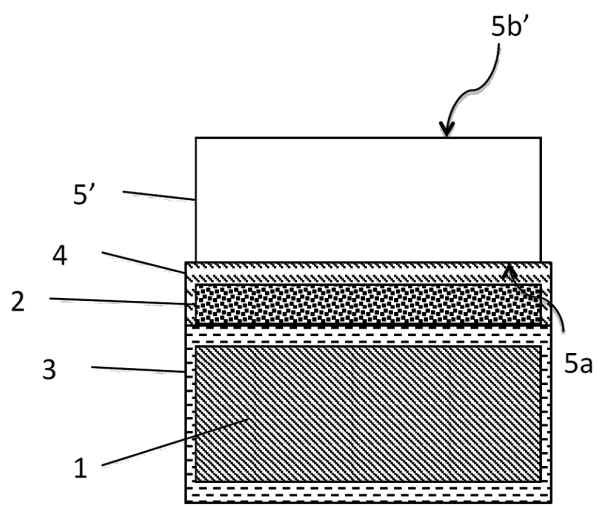


FIG.5d

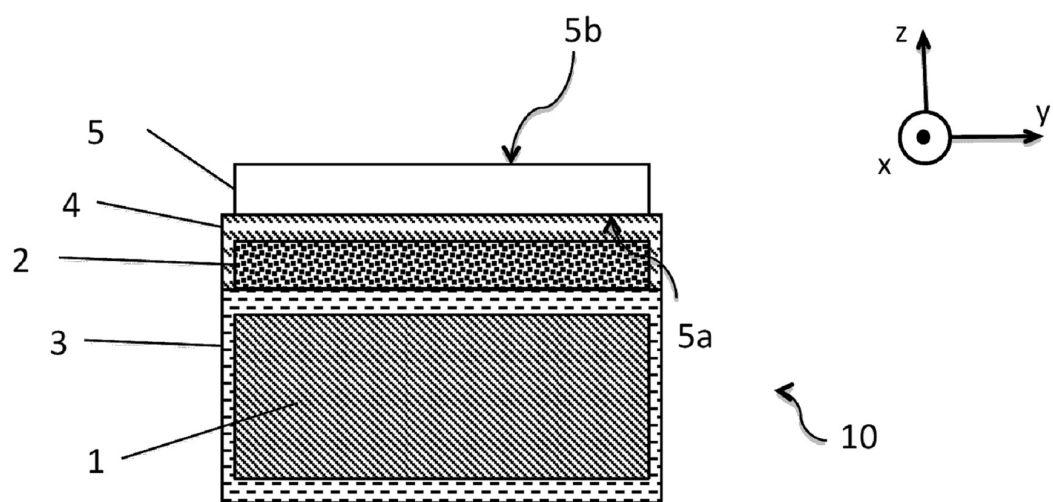


FIG.5e