ABSTRACT OF THE DISCLOSURE

There is provided a semiconductor module which comprises a high thermal conductive silicon nitride substrate 10 having a thermal conductivity of 60 w/m· k or more, a semiconductor element 7 mounted on this high thermal conductive silicon nitride substrate 10, metal circuit plates 3 which are bonded on the semiconductor element-mounted side of this high thermal conductive silicon nitride substrate 10 and single metal plate 4a which is bonded to a side opposing to the semiconductor element- mounted side of this high thermal conductive silicon nitride substrate and is bonded on an apparatus casing 9 or a mounting board. By this constitution, there can be provided a semiconductor module having a simple structure, which can be miniaturized, and having an improved structure strength and an excellent heat cycle resistance property without requiring a heat sink plate or the like.