

## ABSTRACT

A polishing pad for chemical mechanical polishing comprises a polishing layer and an adjacent subpad layer. The polishing layer includes a polishing surface, a polishing layer interface surface opposite the polishing surface, a polishing layer thickness extending from the polishing surface to the polishing layer interface surface, and recesses extending from the polishing layer surface toward the polishing layer interface surface. A depth of the recesses is at least 80% the polishing layer thickness. The subpad layer has a subpad interface surface adjacent to the polishing layer interface surface and a bottom surface opposite the subpad interface surface. The subpad layer has a thermal conductivity of 1 to 35 Watts/m-K. The combination of the deep grooves in the top layer and the thermal conductivity of the subpad layer can facilitate thermal management at the polishing interface during polishing of a substrate.

Fig. 3