ABSTRACT OF THE DISCLOSURE

Embodiments described herein relate to panel level packaging redistribution layer devices, and methods of making thereof. In one or more embodiments, a device includes a carrier layer. A base layer is disposed over the carrier layer. The base layer has a first surface contacting the carrier layer, and a second surface opposite the first surface. The second surface has a plurality of pillars disposed thereon. A via having an interconnect therein is disposed through the base layer. A silicon and nitrogen containing barrier film is disposed between the insulation layer and each of the base layer, the interconnect, and the plurality of pillars. The silicon and nitrogen containing barrier film has a thickness of about 500 angstroms to about 4000 angstroms. The silicon and nitrogen containing barrier film has a density of about 2 grams per cubic centimeter to about 2.5 grams per cubic centimeter.