NEGATIVE PRESSURE STEP PAD AIR BEARING DESIGN AND METHOD FOR MAKING THE SAME

ABSTRACT

An air bearing slider design 500 exhibiting reduced altitude sensitivity and requiring only two etch depths for ease of manufacture. The slider includes a support structure having a leading and trailing step surface 504, 508 disposed thereon. The leading step surface 504 has two side rails 510, 512 joined together at the leading edge 504 and extending toward the trailing edge 508, forming a negative pressure pocket therebetween. A front pad 502 is formed on the leading step surface 504 and a trailing pad 506 is formed on the trailing step surface 508. The side rails 510, 512 have a length that is selected for creating a predetermined negative pressure. The side rails may 510, 512 extend substantially to trailing edge 508. The trailing step surface may include trailing step surfaces adjacent the trailing edge designed to vary the effect of the negative pressure pocket.

Fig. 5