

METAL-BASED THERMAL INTERFACE MATERIAL (TIM) AND METHOD OF
PRODUCING THE SAME

ABSTRACT

5 The present invention provides a thermal interface material (TIM) for improving
heat transfer between a heat source and a cooling means. The TIM comprises a metal-
based TIM layer, including indium alloy, liquid metal, or metallic phase change material
(PCM), designed to fill microscopic gaps between the surfaces of the heat source and the
cooling solution; and a plurality of stoppers, wherein the stoppers act as mechanical hard
10 stops to maintain a fixed bond-line thickness, preventing excessive compression of the
TIM during operation. A method therefor is also provided.

FIG. 1