

ABSTRACT

HEAT SPREADERS, HEAT SPREADER PACKAGES, AND FABRICATION METHODS FOR USE WITH FLIP CHIP SEMICONDUCTOR DEVICES

A method for fabricating a semiconductor device heat spreader [300, 400, 500, 600, 1400, 1800, 2200, 2500, 3700, 5100] from a unitary piece of metallic material [302, 5102; 314; 312, 2202, 2502]. The metallic material [302, 5102; 314; 312, 2202, 2502] is stamped [5804] to form a unitary heat spreader [300, 400, 500, 600, 1400, 1800, 2200, 2500, 3700, 5100] having an upper heat dissipation region [302, 5102], a lower substrate contact region [312, 2202, 2502], and supports [314] connecting the upper heat dissipation region [302, 5102] and the lower substrate contact region [312, 2202, 2502]. A recess [800] is formed within the supports [314] and the upper and lower regions [302, 5102] [312, 2202, 2502] for receiving a semiconductor device [108]. (Fig. 3)