

OPA549 Power Tab Mounting Recommendations

- 1) Heatsink Flatness should be 50 micron or better.**
- 2) For M3 or #6 machine screw recommended mounting torque is 80Nxcm.**
- 3) Use an insulating shoulder washer if insulation from heatsink is required.**
- 4) Use a FLAT metal washer if insulation from heatsink is NOT required.**
- 5) The machine screw should be tightened to max spec in 2) to ensure good contact with the heatsink. DO NOT over-tighten the screw as the metal tab may become deformed which can break the die or separate the moulding compound from the tab or crack the case. Deformation of the metal tab, due to the machine screw being too narrow, compared with the hole in the heatsink, can also cause destructive mechanical stresses.**
- 6) When mounting the power tab to a heatsink there will be an air gap between the tab and the heatsink. Use thermal grease or Thermstrate (from Loctite), a non-insulated pad, when insulation from heatsink is NOT required. If insulation from heatsink is required use a thermally conductive, but electrically insulated pad, such as a Sil-pad (from Berquist). When using Sil-pad or equivalent, the thinner the better, to avoid stressing the mounting tab by the Sil-pad compressing unevenly between the tab and the heatsink which can cause the tab to deform.**
- 7) Reliability problems can be encountered if the heatsink and printed circuit board are not rigidly connected. Either the heatsink must be rigidly attached to the PCB or both PCB and heatsink must be rigidly attached to the chassis. If this is not done, stresses and strains due to vibration will be applied to the device, especially its lead/moulding compound interface. This problem is especially of concern when large PCBs and Heatsinks are used or in equipment subjected to heavy vibrations.**

