

AN1165 - LFLPAK56/PowerDI5060 Compatible Footprint

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This document compares the LFLPAK56 package to Diodes Incorporated’s PowerDI5060 package and provides a new footprint which can accommodate both devices while minimizing the copper area.

Note: Figures included in this document are not to scale. All dimensions given are in mm.

PowerDI5060 Footprint

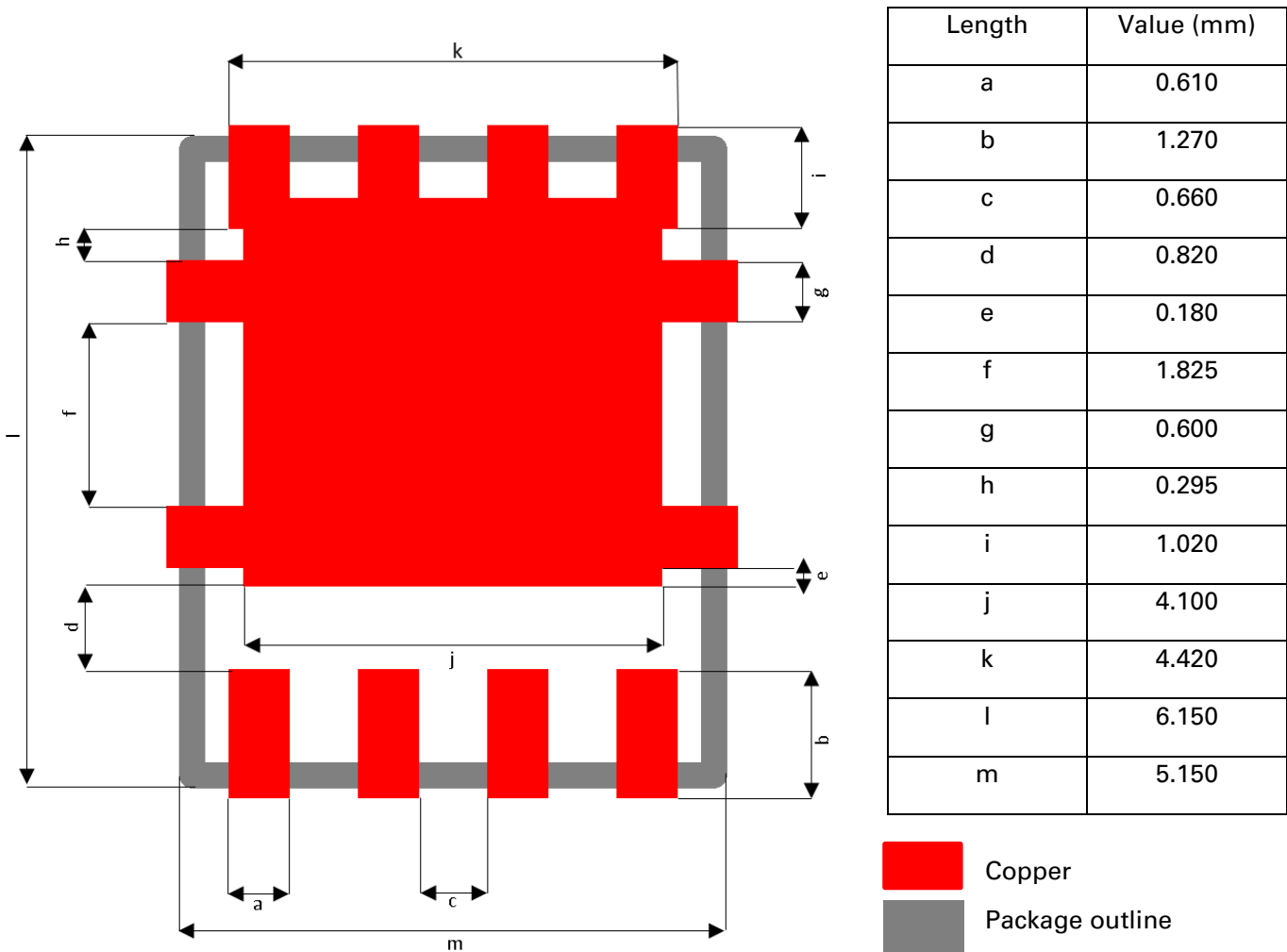


Figure 1: Diodes’ PowerDI5060 footprint
Table 1: PowerDI5060 footprint dimensions

Diodes’ PowerDI5060 footprint can be seen above. It shows four pins on top which are all connected to the central drain tab. Three of the four pins at the bottom are connected to the source while the remaining pin is connected to the gate. The package outline has been shown in grey while the pads (copper area) are shown in red.

LFPAK56 Footprint

The LFPAK56 is similar, although instead of four exposed pins connecting to the drain, there is only one large pad, as shown below:

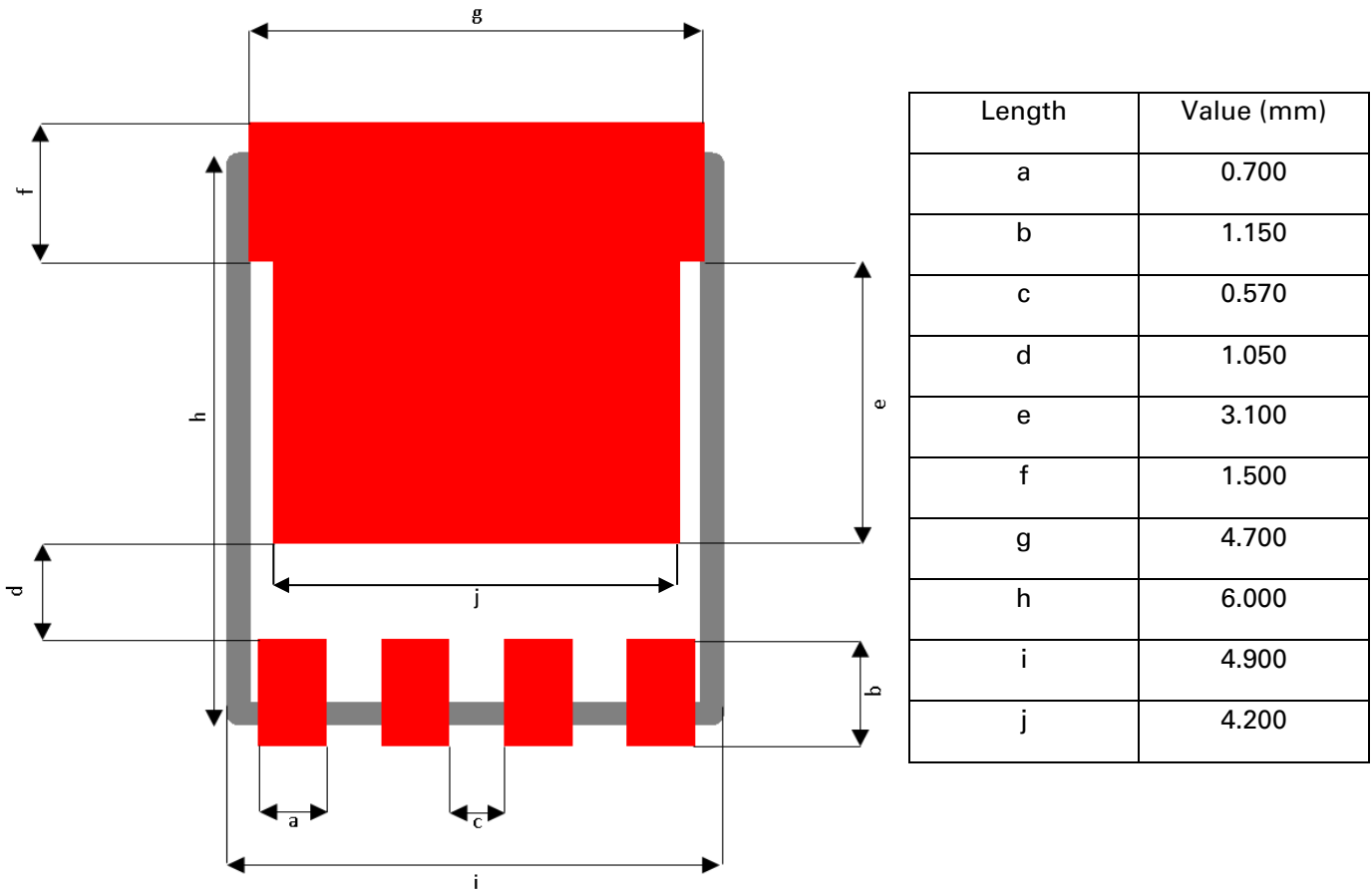


Figure 2: LFPAK56 footprint
Table 2: LFPAK56 footprint dimensions

Figures 1 and 2 show both footprints with their dimensions. The dimensions of both packages and their footprints are similar. To visualize and compare these better, Figure 3 below shows an overlapping image of both footprints.

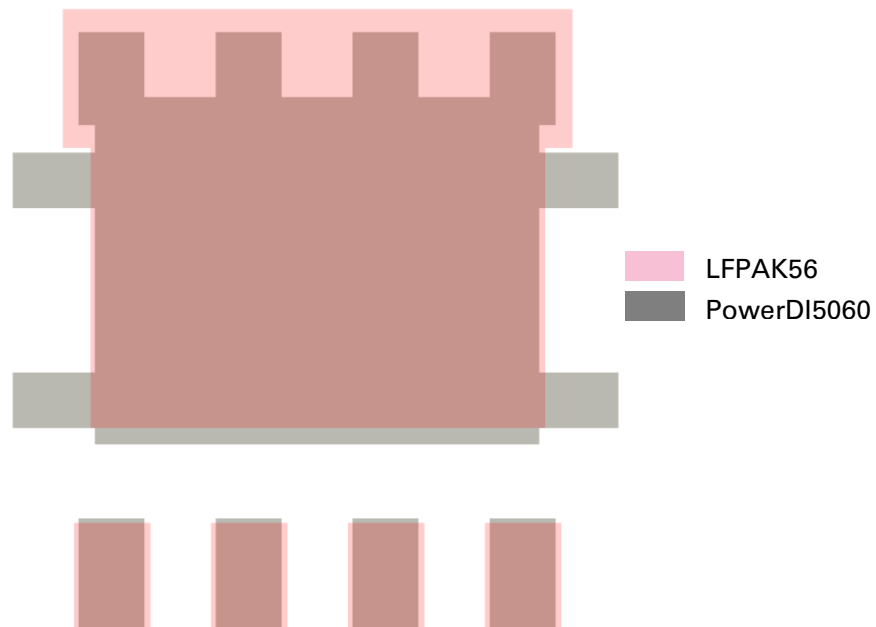


Figure 3: PowerDI5060 footprint overlapped with the LFPAK56 footprint

Compatible footprint

A compatible footprint was created by combining the two footprints above and making minor adjustments. The four drain pins in the PowerDI5060 were replaced with one large pad, as in the LFPAK56. The width of the central tab on the PowerDI5060 was increased to match the width of the LFPAK56. The widths and heights of the source and gate pins were also adjusted to accommodate both packages. The resulting footprint is shown below:

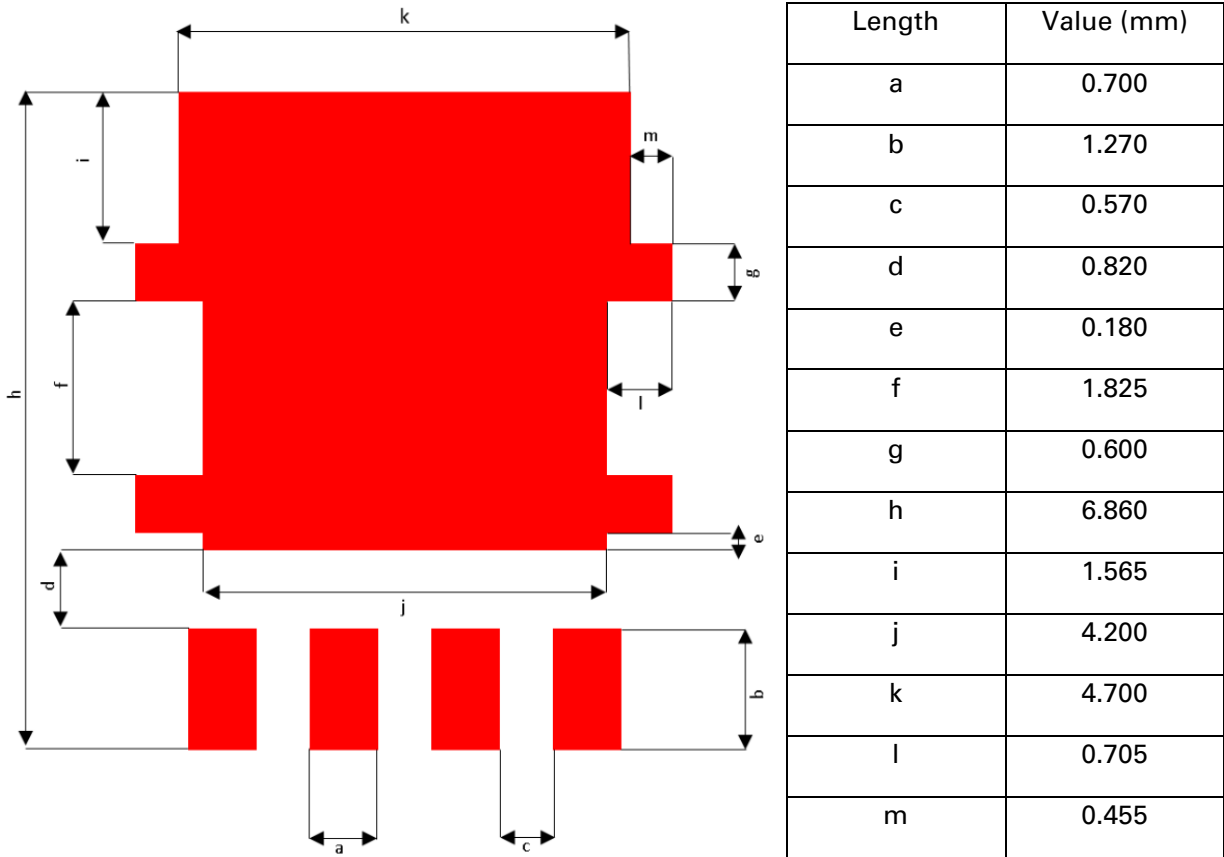


Figure 4: LFPAK56/PowerDI5060 compatible footprint
 Table 3: Compatible footprint dimensions

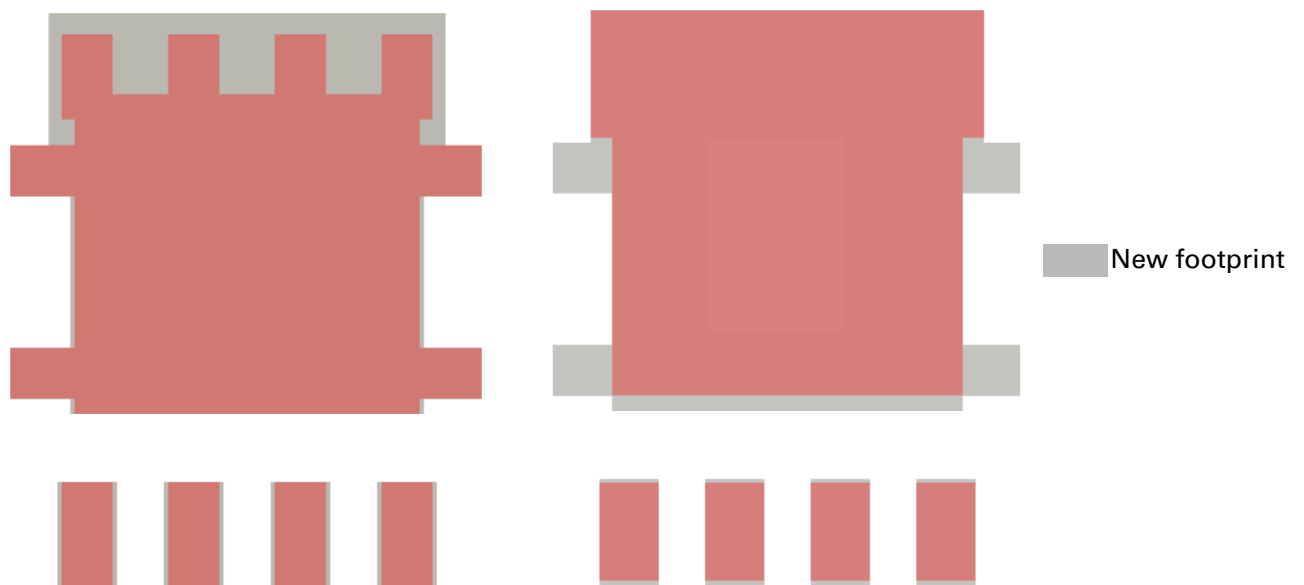


Figure 5: PowerDI5060 (left) and LFPAK56 (right) on new compatible footprint

As shown in Figure 5, both footprints are compatible with the new footprint. In Figures 6 and 7 below, both packages can be seen on the new footprint in the 3D view.

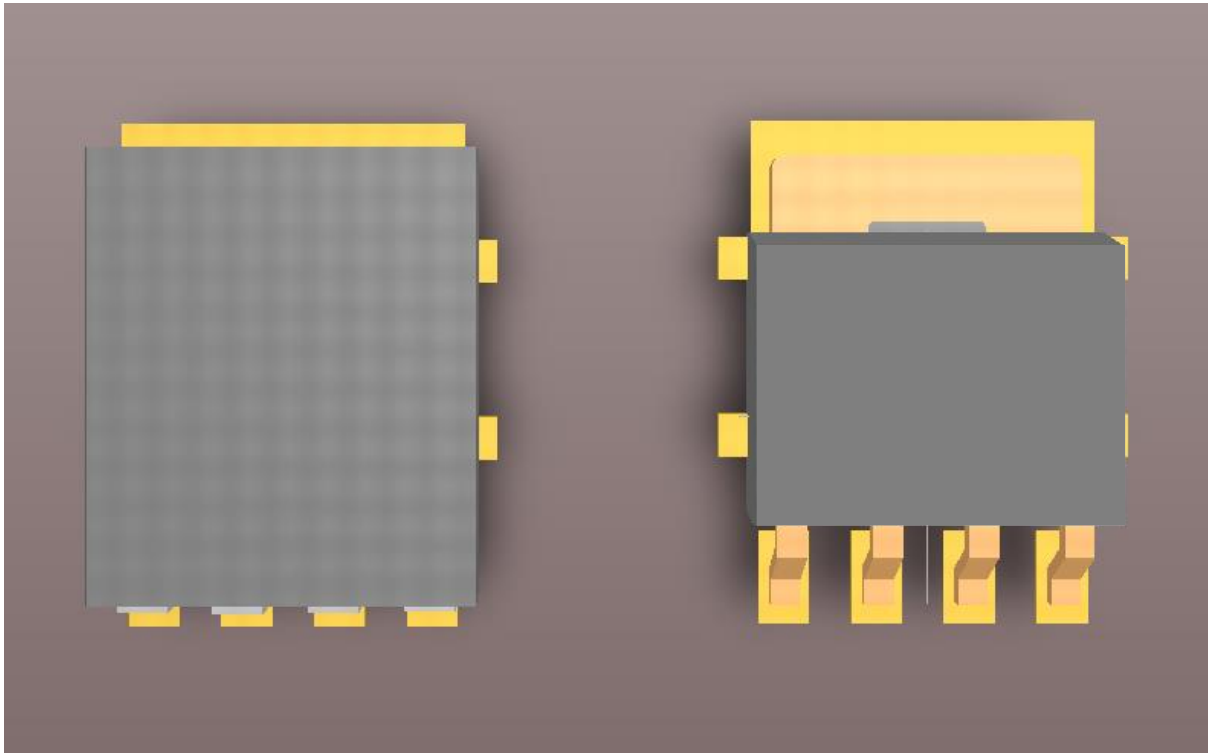


Figure 6: PowerDI5060 (left) and LFPAK56 (right) on new compatible footprint (top view)

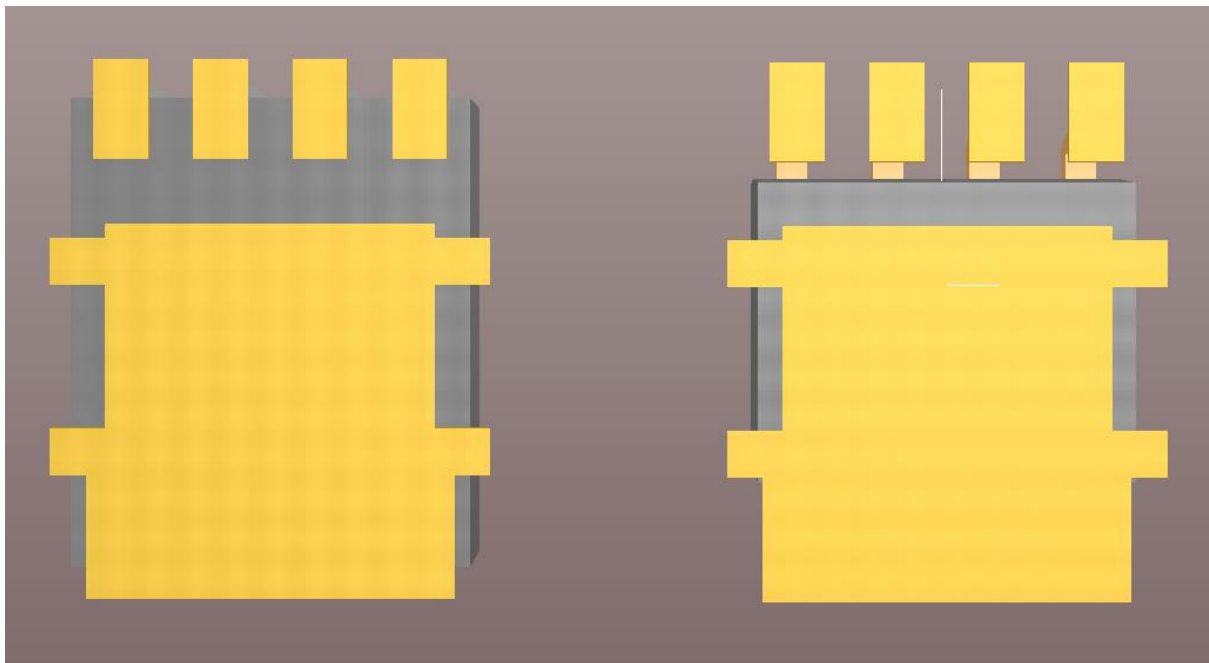


Figure 7: PowerDI5060 (left) and LFPAK56 (right) on new compatible footprint (bottom view)

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