

Axiom Electronics PCBA Design for Manufacturability Guidelines

Section: 11.3

Revision: B

Revision Date: 10/15/2023

DFM Subject: Land Pattern Design, Gull Wing Leads

DFM Requirement:

IPC-7351 and IPC-7352 Requirements for Surface Mount Design and Land Pattern Standard should be used as a guide for land pattern design. This section also contains some basic guidance for land pattern design, which is based on industry and Axiom best practice.

DFM Impact:

Land pattern design is critical to solder joint workmanship (IPC-610) and solder joint reliability. If a land is too small there may not be enough solder to form a reliable solder joint. If the land is too big it will tend to act as a solder thief; during reflow soldering it will pull solder away from the lead and form a solder joint with insufficient solder.

DFM Details: Gull wing land pattern design guidance

Gull wing land pattern design recommendations:

- Maximum land width should be 20 to 40% wider than maximum lead width
- Minimum land width should not be less than 120% of maximum lead width
- The land toe should extend beyond the lead toe by 0.5mm (.020") to 0.7mm (.028")
- The land heel should extend beyond the lead heel by 0.5mm (.020") to 0.7mm (.028")
- Use IPC-7351 and IPC-7352 as a reference for remaining land pattern dimensions

