# PRECISION DIE ATTACH
## DESIGN RULES & GUIDELINES

Samtec Microelectronics Group provides extensive advanced package design and assembly capabilities as well as the ability to assist in choosing the best technology and materials for your specific application.

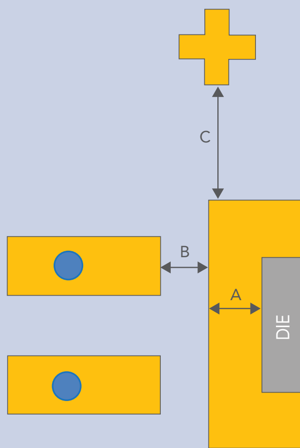
In addition to substrate and package design, flip chip, die attach, wirebond and sealing, our capabilities also include thermal management, wafer dicing, lid attach and marking. Visit www.samtecmicroelectronics.com for additional information.

The following dimensions are guidelines designed to help release product to manufacturing as quickly as possible. Full capabilities are not limited to the specifications included in this document. Please contact SME@samtec.com for applications with tighter requirements.

### TYPICAL DIE ATTACH STRUCTURE & SPECIFICATIONS

- Minimum distance between surrounding square of fiducial and neighboring objects must be 0.048 mm
- Gray level contrast between background and fiducial must be a minimum of 100 gray levels out of 256
- Background of fiducial must not have a structure and background must be single-colored gray level
- Maximum die size for dipping: 50 mm x 50 mm
- No waffle-pack handling for die < 1 $mm^2$
- Maximum length to width ratio for components: 5:1
- Saw kerfs must be at least 25 µm and into the dicing tape (through the entire wafer thickness)
- Die attach materials can be non-conductive, conductive, die-attach-films (DAF) and solder preforms; other processes can be discussed per customer requirements

### TOP DOWN




### DIE ATTACH REQUIREMENTS (TYPICAL)

| | DESCRIPTION | ORGANIC (min) INCHES (µm) | CERAMIC (min) INCHES (µm) |
|---|---|---|---|
| | Minimum Die Size | 0.010" (250) | 0.010" (250) |
| A | Overlap of Die Attach Ground Plane to Die Edge | 0.020" (500) | 0.020" (500) |
| B | Space Between Die Attach Ground Plane to Wirebond Pad | 0.020" (500) | 0.020" (500) |
| C | Space Between Fiducial Edge to Die Attach Ground Plane Edge | 0.010" (250) | 0.006" (150) |

For more IC Packaging solutions, please visit www.samtecmicroelectronics.com or contact SME@samtec.com.

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