GS61008P Material Considerations:

Current total height: 0.515mm

* Dieletric:
  + Materials Considerations:
    - What it surrounds (~3 surrounding layers and 1 top layer over the die, all with even thicknesses):
      * Mechanical die attach: 0.01 mm
      * GaN-on-Si die: .3 mm
      * Vias: Thickness not important
    - Total thickness of dielectric fill: .31mm
    - FR4 High-TG
      * Datasheets For consideration from different companies:
        + [de12f19bbbc3710cf42206ad9f8957bd.pdf](https://datasheet.datasheetarchive.com/originals/crawler/circuitboards.com/de12f19bbbc3710cf42206ad9f8957bd.pdf)
        + [PCB Material Default Values – FR4](https://www.multi-circuit-boards.eu/fileadmin/user_upload/downloads/leiterplatten_design-hilfe/e_multi_cb_material-standard-values.pdf)
        + [RO4000 (RO4350B RO4003C) Series High Frequency Circuit Materials Data Sheet](https://pcbwayfile.s3.us-west-2.amazonaws.com/web/230612/RO4000%20Laminates%20RO4003C%20and%20RO4350B%20-%20Data%20Sheet.pdf)
      * Type: Rogers R04003/R04350B
        + Thickness: .10mm to 1.52mm (**MINIMUM THICKNESS FITS!):**
        + Data Sheet: [RO4000 (RO4350B RO4003C) Series High Frequency Circuit Materials Data Sheet](https://pcbwayfile.s3.us-west-2.amazonaws.com/web/230612/RO4000%20Laminates%20RO4003C%20and%20RO4350B%20-%20Data%20Sheet.pdf)
    - Polymide:
      * Polymides vs FR4: [What is the Difference between FR4 and Polyimide PCB](https://www.mclpcb.com/blog/polyimide-pcb-material-information-fr4-vs-polyimide-pcb/)
      * Type: All-Polyimide Double-Sided Copper-Clad Laminate
        + Source: [Pyralux® AP](https://www.dupont.com/electronics-industrial/pyralux-ap.html)
        + Datasheet: [Pyralux® AP All-Polyimide Double-Sided Copper-Clad Laminate](https://www.dupont.com/content/dam/electronics/amer/us/en/electronics/public/documents/en/EI-10124-Pyralux-AP-Data-Sheet.pdf)
        + Datasheet: [e\_dupont\_pyralux-ap-polyimid\_www.multi-circuit-boards.eu.pdf](https://www.multi-circuit-boards.eu/fileadmin/pdf/leiterplatten_material/e_dupont_pyralux-ap-polyimid_www.multi-circuit-boards.eu.pdf)
        + Thickness: On paper, whatever size we need (**MIN THICKNESS FITS!)**
      * Type: Panasonic Laminate R-5775
        + Source/DataSheet: <https://industrial.panasonic.com/content/data/EM/PDF/ipcdatasheet_R-5775.pdf>

Another similar one: [R-5775(G)/R-5775(G) | Panasonic Industrial Devices](https://na.industrial.panasonic.com/products/electronic-materials/circuit-board-materials/lineup/megtron-series/series/127603/model/144668)

* + - * + Thickness: On paper, whatever size we need (**MIN THICKNESS FITS!)**
* Soldermask:
  + Type: Solder Mask Defined (SMD)
    - Solder mask best practices: [GaN Designs Schematic & Recommended Layout | GaN 1st Time Right |EPC](https://epc-co.com/epc/design-support/gan-first-time-right/schematic-and-layout)
    - Thickness: 25um (1 mil)
    - Material: 97.5Sn / 2.5%Ag
    - Source: [How2AppNote008 - Designing PCB Footprint eGaN FETs ICs.pdf](https://epc-co.com/epc/Portals/0/epc/documents/application-notes/How2AppNote008%20-%20Designing%20PCB%20Footprint%20eGaN%20FETs%20ICs.pdf)

[PCB Material Search | Northwest Engineering Solutions (Portland, OR)](https://www.nwengineeringllc.com/pcb-material-search/?page=1&material=FR-4&stype=High+Temp#box-1711514136)

[PCB Materials Datasheets | Northwest Engineering Solutions (Portland, OR)](https://www.nwengineeringllc.com/resources/pcb-materials-datasheets.php)

[RO4000 (RO4350B RO4003C) Series High Frequency Circuit Materials Data Sheet](https://pcbwayfile.s3.us-west-2.amazonaws.com/web/230612/RO4000%20Laminates%20RO4003C%20and%20RO4350B%20-%20Data%20Sheet.pdf)