

# Three-Terminal Low-ESL Multilayer Ceramic Capacitor

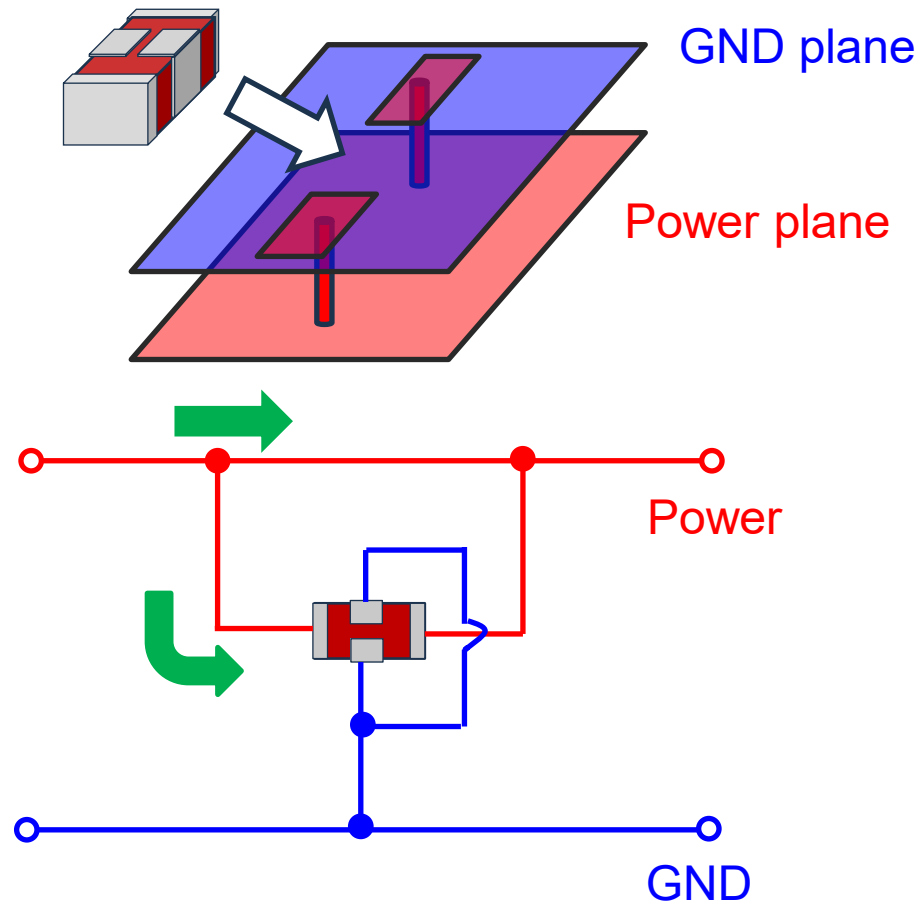
Explanation of No-Feedthrough Connections

# Use of three-terminal capacitors in no-feedthrough connections

- The S-parameters of our three-terminal low-ESL multilayer ceramic capacitors (MLCCs) are derived from measurements using no-feedthrough connections.
- For decoupling applications, it is optimal to use no-feedthrough connections for three-terminal low-ESL capacitors.
- In noise suppression filtering, feedthrough connections—where capacitors are inserted by cutting the line—are typically recommended for three-terminal capacitors. However, in power supply lines, the parasitic resistance and inductance of these capacitors tend to induce instantaneous voltage drops.
- To prevent this issue, it is recommended to connect three-terminal capacitors between the power supply line and GND for decoupling, in the same manner as standard decoupling capacitors, without cutting the power line. These are referred to as no-feedthrough connections.  
⇒ Please refer to the next page for the diagram of no-feedthrough connections.

# Diagram of No-feedthrough Connections

## Capacitor in no-feedthrough connections



The power plane is connected so that current flows through both the planes and the capacitor.

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