















Common Mode ChipChoke™ Application



Applications

-  **USB 3.0**
-  **IEEE1394**
-  **LVDS**
-  **HDMI™**
-  PC Main Boards and Notebook PC's
-  Gaming Stations
-  Cable Modems
-  DVD Recorders
-  LCD and PDP Monitors
-  PLC Modems
-  Digital TV
-  Digital Cameras
-  FTTP
-  Cell Phones

ChipChoke™ Offering and Benefits

0805 (Epoxy Coating)

- Small footprint design - ideal for high-density board
- Greater impedance at high frequencies than 0805 with magnetic shield

0805 (Magnetic Shield)

- Small footprint design - ideal for high-density board
- Higher inductance with good performance, lower DC resistance and greater current handling (than unshielded)
- Greater impedance, overall, than 0805 with epoxy coating

1206 (Magnetic Shield)

- Standard footprint features
- Higher inductance with good performance, lower DC resistance and greater current handling (than 0805 series)
- Greatest impedance

Technology Overview

While USB and IEEE 1394 seem similar, they are intended to fulfill different market and cost needs. IEEE 1394 has the potential to move more data in a given amount of time, but is considerably more expensive than USB due to its more complex protocol and signaling rate. Applications that are best suited for IEEE 1394 are high quality consumer or professional video streams and other high bandwidth entertainment applications. USB is appropriate for high and low bandwidth computer peripherals such as mass storage, video, audio, scanners, printers, keyboards, and just about any peripheral.

Low Voltage Differential Signaling (LVDS) is a low noise, low power, low amplitude method for high-speed (gigabits per second) data transmission over copper wire.

High-Definition Multimedia Interface (HDMI) technology provides a single-cable interface between an audio/video source or receiver, such as a set-top box or DVD player, and an audio/video monitor or receiver, such as a digital television.

Circuit Features

Why used... To eliminate common mode noise in high-speed, differential mode signal transmission applications such as USB 3.0, IEEE1394 and LVDS.

Where used... On boards where EMI requirements must be met. ChipChoke™ provides filtering between the circuits and external connectors.

Why used... ChipChoke™ is ideal for high-density boards where space is at a premium.

Circuit Diagram

