California Micro Devices Announces New PicoGuard® Low Capacitance ESD Protection Array for High Speed Serial Interfaces

California Micro Devices
MILPITAS, Calif., — Aug. 18, 2009 — California Micro Devices (NASDAQ: CAMD) today announced the *PicoGuard* CM6100, a low capacitance electrostatic discharge (ESD) device providing two channels of 15 kV protection for USB 2.0 Hi-Speed interfaces and for LVDS (low voltage differential signal) and emerging serial interfaces such as MIPI® (Mobile Industry Processor Interface) used in handsets and other mobile devices. The CM6100 is based on CMD's *PicoGuard* line of ESD protection products, providing industry leading low levels of dynamic resistance, clamping voltage and insertion loss. Utilizing a space efficient 0.4mm pitch chip scale package (CSP), the CM6100 combines industry leading performance with significant space and cost savings to deliver enhanced customer value for today's most advanced mobile handset designs.
"With strong consumer demand for smart phones, handset designers have to deal with providing robust ESD protection for an increasing number of high speed serial data interfaces, while managing their designs within tight form factor and bill of material budgets" said Kyle Baker, vice president of marketing for California Micro Devices. "The *PicoGuard* CM6100 simplifies this design challenge by offering robust protection and superior signal integrity in a compact, low cost package."

Differential Pair Protection

High speed serial interfaces such as USB and MIPI use pairs of low voltage differential lines to communicate at very high speed between the baseband processor and external USB peripherals or internal high resolution displays and cameras. These interfaces are highly susceptible to ESD damage and require a high level of digital signal integrity. This can be a challenging tradeoff for designers using existing ESD solutions. Their high levels of capacitance, necessary for them to achieve robust ESD protection, can interfere with sensitive digital signal integrity. The CM6100 is the industry's first solution that provides robust 15kV air discharge ESD protection with sub 1.5pF capacitance, meeting the requirements for these high speed serial interfaces.

Delivering robust ESD protection requires much more than achieving compliance with industry standards. Standards define the level of ESD a protection solution can withstand before failing, but do not characterize the level of residual current that passes through the diode and reaches the device under protection. The CM6100 features industry leading low dynamic resistance and clamping voltage specifications, important system level considerations that define how quickly the internal diode reacts to an ESD strike and how much residual current passes through the protection device.

Device Specifications

The CM6100 provides protection for two differential channels, offering ESD protection ±15kV contact discharge per the IEC61000-4-2 standard. Key features include:

- Very low line capacitance (<1.5 pF)
- Industry leading 15 kV air discharge ESD protection
- Low dynamic resistance of 0.7 ohm
- Low 9.8v typical clamping voltage
- Low insertion loss
- Compact, easy to route form factor
- Low cost chip scale packaging

Packaging, Pricing and Availability

The CM6100 is available in 0.4mm pitch CSP (0.8mm x 0.8mm). Samples are available now and are priced at $0.08 each in quantities of 1000 units. The device is currently shipping in mass production.

SOURCE [1]

Links:
[1] http://www.cmd.com/news_events/pressreleases/pr_081809b.php