# News Release News Release News Release News

## New EPCOS CeraDiodes® provide advantages over TVS diodes

- **As much as 50% lower cost**
- **Smaller package size or drop-in replacement**
- **Bi-directional**
- **Stable parasitic capacitance offers RFI-filtering**
- **Faster response time <0.5ns**
- **Lower leakage current**
- **Better temperature stability up to 85°C**
- **Easier, more accurate pick and placement**

EPCOS has developed CeraDiodes®, a new series of ceramic semiconductors for advanced electro-static discharge (ESD) protection of consumer electronic equipment.

CeraDiodes® are transient voltage suppressors constructed of multilayer-structured ceramic oxides. Each layer consists of many zinc oxide grains. Where the zinc oxide grains meet, a micro CeraDiode® comparable to a Zener diode is formed. With the high amount of micro CeraDiodes® present, the robustness of this protector against ESD by far surpasses that of a silicon TVS diode, where only a PN junction is available.

The EPCOS series includes a variety of single-element CeraDiodes® in 0603 size, which is one-third the size of most TVS diode packages. [A series of four-element arrays in 0508 size is under development, with prototypes available).] The CeraDiode® spectrum spans DC working voltage 5.6V to 22V and capacitance values from 2pF to 470 pF.

EPCOS CeraDiodes® provide bi-directional protection, response times of less than 0.5 ns, low leakage current and temperature stability to 85°C. In addition, their stable capacitance can be used as a filter for high frequency noise, allowing the CeraDiode® to provide RFI-filtering and ESD protection with one component instead of several. CeraDiodes® are also easier to pick and place than TVS diodes, minimizing failures caused by misorientation. In addition, CeraDiodes® cost up to 50 percent less than TVS diodes!

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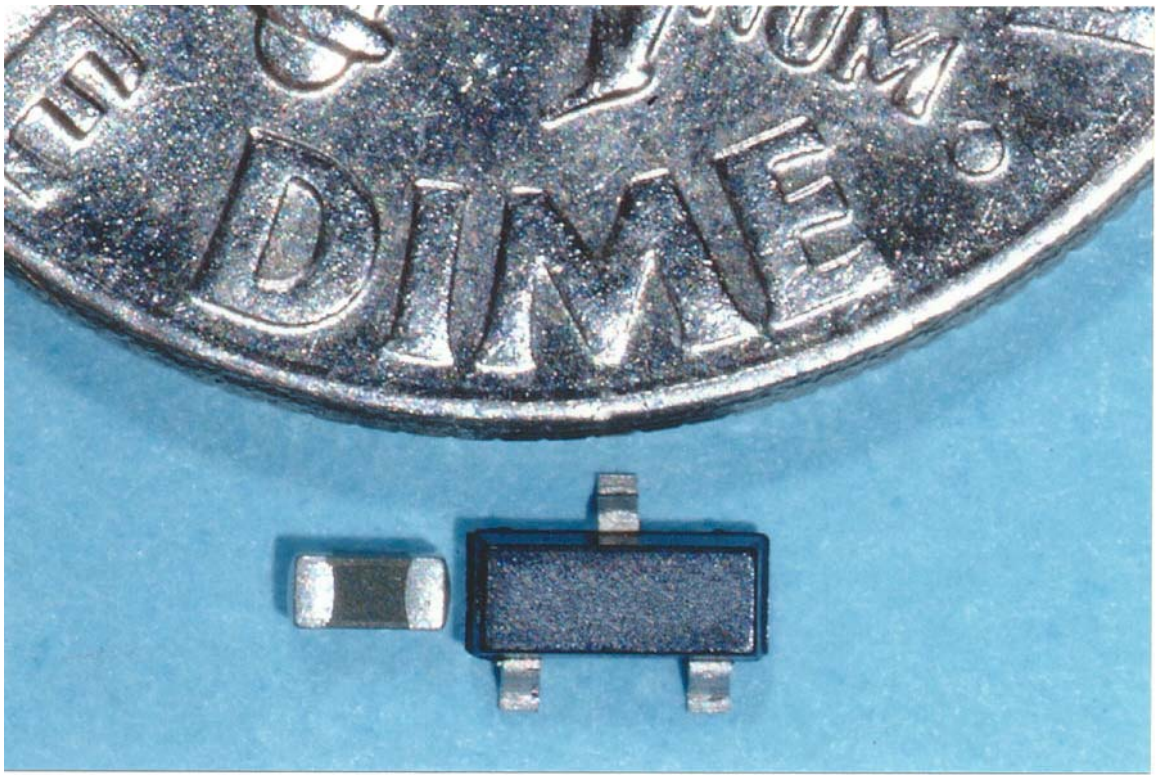


**The EPCOS CeraDiode®** is one of a new series of ceramic semiconductors that offers more advanced electrostatic discharge (ESD) protection of consumer electronic equipment than TVS diodes. The EPCOS series includes a variety of single-element CeraDiodes® in 0603 size, which is one-third the size of most TVS diode packages. The CeraDiode® spectrum spans DC working voltage 5.6V to 22V and capacitance values from 2pF to 470 pF. EPCOS CeraDiodes® provide bi-directional protection, response times of less than 0.5 ns, low leakage current and temperature stability up to 85$^{o}$C. In addition, their stable capacitance can be used to filter high frequency noise, allowing the CeraDiode® to provide RFI-filtering and ESD protection with one component instead of several. CeraDiodes® are also easier to pick and place than TVS diodes, minimizing failures caused by misorientation, and save as much as 50% of the cost of TVS diodes!