



**Global and China Circuit Protection  
Component Industry Report, 2011-2012**

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## Abstract

The application of circuit protection components in electronic products such as mobile phone and notebook has been very mature. Benefitting from the burgeoning of application fields such as high power LED lighting, lithium battery and automotive electronics, the application of circuit protection components is increasing and expanding. During 2007-2010, the CAGR of circuit protection component market registered 9.5%, while that of passive component market merely achieved 1.1%.

Circuit protection components include electromagnetic interference (EMI), overvoltage protection (OVP) and overcurrent protection (OCP) components. OVP has the most application in mobile phone and the highest gross margin, while OCP sees the smallest application and relatively lower gross margin.

Global and China Circuit Protection Component Industry Report 2011-2012 focuses on the following aspects:

- ◆ Classification, application, and development trend of circuit protection components;
- ◆ Development and competition pattern of circuit protection component market in China and worldwide;
- ◆ Market development and trend of circuit protection component in the application fields such as communication, lithium battery, and mobile terminal;
- ◆ Profile, product mix, main clients, profitability and development plans for the next two years of key circuit protection component enterprises in China and worldwide.

Polymeric positive temperature coefficient (PPTC) device, a thin and light intelligent material, has become the main development trend of OCP. Main PPTC manufacturers are European and American companies, including Raychem, Bourns and Littelfuse, among which, Raychem holds approximately 70% of the global market. PPTC manufacturers in Taiwan include Polytronics, INPAQ, FUZETEC and Protectronics, among which, Polytronics is the largest SMD PPTC manufacturer in the world, with about 40% market share.

Varistor is the main OVP product, and major varistor manufacturers are concentrated in Japan, South Korea and Taiwan. Japanese TDK acquired German EPCOS in 2008. Varistor manufacturers in Taiwan include Thinking Electronics and INPAQ.

Mainland Chinese manufacturers of circuit protection component are mainly low-end manufacturers with low profitability due to fierce price competition. High-end customers prefer products and solutions provided by overseas enterprises.

In the field of circuit protection components for communication, overseas manufacturers have pulled out from the market basically. Dongguang Micro-Electronics, Changzhou Guangda Electron Co., Ltd., and Hubei Hanguang Technology Co., Ltd are among the key players in the industry. In China, Dongguang Micro-Electronics has taken the lion's share in the market of protection power component for communication use for years.

Changyuan Wayon, a subsidiary of Changyuan Group Ltd. (600525.SH), is the largest ESD protection component manufacturer in China and is one of the few suppliers mastering core technology of PTC protection component in the world. In Apr. 2011, Changyuan Wayon invested in the project of core protection component for lithium battery, with annual capacity of one billion pieces.

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