

华新科技『可与铜及其合金进行共烧制作的介电陶瓷组成物』专利荣获经济部智慧财产局101年国家发明獎

华新科技『可与铜金属共烧介电陶瓷组成物』以其积层式电子陶瓷组件低温共烧材料方面改革，荣获经济部智慧财产局101年国家发明獎银牌，由专利主要发明人朱立文副理代表受獎。

随着无线网路设备、行动电话、PDA、蓝牙耳机、基地台与人造卫星等电子通讯产品的普及，高速传输频率的通讯设备需求激增，使得具备高讯号质量与低能量损耗特性，即“低等效串聯电阻(low ESR)及优越的高频率特性(high Q)”之高频通讯用积层陶瓷电容器(RFMLCC)，成为近年來电子陶瓷组件发展上的重要研发项目。



然而，为达此目的，业界普遍使用银或钯等贵金属作为与陶瓷材进行共烧，制作积层式陶瓷组件，以致成本始终偏高。华新科技经多年研发，成功开发『可与铜及其合金进行共烧制作的介电陶瓷组成物』，为一新式微波介电陶瓷材料系统，以『铜电极』取代银电极，不仅保有原导电特性，材料成本亦随之下降，并克服铜电极在共烧过程易发生氧化反应，与陶瓷材达到绝佳的烧结匹配性，乃一兼顾成本竞争力与量产可行性之陶瓷材料系统。本材料专利发明不含铅与卤素成分，加上铜电极本身具有低阻抗与低耗能特性，皆符合绿色环保(RoHS)及节能的需求，使得此发明成为环保节能电子陶瓷产品的重要材料基础。

目前，此材料已成功导入华新科技高频用NP0型MLCC产品(RF系列)，并陸續建立多种不同尺寸(01005~0805)、不同电容值(0.1~100pF)与耐电压规格(16~500V)之系列产品，成为国内唯一有力量产具内埋铜电极MLCC的制造商。

关于华新科技

成立于1992年，华新科技凭借着完整的产品选择与遍布全球的供货平台，乃被动组件产业的领导品牌。

致力于微型化、高成本效益、绿色环保、安规与防电磁波干扰/静电(EMI/ESD)、无线射频装置(Wireless RF devices)以及各式特殊产品开发，华新科技产品线包括积层陶瓷芯片电容(MLCC)及芯片排容(MLCC Array)、芯片电阻(Chip-R)及芯片排阻(Chip-R Array)、圆板电容(DISC)、射频组件(RF Components)、氧化锌变阻器(Varistor)、电感(Inductor)、芯片保险丝(Chip Fuse)。

生产基地布局于亚太地区，供货网络遍布全球，华新科技提供各种终端应用最优质的被动组件产品。从客制设计到生产阶段，华新科技无疑是您完整被动组件解决方案的首选。

Walsin Technology material formula of RF MLCC honored with national innovation award

Walsin Technology Corporation, Inc. (TSE: 2492) announced that its copper co-firable ceramic system was awarded with the silver medal of National Invention Award from Intellectual Property Office. The award was received by Li-Wen Chu, the main inventor and R&D Manager of Powder Dept.

With the growing popularity of wireless communication, the demand of high-speed transmission has largely increased for devices like mobile phones, PDAs, Bluetooth headsets, base stations and satellites. Such demand thus propelled the development of multilayer ceramic capacitors with high communication frequency and low energy consumption, the so-called "high Q, low ESR " in technical terms.



However, to achieve low ESR and high Q, the industry generally uses noble metal such as silver or palladium as electrode, resulting in the high price of ceramic material systems. Through years of dedicated research and development, Walsin Technology has successfully formulated the "dielectric ceramic composition capable to be co-fired with copper and its alloys " - a new microwave dielectric ceramic material system with silver electrode replaced by copper. The new ceramic material system not only maintains the original characteristics of the silver electrode, but also decreases in material costs. Based on this invention, the ceramic components possess excellent dielectric characteristics at high frequency with low energy consumption, in other words, this novel material system also takes production cost, manufacturing feasibility and green (RoHs) compliance into account.

The new ceramic material has been successfully applied to its NP0 type MLCC (RF-series) and introduced to high-frequency applications. So far, Walsin Technology has continually developed a variety of products ranging from 01005 to 0805 in size, 0.1 ~ 100pF in capacitance, and 16 ~ 500V in voltage for this new product line. The company is now the only manufacturer in Taiwan and China capable of manufacturing copper-electrode embedded MLCC in a massive scale.

About Walsin

Incorporated in 1992, Walsin Technology Corporation (WTC) is a world leading brand of passive components with one-stop shop product portfolios and worldwide delivery platform.

Focusing on miniaturization, cost effective, environmental friendly, safety certified, EMI/ESD protection, Wireless RF devices, and assorted specialty, Walsin's product lineup includes Multiple-Layer Ceramic Chip (MLCC) capacitor/array, Chip-Resistor/array & networks, RF Components, DISC Capacitor, Varistor, and Chip Fuse.

Production centers strategically located around Asia Pacific, WTC manufactures high quality products to serve various end-use applications via its global logistics and warehouse network. From customized design in phase to production planning, Walsin is no doubt the ultimate choice for total passive solutions.