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## **Evolution on Lead Solder Alloy for Electronic Packaging**

In modern microelectronic technology, soldering continue to play an important role. In this paper, the evolution of solder alloy from lead solder to latest research on lead-free solder will discussed. The discussion included characteristic for various types of solders, melting temperature, wettability and the microstructure of the solder. In this paper, the discussion about the influence of additional particle in solder alloy as the latest research also included.

### **Biography**

Assoc. Prof. Ts. Dr. Ervina Efzan currently, Deputy Director Research Management Centre in Multimedia University. She completed her PhD in Materials Engineering (Advanced Materials) from the Universiti Sains Malaysia. Her research is focused primarily to soldering, intermetallic and alloys, aluminium foam and nanostructured metal fabricated by powder metallurgy, mechanical alloying, nanomaterial and solar energy. Dr. Ervina's research interest also covers metal joining and soldering techniques. She has more than 30 international publications including chapter in books, book and one Malaysian Patent.

Dr. Ervina has received awards from Global Women Invention & Innovation Network (GWIIN) 2019, Telekom Malaysia; GCEO Award 2017, Kristal Award and Green Award 2017 and 2018 by Melaka State, Malaysia. In addition, she has received many other awards for her research such as Special Award from Thailand Innovation Association, Romanian Forum Inventor and World Invention Intellectual Property Associations. Currently, Dr. Ervina is actively involved as reviewer in journals including Journal of Alloys and Compound, Powder Metallurgy, Materials Science and Technology, Soldering and Mount technology and Solar Energy. She is also actively involved in consultancy for various government institutions and private companies including conducted training courses for Dyson Sdn. Bhd., CTRM Sdn. Bhd., Infineon Sdn Bhd and Ministry of Health, Malaysia.