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Cover Story

In its solder business, Senju Metal Industry Co., Ltd. (SMIC) offers a wide range of flux products indispensable for semiconductor packaging in accordance with different purposes and applications. These products are available in addition to alloy products.

The company's extensive lineup of fluxes include low-volatile fluxes that do not contaminate furnaces and can be washed with water; no-residue fluxes that omit the cleaning process; various fluxes that promise good wettability on low-priced Cu-organic solderability preservative (Cu-OSP) substrates; and fluxes that solve the problem of the depression of solder balls in flip-chip packaging.

SMIC introduced these products at SEMICON Taiwan 2012, which was held in September 2012 in Taiwan. They drew a lot of visitors' attention at the show.

The company also introduced various alloys. They include M61 solder



The photo was taken in front of SMIC's booth at SEMICON Taiwan 2012. (From left) Lewis Huang, Deputy General Manager, Senju Metal Industry Co., Ltd. Kaohsiung Branch; Tetsuya Okuno, Manager, Research & Development Technical Center, Senju Metal Industry Co., Ltd.; and Masaharu Okuno, General Manager, Senju Metal Industry Co., Ltd. Kaohsiung Branch.

ball with excellent drop impact resistance for use in mobile devices,

such as smartphones; chip solders for strengthening bonding at pads and through-hole section, where the amount of solder tends to become insufficient; M53 solder paste and M60 solder ball with excellent thermal fatigue resistance for automotive application and power modules; M40 low-silver (Ag) solder with a track record of one year since it was adopted for TVs and low-Ag M46; and L23 tin-bismuth (Sn-Bi)-based solder paste, which allows low-temperature packaging at 180°C.

Also on show in SMIC's booth at SEMICON Taiwan 2012 included copper (Cu)-core solder ball for three-dimensional (3D) packaging, which secures the space in embedded substrates; precoat by powder sheet (PPS) solder for transfer, which achieves narrow-pitch packaging; and nano silver paste, which allows low-temperature sintering and does not melt in high temperatures.