

Characteristic of ACF film depending on variation of bonding method and process

김기영*

한국생산기술연구원

(kykim@kitech.re.kr*)

The study on bonding of electronic components using the material of NCP, ACP and ACF has been in process. ACF(Anisotropic Conductive Film) is designed to mix the conductive element into resin so as to have electricity flow a single direction. This study was intended to evaluate the variation in dispersion of conductive ball before and after bonding ACF depending on bonding process parameters and method including pressure, temperature and time. Semiconductor chip was bonded to transparent PC(poly carbonate) sheet and dispersion of conductive ball before and after bonding was monitored using optical microscope. Though there's a variation depending on bonding process parameter during thermal bonding, number of conductive ball remained per unit area after bonding reached 30% of the number before bonding. When it comes to ultrasonic bonding, number of conductive ball remained per unit area after bonding reached 60% of the number before bonding. Both in thermal bonding and ultrasonic bonding, variation in pressure was the largest influence on dispersion of conductive ball.