



## **Lead-free soldering**

The WIMA group of companies does not only develop new products and manufacturing procedures, but also tries to use environmentally friendly products, processes and packaging material.

WIMA capacitors are produced on ultra-modern production lines which fulfil today's standards of environmental needs as far as energy and raw material consumption as well as usage of specific manufacturing products are concerned.

When choosing the substances severe criteria of environmental protection are applied and the most important specifications and test regulations for capacitors are taken into account.

We can confirm that WIMA Plastic Film Capacitors do not have lead content in the connexions used for the various kinds of capacitor technologies.

With leaded components for through hole technique a "dip solder test " for solder heat resistance is performed in accordance with IEC 60068-2-20. Comprehensive tests in our lab with a solder bath temperature of up to  $T = 280^{\circ}\text{C}$  and an immersion during  $t = 5 \text{ s}$  have shown good results with typical deviations of parameters within the NORM. Comparable conditions are consequently acceptable for leaded plastic film capacitors.

It must be pointed out that the temperature stress from the ascending heat remains within the limits of the film, even when considering that PP film is more heat sensitive than PET film.

The following can be stated for processing in production:

-WIMA capacitors have connexions without lead content, the surface coating is pure tin. With today's state of the art this composition will be kept for future processing.

-WIMA capacitors can be processed with the ( double ) wave solder processes used today with an immersion into the solder bath of  $t < 5 \text{ sec}$ .

Plastic Film SMD Capacitors are to be excluded from this in case processing is made with a high temperature lead-free solder bath. For these components the curves and data given in the WIMA catalogue remain mandatory.