



Wave Soldering Guidelines for Aluminum Capacitors

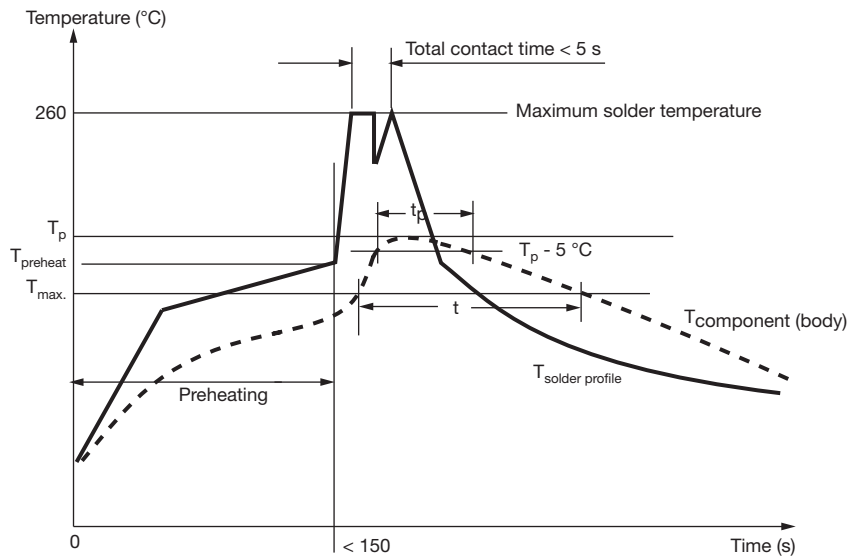
By Gerald Tatschl

Vishay recommends that users observe the following guidelines for soldering our aluminum capacitors. Adherence to these recommendations will help to safeguard product specifications and reliability, while preventing damage to the capacitors during soldering.

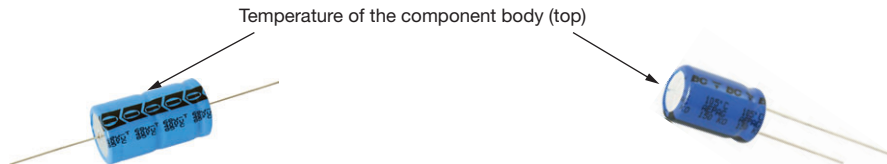
SOLDERING GUIDELINES AND RECOMMENDED WAVE SOLDERING PROFILE

With regard to the resistance to soldering heat and the solderability, our products comply with “IEC 60384-4” and the additional specifications.

The recommended lead (Pb)-free wave soldering profile for our leaded components is defined as follows:



T_p : peak temperature of the component body (top)
 T_{max} : maximum application temperature of the component
 During preheating: $T_{max} \leq 125\text{ °C}$
 During soldering: $T_p \leq 135\text{ °C}$, $t_p \leq 30\text{ s}$, $t \leq 50\text{ s}$
 Ramp-down rate from $T_{liquidus}$: 3 K/s to 6 K/s



Note for Hand Soldering

- Do not touch the capacitor’s external sleeve with the soldering iron, as the sleeve will melt or crack. The recommended temperature of the soldering iron should start from 350 °C onwards, adjust the temperature so that the solder reflows within 1.5 s to 3 s. The soldering should be completed in less than five seconds. Minimize the time that the soldering iron is in direct contact with the terminals of the capacitor, as excessive heating of the leads may lead to higher equivalent series resistance (ESR)