



SMT

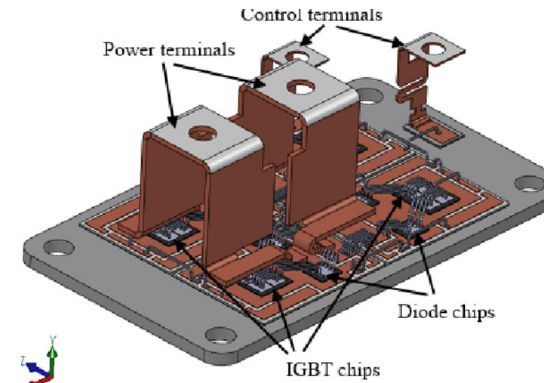
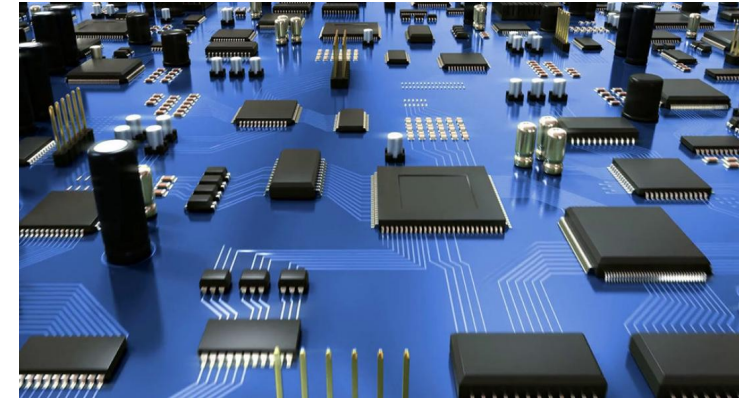
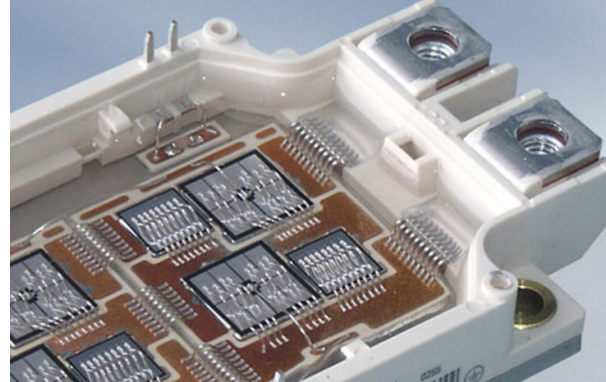
THERMAL DISCOVERIES



high
temperature
vacuum
reflow
soldering



- Power Electronics
- Semiconductor Industry
- IGBT's
- DBC
- Substrate
- Preforms
- Die Attach
- Heat spreader attach
- Flux-free soldering
- No oxidation on copper or similar surfaces
- Heatsink
- PINK (Vadu)
- Budatec
- Centrotherm



The HTV system can cover different processes

In general, it is a reflow process with/and/or

Atmosphere

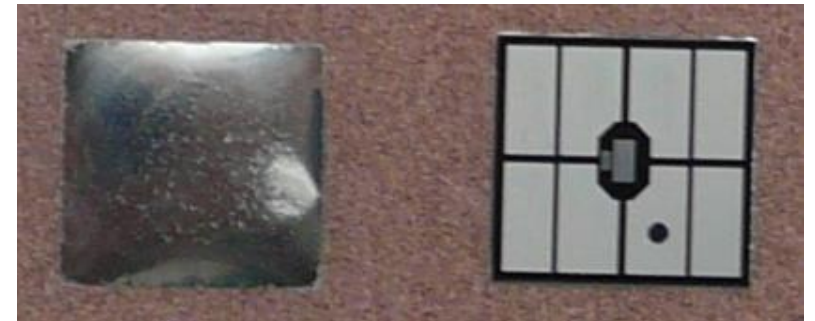
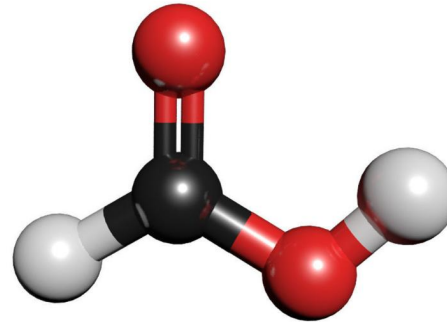
- Formic Acid* (CH_2O_2)
- Hydrogen* (H_2) (100 %)
- Nitrogen (N_2) (always needed)

Temperature

- High temperature solder*
- SAC 305*

Process

- Vacuum
- Preforms with Flux*
- Preforms without Flux*

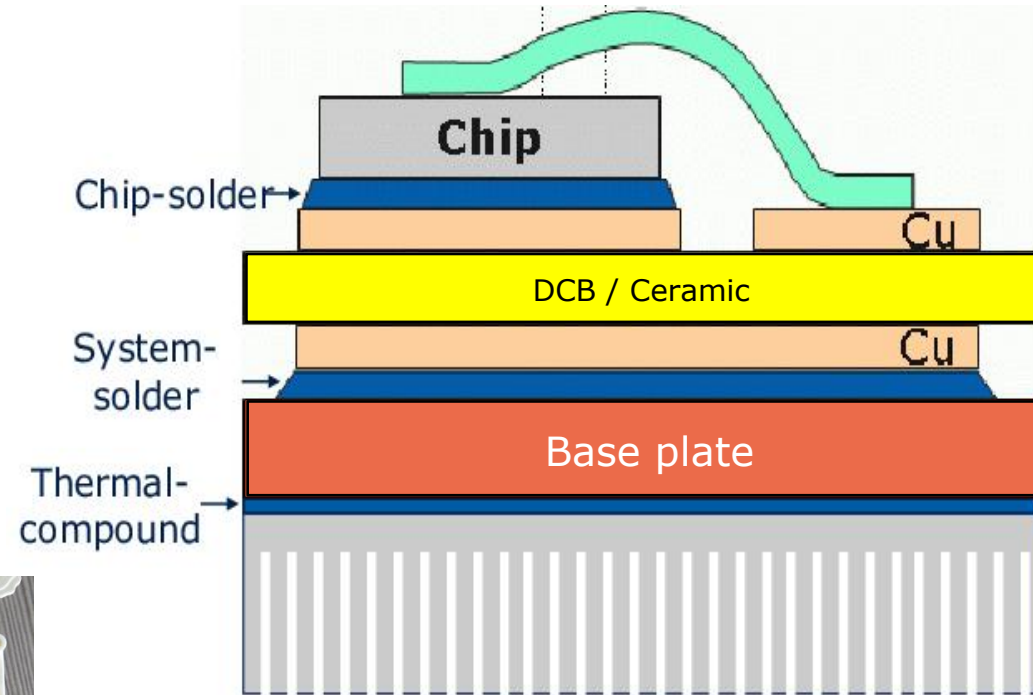
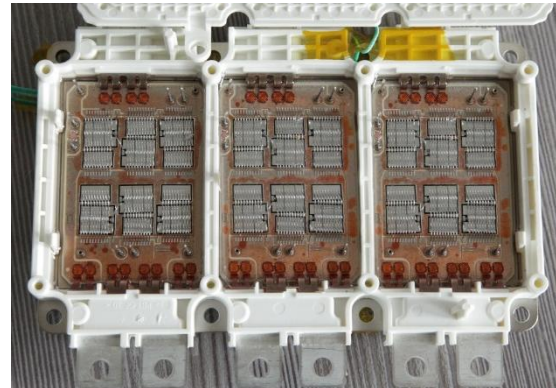


→ The system can be chosen in a combination of
Atmosphere & Temperature & Process

The HTV system can be used for different applications

Applications

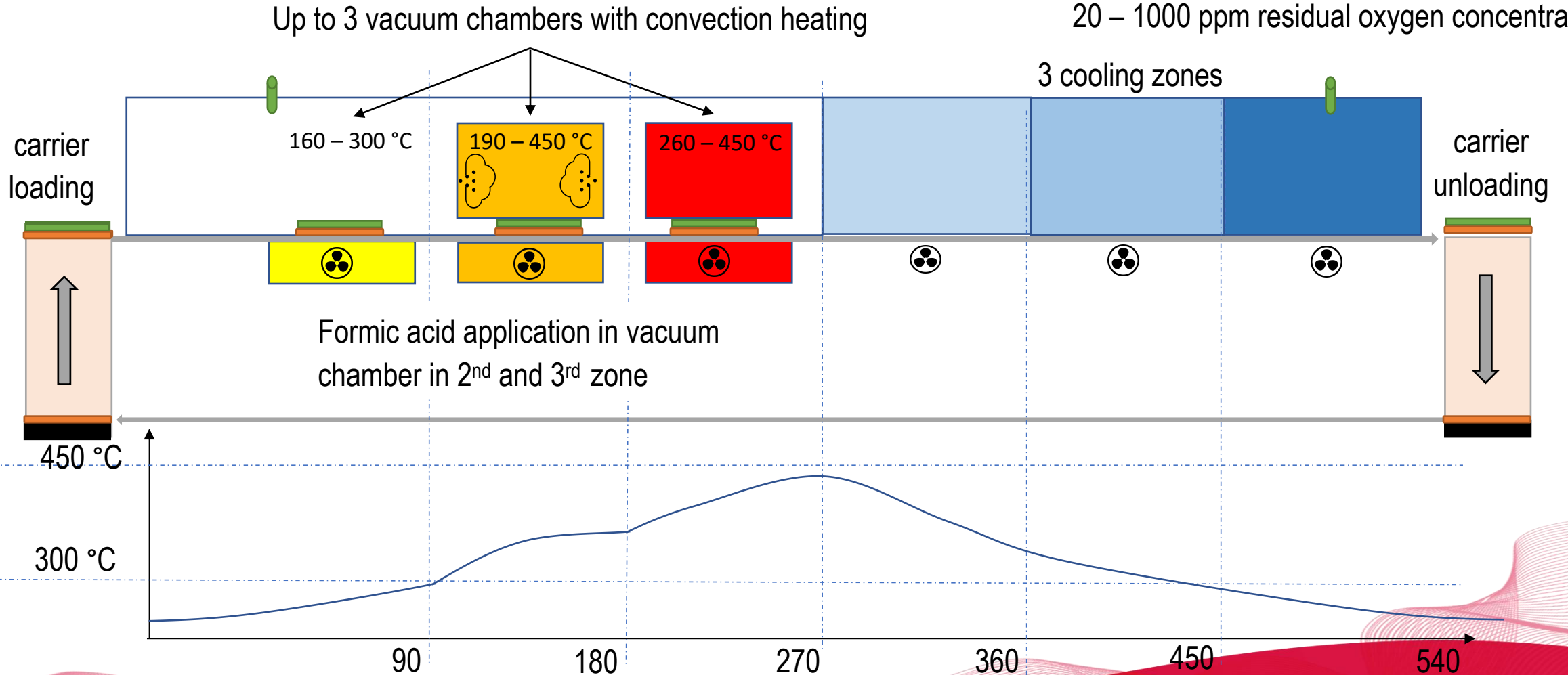
- IGBT
- DCB
- Die Attach
- Opto Laser
- Heatsink
- In general cooper surfaces
- Vapour Phase substitution
- Cleaning process





HTV system schematic – example Vacuum with formic acid

oxygen sensors for nitrogen control for
20 – 1000 ppm residual oxygen concentration



- Adjustable profile by monitored fan speed

- Cycle time adjustable from 60 – 300 s

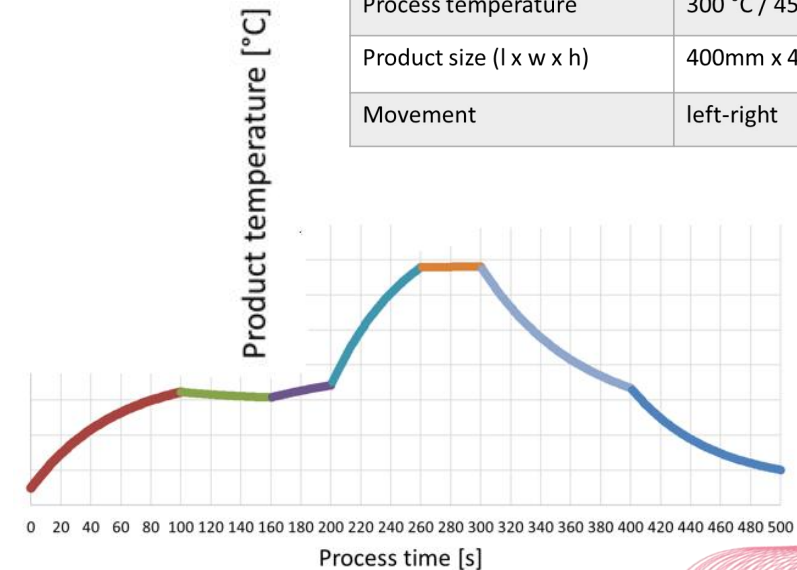
High Temperature Vacuum Inline Soldering HARDWARE

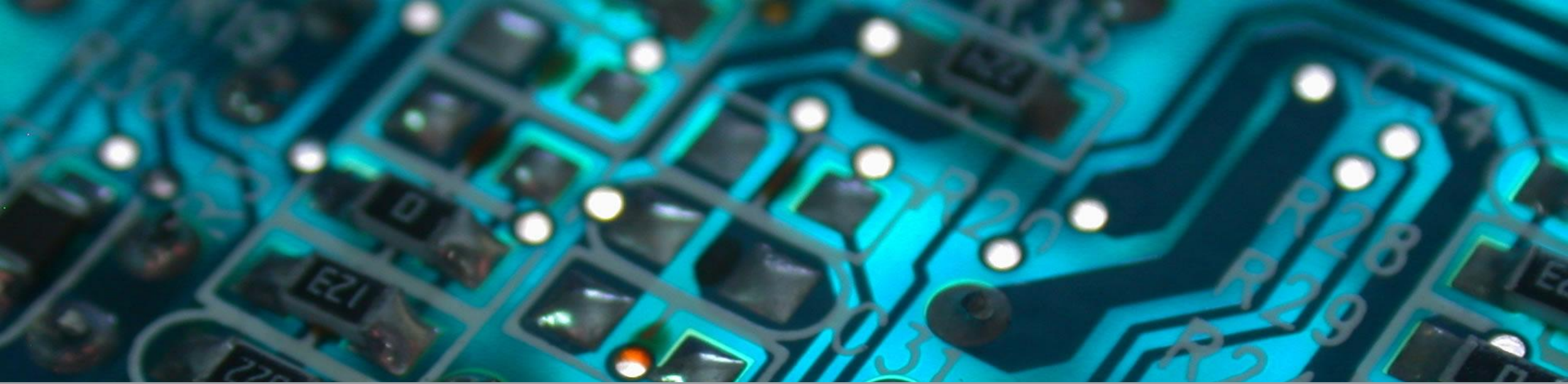
ADVANTAGES

- Full convection heating concept
- Flexible for different products in same process
- One general work piece carrier – flexible inlay (can be also provided by customer)
- No toolings needed (for soldering)
- Intelligent safety concept
 - Closed system
 - N₂ atmosphere (100 ppm residual oxygen)
 - Intelligent gas warning detectors
- More efficient vaporizer process – no bubbler process
→ less N₂ and formic acid needed
- 3 heating zones, 3 cooling zones
- 3 optional vacuum chambers in heating zones
- Cycle time from 60 – 180 s
- Heat transfer controllable via fan speed
- System for different processes and needs



Dimension (l x w x h)	6,5m x 2,0m x 1,8m
Process temperature	300 °C / 450 °C / 450 °C
Product size (l x w x h)	400mm x 430mm x 90 mm
Movement	left-right





THANK YOU!

