

# Packaging Regulations for Cologne Chip Products



The following regulations are valid for these products:

## HFC-E1

The chips are packed on trays.  
Each tray carries 36 chips.



Due to quality reasons it is recommended to open vacuum packs only a little while before soldering.

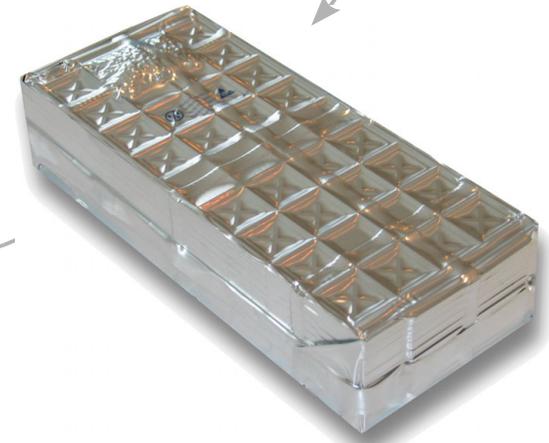
To avoid rebaking of chips, only multiples of 360 pcs. (= entire vacuum packs) should be ordered.

10 trays are inside a vacuum pack.



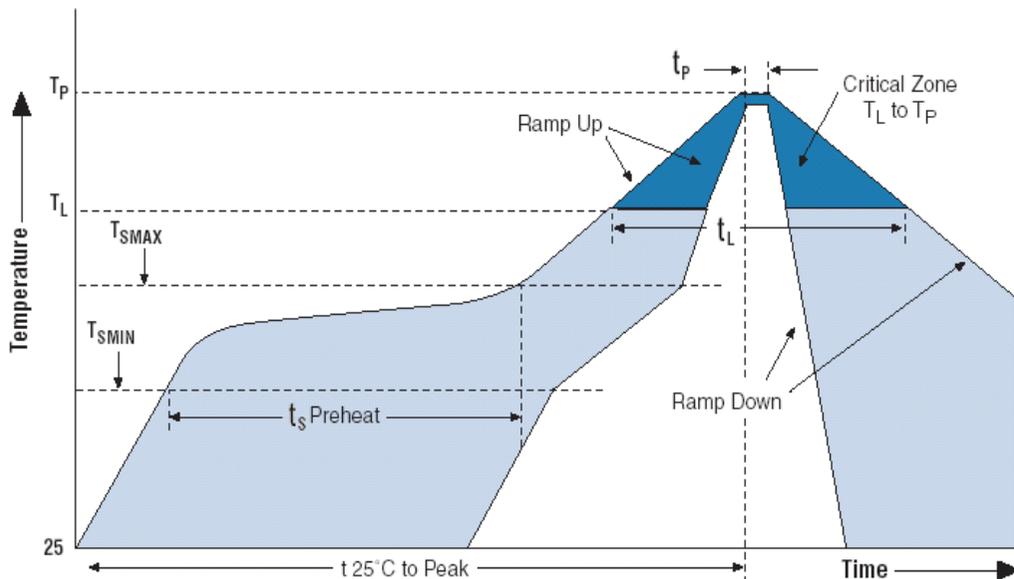
Weight: 2.8 kg  
Dimensions: 36 cm x 16 cm x 9 cm

Each vacuum pack is put into a small box. This box is 1 lot (10 trays = 360 pcs. of chips).



## Soldering Reflow

Profile Feature	Sn-Pb eutectic assembly	Pb-free assembly
Average ramp-up rate ( $T_L$ to $T_P$ )	3°C/second max.	3°C/second max.
Preheat <ul style="list-style-type: none"> <li>- Temperature Min (<math>T_{SMIN}</math>)</li> <li>- Temperature Max (<math>T_{SMAX}</math>)</li> <li>- Time (min to max) (<math>t_s</math>)</li> </ul>	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
$T_{SMAX}$ to $T_L$ – Ramp-up Rate		3°C/second max
Time maintained above: <ul style="list-style-type: none"> <li>- Temperature (<math>T_L</math>)</li> <li>- Time (<math>t_L</math>)</li> </ul>	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature ( $T_P$ )	225 +0/-5°C	245 +0/-5°C
Time within 5°C of actual Peak Temperature ( $t_p$ )	10-30 seconds	10-30 seconds
Ramp-down Rate	6°C/second max.	6°C/second max.
Time 25°C to Peak Temperature	6 minutes max.	8 minutes max.



The recommended profiles for soldering reflow of HFC-E1 for **Sn-Pb eutectic** as well as **Pb-free assembly** mainly correspond to the commonly applied JEDEC Standard **JSTD-020B** for large bodies. The table and graph above illustrate the respective soldering reflow. For more information also refer to Cologne Chip's product change notification of HFC-E1 at [www.colognechip.com](http://www.colognechip.com)

NOTE: Week codes on HFC-E1 dated later than 2004-19 reveal RoHS compliant ICs (chip marking code: YYWW, e.g. 0419).

### CAUTION: Vacuum bags contain moisture sensitive devices!

Surface mount products may have a crack when thermal stress is applied during surface mount assembly if they have absorbed atmospheric moisture. It is recommended that these products are handled under specific conditions described as follows:

Package Type	Storage Condition after unpacking (as maximum)	Rebake Condition as minimum
 LQFP 208	Within 168 hours (30°C/60% RH) MSL 3	125°C 24 hours



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