

# Pulsed Heat Thermode

## Thermo-plane Thermode (Hot Bar)

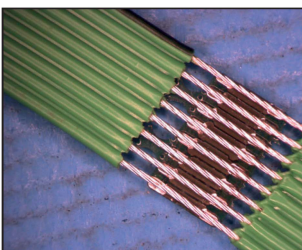
The Thermode (Hot Bar), which is the heart of each bonding system, is specially designed by Amada Miyachi Europe for a range of applications. Since each customer application demands its own specific requirements, Amada Miyachi Europe offers a complete range of pulsed heat thermodes (Hot Bars). The MIYACHI EAPRO thermode design offers ultra-fast heating and cooling cycles hence minimizing process times. Forced air-cooling after the heating process further speeds the total bonding process. The thermode is designed to maintain co-planarity and withstand deformation that results from the high forces that may be necessary in some bonding processes. The Thermo-plane Thermode eliminates voltage drop as current flows through the thermode from front-to-back instead of left-to-right, preventing damage to the parts when soldering.

### KEY FEATURES

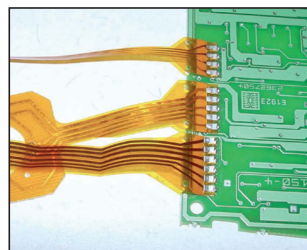
- Fast heating and forced air cooling for minimum process cycle times
- Robust 3-dimensional design for high force applications and perfect bond planarity
- Adapter block (QCB) for easy and fast exchange of thermodes without re-adjustment
- 3-D design eliminates voltage drop on products

Wire-Soldering & Heatstake processes require their own specific thermode configurations based on product size, shape and configuration. Amada Miyachi Europe offers a full range of standard as well as custom designs.

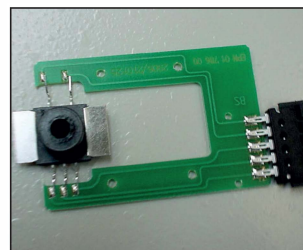
### TYPICAL APPLICATIONS



**2-D Thermode application**  
*Wire soldering*



**3-D Thermo-plane thermode application**  
*Flex soldering*



**3-D Thermo-plane thermode application**  
*leadframe soldering*

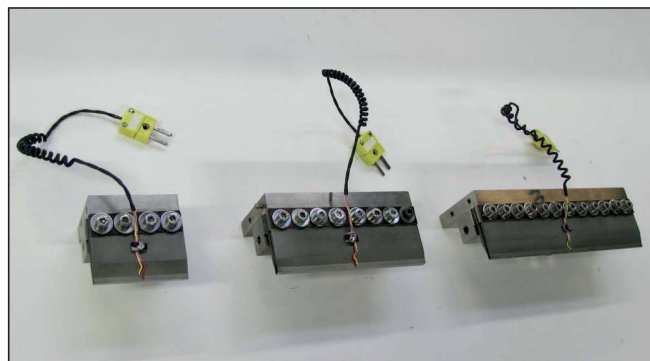


**Heat stake thermode application**  
*mobile phone heat staking*

## QUICK CONNECT BLOCK

The connection of the Thermode (Hot Bar) to the bonding head is achieved by using a Quick Connect Block (QCB). This QCB is mounted to the bottom base-plate of the bonding head with two set screws. The QCB and Thermode are designed to be used as a set. The set is ground to optimize co-planarity resulting in the best quality of product bonds. The set also enables fast exchange of the Thermode in mid-production and, more importantly, without further adjustment. The special shaft design of the QCB guarantees position of the thermode.

There are different types of QCB's supporting the different thermode configurations for each process such as Hot Bar Reflow Soldering, ACF Bonding or Heat Staking.



## THERMODE CONFIGURATION

### 2-D THERMODE (PULSED HEAT)

Dimensions		QCB-Type	TC-Type	Specify Thermode for order purpose
Length	Width			
5 – 50 mm	< 3 mm	69Q0016	K-type	Width x Length [mm] / custom design

### 3-D THERMODE-PLANE THERMODE (PULSED HEAT)

Dimensions		QCB-Type	Type	Specify Thermode for order purpose
Length	Width			
1 - 50 mm	< 4 mm	69Q0001/69Q0015	K-type	Width x Length [mm]
51-100 mm	< 4 mm	69Q0002	K-type	Width x Length [mm]
101-150 mm	< 4 mm	69Q0003	K-type	Width x Length [mm]

### HEAT STAKE THERMODE (PULSED HEAT)

Dome shape	Type	Specify for design purpose
Circle or square	K-type	- Dome size (Length x Height x Diameter) + material - Required dome shape after heatstake
Custom	K-type	- Dome size (Length x Height x Diameter) + material - required dome shape after heatstake