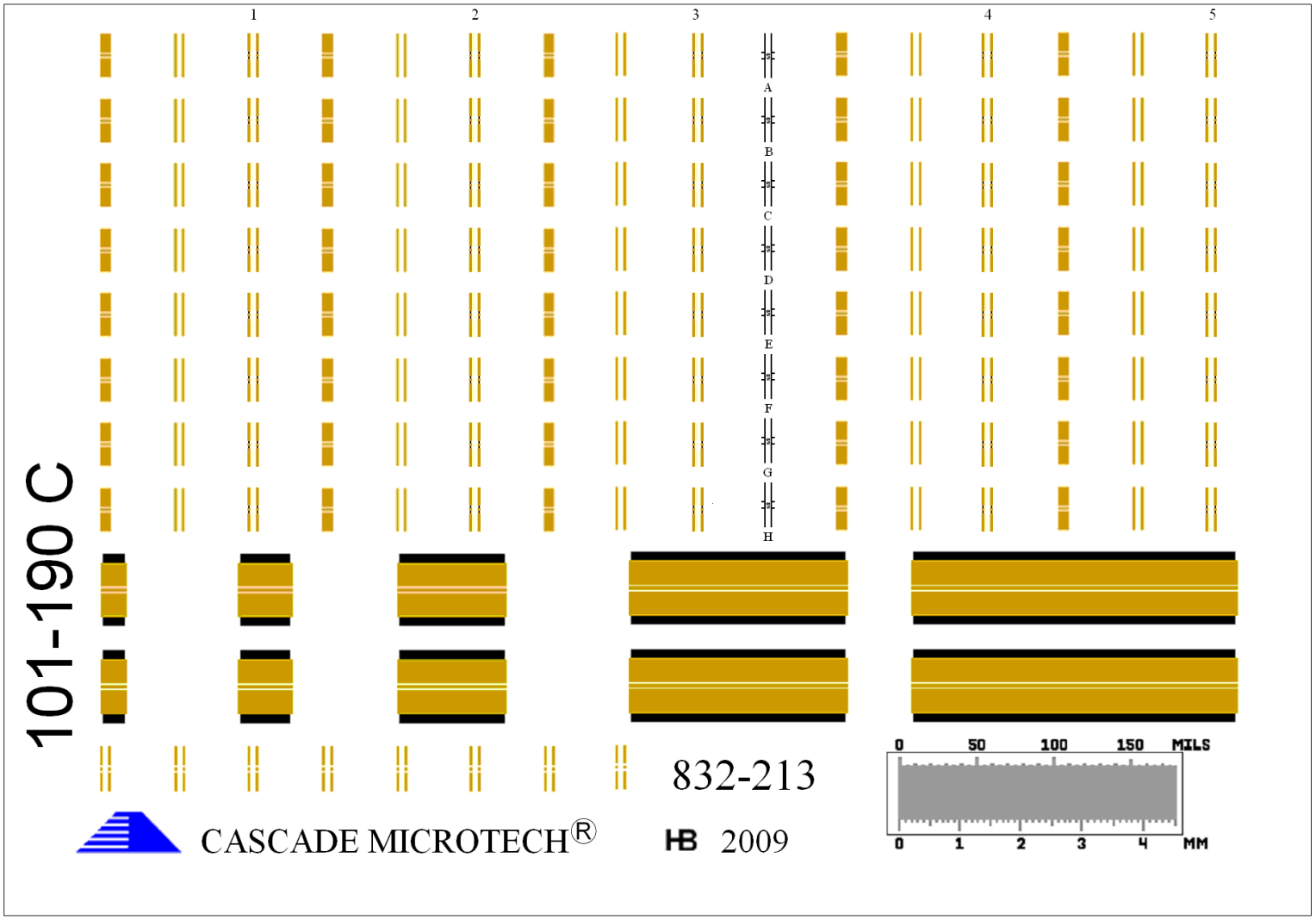
Cascade
Impedance Standard SubstrateMap

P/N: 101-190

Pitch: **100 µm - 250 µm**

Configuration: **GSG**



Key to Map

Key to the 101-190 Map

Substrate specifications: Material: Alumina; Thickness: 25 mils (635 um); Dielectric constant: 9.9

Thru

Thru delay: **1.0 ps**

Impedance: **50 Ohm** (Nominal)

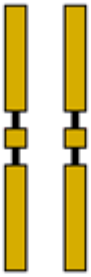
Note: Verification line lengths are signal conductor edge-to-edge dimension.

Short

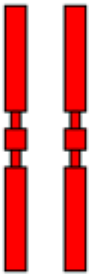
Recommended Overtravel:

ACP
75 - 125 um

Infinity
50 - 75 um



Load



Precision 50 Ohm Load

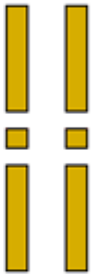
Note: Ensure the bias supply is turned **off** during calibration. Applying bias to the probe during calibration could cause the resistance of the load to change.

DC accuracy:
+/- 0.3 %

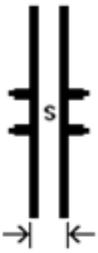
Note: For optimum calibration accuracy **only** the **Red** - marked load standards should be used.

Verification Lines

ps	um
3	450
7	900
14	1800
27	3500
40	5250



Open
(On Substrate)



130 um
Alignment Marks

Note: By default, an **Open** is synthesized by raising the probes in air a minimum distance of 250 mm above the chuck surface. A Substrate Open structure is also provided as an alternative.

All of the above specifications are based on an overtravel (downward movement of probe after initial touchdown on the substrate) listed above. This amount of overtravel can be set before calibration on the Impedance Standard Substrate (ISS) using the alignment marks (allows precise setting of probe separation and overtravel). Figure 1 shows that initial contact with the edge of the probe tips should be made at reference plane X. The desired overtravel and thus skate (forward movement of probe tips after initial contact with substrate) is then achieved by adjusting the Z height on the positioner to move the edge of the probe tips to reference plane Y. This can also be seen from the images shown in Figure 2.

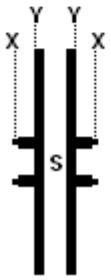


Figure 1: Alignment marks

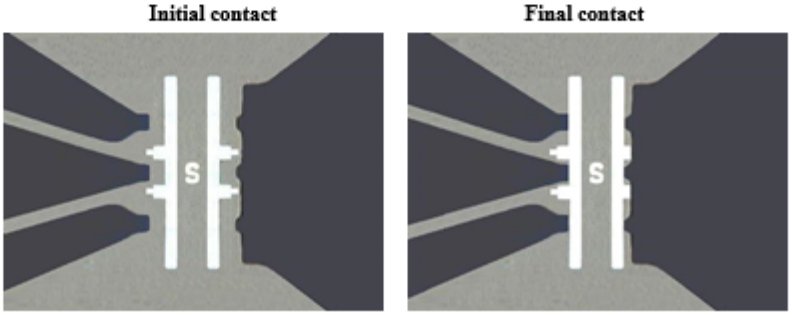


Figure 2: Images showing correct alignment and placement of probe tips of both ACP and Infinity style probes.

Calibration Coefficients are dependent on the probe tip configuration, placement on a standard, and the standard configurations. This leads to unique calibration coefficients for a unique pair of probe and ISS. Therefore, the calibration coefficients are supplied with the probe not with the ISS.

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Document PN: 101-971 rev G