

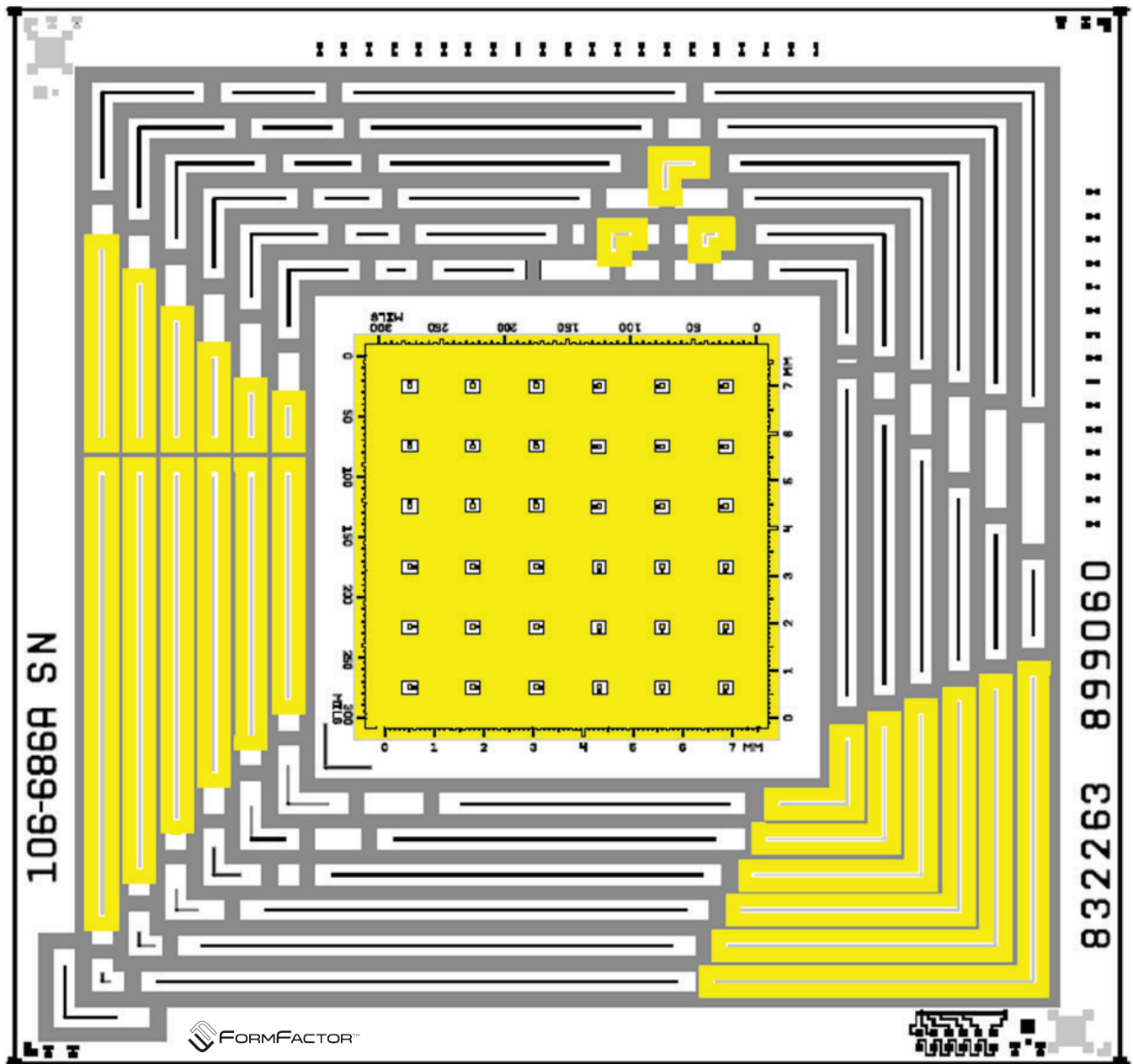
Cascade Impedance Standard Substrate Map

➤ Membrane General Purpose Impedance Standard Substrate

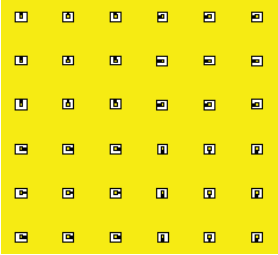

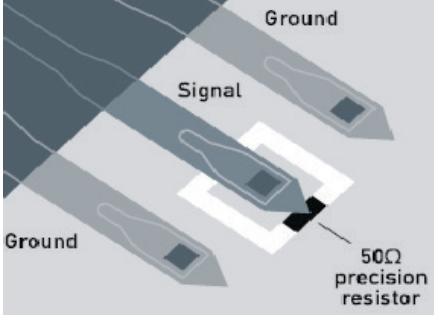
Pitch: 80 μm - 3000 μm

P/N: 106-686

S/N:



Substrate specifications: Material: Alumina; **Thickness:** 25 mils (625 μm); **Dielectric constant:** 9.9

Open	Short	Load
<p>An Open is synthesized by raising the probes in air a minimum distance of 250 μm above the chuck surface.</p>	<p>Position each probe over the conductive surface in the center of ISS.</p> 	<p>Red-marked resistors are trimmed to 50 Ω ± 1.0%.</p>  <p>Be sure to find a resistor that is oriented away from the direction of the probe.</p> 

ISS 106-686 is a general purpose ISS which may be used to perform VNA calibration for many probe-tip configurations.

- It includes a large ground area, with 36 – 50 Ω loads peppered across the surface. This provides ability to touchdown on a short and a load, for most probe configurations.
- On the periphery of the ISS 106-686, there are several transmission lines in various configurations. The line delay is shown in Table 1.

Table 1:

LINE TYPE: STRAIGHT			
Line #	Delay [ps]	Line #	Delay [ps]
1	3.9	7	34.6
2	5.8	8	40.3
3	11.7	9	46.1
4	17.3	10	53.6
5	23.0	11	61.1
6	28.6	12	68.5

LINE TYPE: RIGHT ANGLE	
Line #	Delay [ps]
1	19.0
2	34.5
3	49.8
4	65.1
5	80.4
6	95.5

Calibration Coefficients

Calibration coefficients are dependent on the probe tip configuration, placement on a standard, and the shape and configuration of the set of standards. 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.

- ISS 106-686 is designed for a general purpose standard substrate, which may be used for various probe configurations. The calibration coefficients need to be determined with each probe in use and ISS, therefore they are not provided in this document.

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