

TLP/VF-TLP/HMM/HBM Calibration Substrate CAL-04A

Advanced TLP/HMM/HBM Solutions

1 Features

- High quality AlN ceramic substrate for TLP/VF-TLP/HMM/HBM system wafer-level calibration using ground-signal (GS) RF probes
- Probetip pitch range from 50 μm up to 3 mm
- 11 reference resistors in the range of 0.1, 0.2, 0.5, 1, 2, 5, 10, 50, 100, 500 Ω (HBM) and 1 M Ω (SMU) for calibration of the current measurement channel and SMU verification
- 8 reference Z-diodes in the range of 5, 6.5 (TVS), 8.75 (Low-Cap TVS), 10, 20, 30 (Low-Cap TVS), 68 and 120 V for calibration of the voltage measurement channel
- 1 capacitor 20 pF / 200 V for transient verification¹
- 1 inductor 8 nH for transient verification¹
- 6 open-load and 6 short-circuit test-structures
- 2 timing de-skew landing-pad structures
- 1 custom reference device position
- Rugged NiCr/Au/Ni/Au top metal
- Laser marked serial number
- Probe pitch verification ruler 100 μm , 200 μm , 300 μm , 400 μm , 500 μm , 600 μm
- Size 24 mm x 24 mm (fits on AUX chuck)
- Calibration reference data sheet
- Protective case

500 Ω (JEDEC JS-001 HBM verification) and 1 M Ω (SMU verification) and 8 reference Z- and TVS diodes in the range of 5, 6.5 (TVS), 8.75 (Low-Cap TVS), 10, 20, 30 (Low-Cap TVS), 68 and 120 V are available on the CAL substrate. The substrate material is AlN with a high precision NiCr/Au/Ni/Au metal stack. The test structure probing gap is 40 μm which is suitable for probetip pitch in the range from 50 μm up to 3 mm. The size of the substrate is 24 mm x 24 mm. The total height including reference devices is maximum 2.5 mm. The substrate is delivered including a calibration reference data sheet and packed in a protective case.

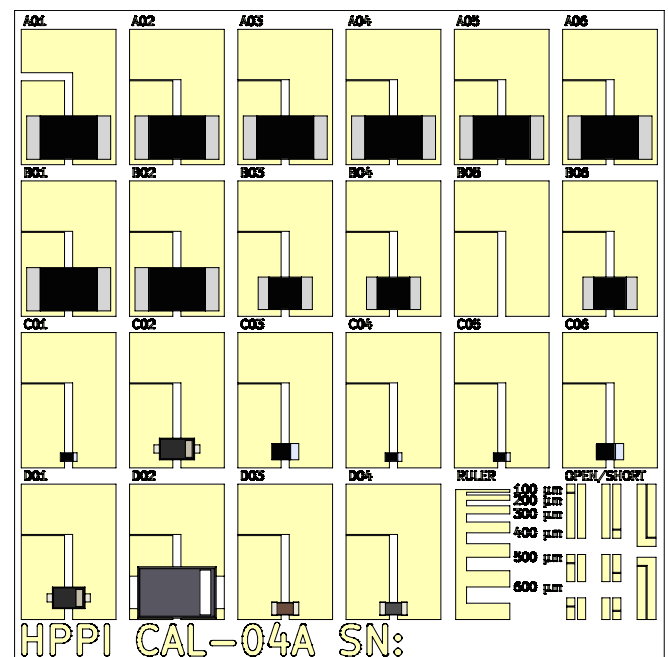


Figure 1: CAL-04A (size: 24 mm x 24 mm)

2 Description

Different values of the reference devices are available on the CAL-04A substrate in order to calibrate the system in the desired voltage and current range where the device under test is to be expected. This gives maximum accuracy of the TLP/VF-TLP/HMM/HBM measurement result. The digital oscilloscope is one of the major limitations of measurement accuracy of the system. Therefore, it is recommended to calibrate the system in the expected voltage range and current range of the device under test. For this reason 11 reference resistors in the range of 0.1, 0.2, 0.5, 1, 2, 5, 10, 50, 100,

¹according the recommendation of the ESDA TLP WG released TR5.5-05-20



Figure 2: CAL-04A protective case

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3 Ordering Information

Pos.	Description	Part No.
01	TLP/VF-TLP/HMM/HBM Calibration Substrate	CAL-04A

General

The product data contained in this data-sheet is exclusively intended for technically trained staff. You and your technical departments will have to evaluate the suitability of the product for the intended application and the completeness of the product data with respect to such application. Our products are solely intended to be commercially used internally and should not be sold to consumers. This data-sheet is describing the specifications of our products for which a warranty is being granted by HPPI GmbH. Any such warranty is granted exclusively pursuant the terms and conditions of the respective supply agreement. There will be no guarantee of any kind for the product and its specifications. For further information on technology, specific applications of our product, delivery terms, conditions and prices please contact HPPI:

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