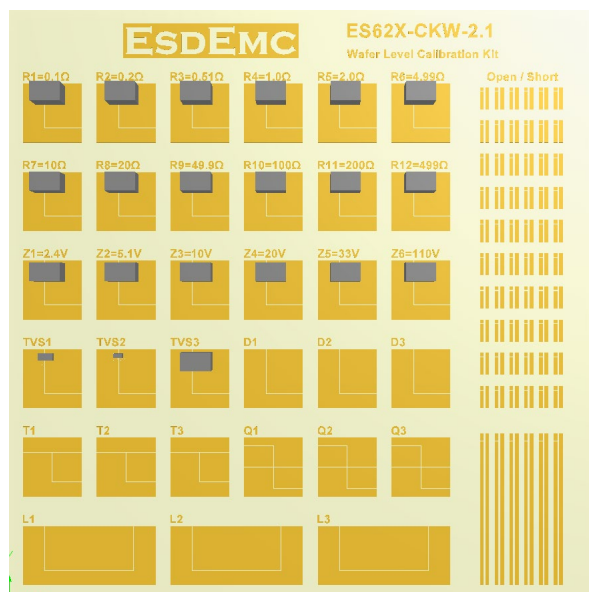


ES62X-CKW Wafer Level TLP SOLZ Calibration Kit



1. Description

The TLP measurement errors are partially caused by the combination of the probing contacts resistance, interconnection loss and mismatch, inaccuracy of attenuation values, and oscilloscope offset & scale errors. These errors can be minimized by the Short-Open-Load-Zener (SOLZ) calibration method (per ESDA TR5.5-02-08 Transmission Line Pulse Round Robin). Different values of the reference devices are available on the ES62X-CKW to calibrate TLP measurement system in the desired voltage and current range where the device under test (DUT) is to be expected. The Anode of diodes is always placed on the small pad, and the Cathode is placed on the “L” shaped pad.

The substrate material is FR4, and has a rugged top layer gold coating. The test structure probing gap is 50 μm (depending on model) which is suitable for probe pitch in the range from 70 μm up to 3 mm. The size of the substrate is 40 mm x 40 mm. The total height including reference devices is about 2.8 mm. The substrate is packed in a protective case. The calibrated specification sheet is included.

2. Features

- High quality substrate for TLP/VF-TLP system wafer-level calibration

- Probing pitch range from 70 μm up to 3 mm
- 12 precision resistors in the values of 0.1, 0.2, 0.51, 1, 2, 4.99, 10, 20, 49.9, 100, 200 and 499 Ω and for the calibration of TLP current measurement channel
- 6 reference Zener-diodes in the range of 2.4, 5.1, 10, 20, 33, and 110 V for calibration of the voltage measurement channel
- 3 transient voltage suppressor (TVS) diodes for reference measurement of calibrated TLP/VF-TLP system
- 84 open-load and 84 short-circuit test structures

3. Applications

- Wafer level TLP measurement SOLZ calibration

4. Specifications

Parameters	Values			Unit	Comments
Resistance of resistors	0.1, 0.2, 0.51, 1, 2, 4.99, 10, 20, 49.9, 100, 200, 499			Ω	1 % precision (12 total)
Break Dow of Z-diodes	2.4, 5.1, 10, 20, 50, 110			V	2 % precision (6 total)
Breakdown voltage of TVS	8	17	7	V	
Dynamic Resistance, R_{DYN}	0.5	0.45	0.29	Ω	
Max TLP Current of TVS	>50	>20	>100	A	Tested with 100 ns TLP
Junction Capacitance of TVS	17	0.1	150	pF	
Metal Surface Process	Gold Plated	NA			
Test Pad Separation	50 (± 5)			μm	

5. Ordering Information

Line	Part # or Options	Description	Status
1	ES62X-CKW-1	Wafer Level TLP SOLZ Calibration Kit, 150 μm separation	Obsolete since 2017
2	ES62X-CKW-2.1	Wafer Level TLP SOLZ Calibration Kit, 50 μm separation	Active

Customized design might be available upon request