ESD TVS Diodes

Agilent ADS Design Kit Manual

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RF and Protection Devices

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1 Introduction

Infineon's TVS design kit is intended to support designers used Agilent Advanced Design System (ADS) software for circuit design. It contain models of ESD TVS diodes and all necessary parts to use these models. Device models also include in-package parasitic components, such as bond wire inductances, resistances, etc. Tab. 1 shows currently supported devices.

Table 1: Supported devices

Type	Package	Basic Description
ESD0P2RF-02LS	TSSLP-2-1	ESD 1x Bi-directional Ultra Low Capacitance TVS Diode
ESD0P2RF-02LRH	TSLP-2-17	ESD 1x Bi-directional Ultra Low Capacitance TVS Diode
ESD3V3U4ULC	TSLP-9-1	ESD 4x Uni-directional Ultra Low Capacitance TVS Diode Array
ESD5V3U2U-03LRH	TSLP-3-7	ESD 2x Uni-directional Ultra Low Capacitance TVS Diode Array
ESD5V3U2U-03F	TSFP-3	ESD 2x Uni-directional Ultra Low Capacitance TVS Diode Array
ESD5V3U4U-HDMI	TSLP-9-1	ESD 4x Uni-directional Ultra Low Capacitance TVS Diode Array
ESD18VU1B-02LS	TSSLP-2-1	ESD 1x Bi-directional Ultra Low Capacitance TVS Diode
ESD18VU1B-02LRH	TSLP-2-17	ESD 1x Bi-directional Ultra Low Capacitance TVS Diode
ESD5V3L1B-02LS	TSSLP-2-1	ESD 1x Bi-directional TVS Diode
ESD8V0R1B-02EL	TSLP-2-18	ESD 1x Bi-directional Low Capacitance TVS Diode
ESD8V0R1B-02ELS	TSSLP-2-2	ESD 1x Bi-directional Low Capacitance TVS Diode

2 Installation

Infineon's TVS design kit is delivered as a single zip archive, which contain all necessary structures necessary for Agilent ADS. The package can be installed anythere in your system. In this manual the "USER_LEVEL" installation level is used since it is simple and do not require additional system administrative privilegies. For installation it is recommended to use "ADS Design Kit Tools". Start ADS as usual and select "DesignKit" pull-down menu from the main ADS window. Select "Install Design Kits..." submenu and then press "Unzip Design Kit Now..." button in the empty Design Kit setup form (Fig. 1). Fill in the path to design kit zip file and path for installation directory like it shown in Fig. 3. The filled "Install Design Kits..." (Fig. 2) should appear. Please check that there are no errors occured during installation process. The problematic fields will be highlighted in a red color. After performing the above steps design kit is ready to work. More information about ADS design kit management can be obtained from ADS documentation: http://edocs.soco.agilent.com/display/ads2009U1/Design+Kit+Installation+and+Setup

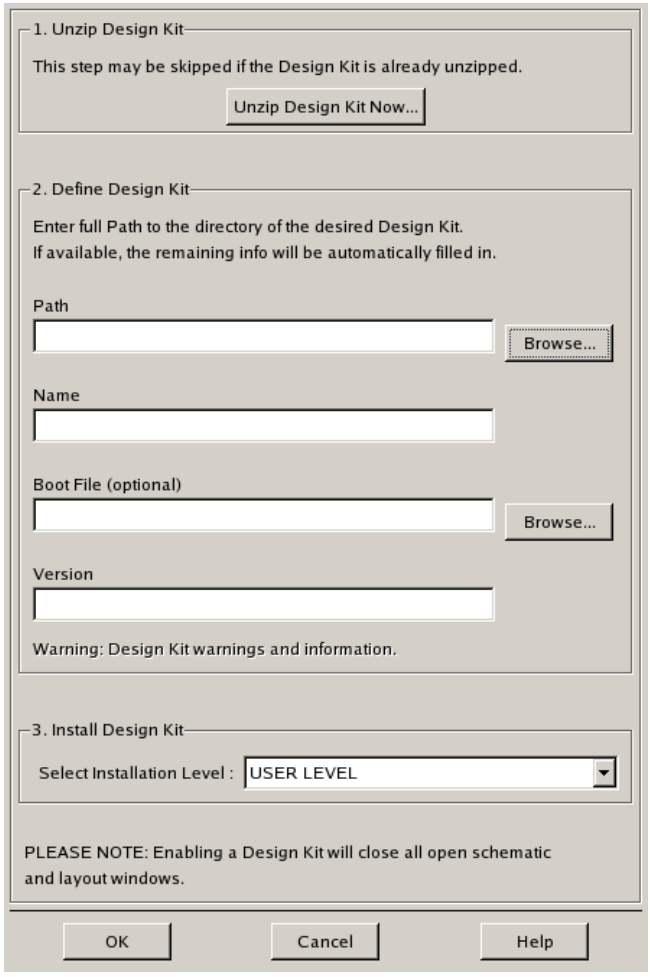

Figure 1: "Install Design Kits..." empty form

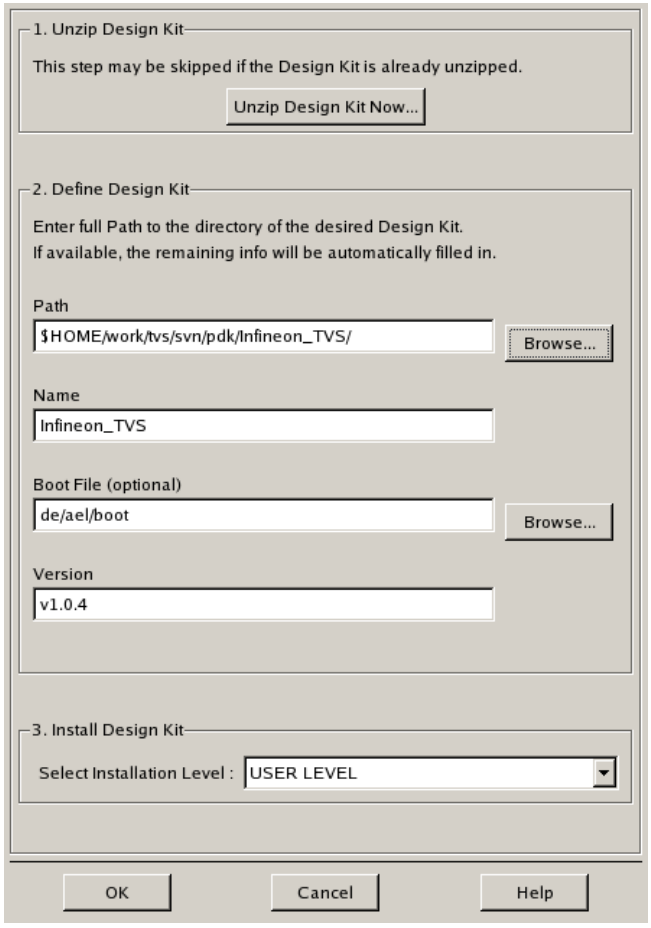

Figure 2: "Install Design Kits..." filled form

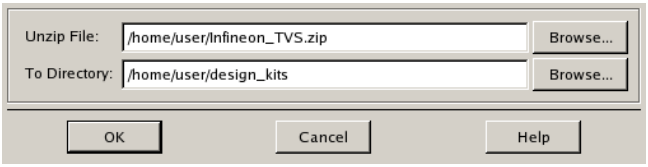

Figure 3: Unzip design kit.

3 Using Design Kit

After installation steps design kit is ready to use. The "Infineon TVS" components palette (Fig. 4) appear at the first position of the palette list. It contain listed in Sect. 1 components. They can be placed like any other ADS component in the schematic. If any Infineon component was used, it is necessary to place also "Infineon Netlist Include" (Fig. 5) component otherwise simulator will report error. Components do not have any parameters, and component name correspond to part and package description.

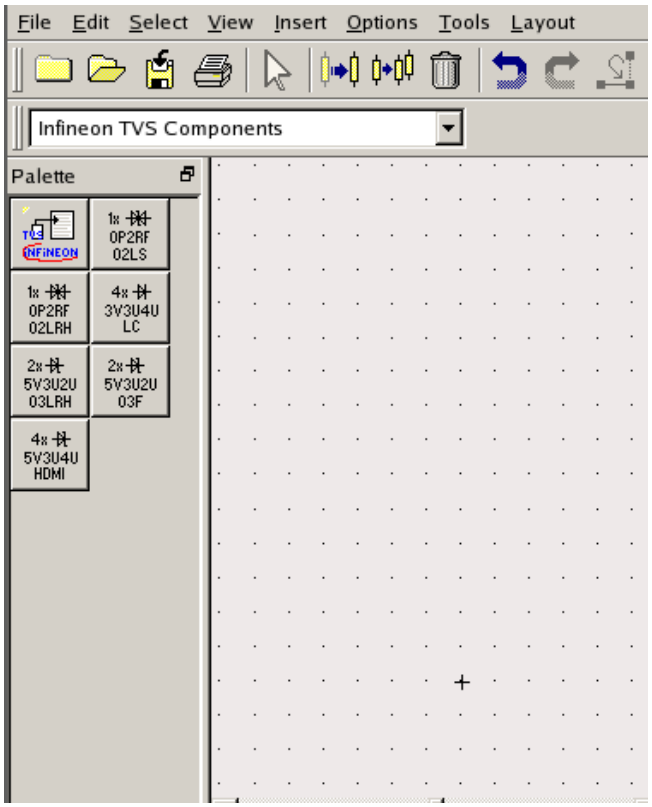

Figure 4: Infineon ADS palette

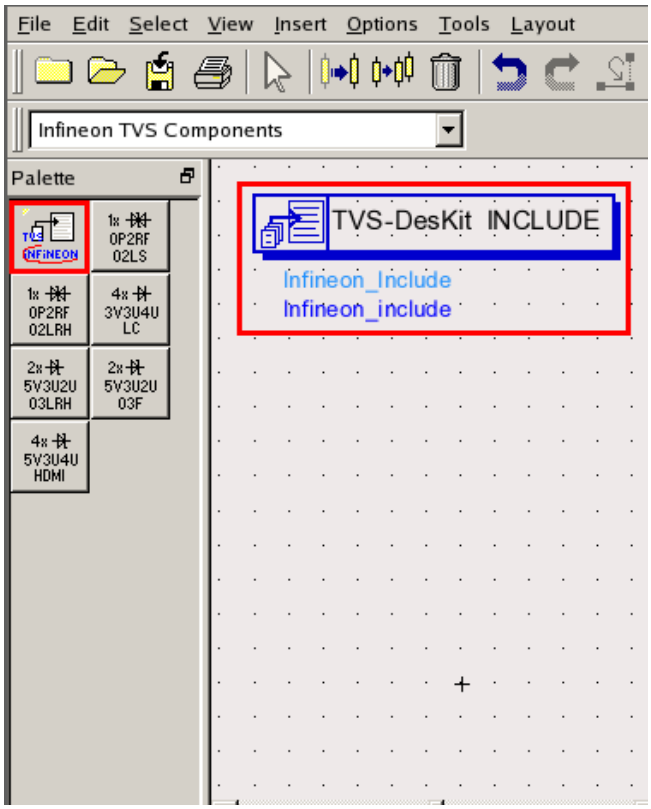

Figure 5: Infineon Netlist Include component

There are two ways to place Infineon components in the schematic: using palette(Fig. 6) and using components library(Fig. 7). The component library can be called through Insert->Component->Component Library menu. Both ways are supported by Infineon's design kit and both provide a brief device information for the designer.

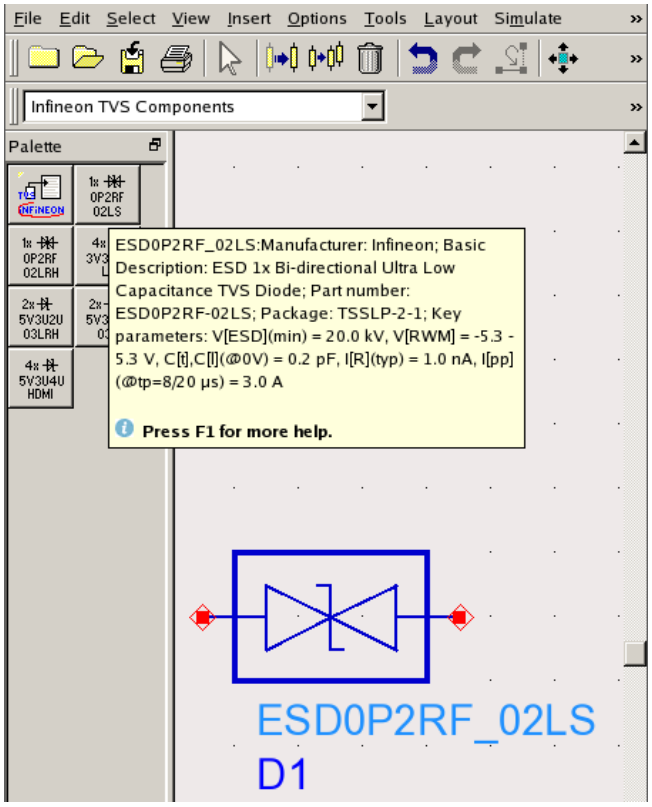

Figure 6: Placement using component palette



Figure 7: Placement using component library

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