

# Ruler for a mechatronic engineer.

Your ruler contains metric and imperial scales on its long-side edges. Further, the front side is covered by footprints of the most commonly used electronic components. You can find (from the left side):

- Trace width,
- SMD footprints of passive components (like R/C/L),
- SMD footprints of common diodes and transistors (SOD80, SMA, SMB, SMC, SOT23, SOT223, DPAK a D2PAK),
- SMD footprints of a crystal oscillator (HC49) and
- four often used SMD footprints of integrated circuits (QFN, QFP, SSOP, SOIC).

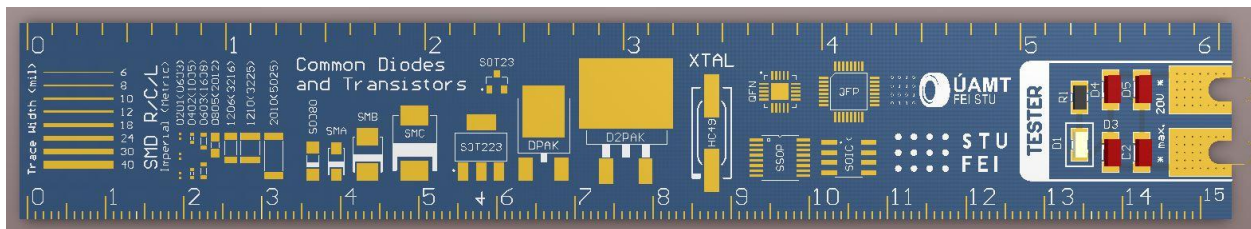


Fig. 1 Front side

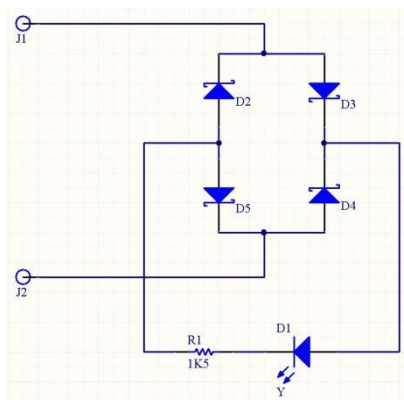
On the right there is a simple tester, which can be used to detect electrical voltage up to 24V both AC or DC. LED diode marked "D1" will light up if voltage from ~2V up to 24V is connected to pads located on the right-side edge.

Rear side of the ruler further contains:

- on the left side, schematic symbols of several basic semiconductor components, and
- the rest is covered with a logo of Institute of Automotive Mechatronics ("Ústav Automobilovej Mechatroniky") and a QR code linked to institute's web site.



Fig. 2 Rear side



To enable Tester functionality you will have to buy and solder down following 6 electronic component according to the attached schematic diagram.

Component	Designator	Quantity	Supplier (Farnell)
LED	D1	1	2078724
Schottky Diode	D2, D3, D4, D5	4	1612321
Resistor 1K5	R1	1	1799521

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