CMOS090 technology
50A POLYWELL CAPS models
DK_MIKRON

SPICE Models Benchmarks

June 2010

TR&D / STD / T2D /

Modeling / CM2A

General information on 50A POLYWELL CAPS models

Supply voltage (Vdd) is 2.5 V.

Validity domain is defined as follows:

Vgs, Vds and Vbs vary from 0 V to 2.75 V (i.e. Vdd + 10%).

Conditions of simulation

Simulations were done with Bench v3.6.3sram using Eldo simulator v6.7_1.2.

If not explicitly mentioned elsewhere, temperature is set to 25 ° C and Vbs to 0 V.

Output parameters definition

In what follows, M, W and L (all default to 1) designate the number of devices in parallel (i.e. multiplication factor), the total drawn gate width and the drawn gate length, respectively.

- **Cgg_inv:** Total gate capacitance at Vgs = 2.5 V, Vds = 0 V, f = 100k Hz.
- **Cgd_0V:** Gate-to-Drain capacitance at Vgs = 0 V, Vds = 0 V, f = 100k Hz.

CPO25NW

Electrical characteristics per geometry

cpo25nw carea=1600 cperi=80

	CPOLYN25_CMIN	CPOLYN25_TYP	CPOLYN25_CMAX
Cgg_inv [pF]	9.3015	9.7248	10.185
Cgd_0V [pF]	6.2127	7.2971	8.3085

cpo25nw carea=40 cperi=2

	CPOLYN25_CMIN	CPOLYN25_TYP	CPOLYN25_CMAX
Cgg_inv [fF]	228.31	242.19	257.31
Cgd_0V [fF]	157.41	185.97	213.31

CPO25PW

Electrical characteristics per geometry

cpo25pw carea=1600 cperi=80

	CPOLYN25_CMIN	CPOLYN25_TYP	CPOLYN25_CMAX
Cgg_inv [pF]	9.4551	9.8944	10.372
Cgd_0V [pF]	5.1036	6.3869	7.6354

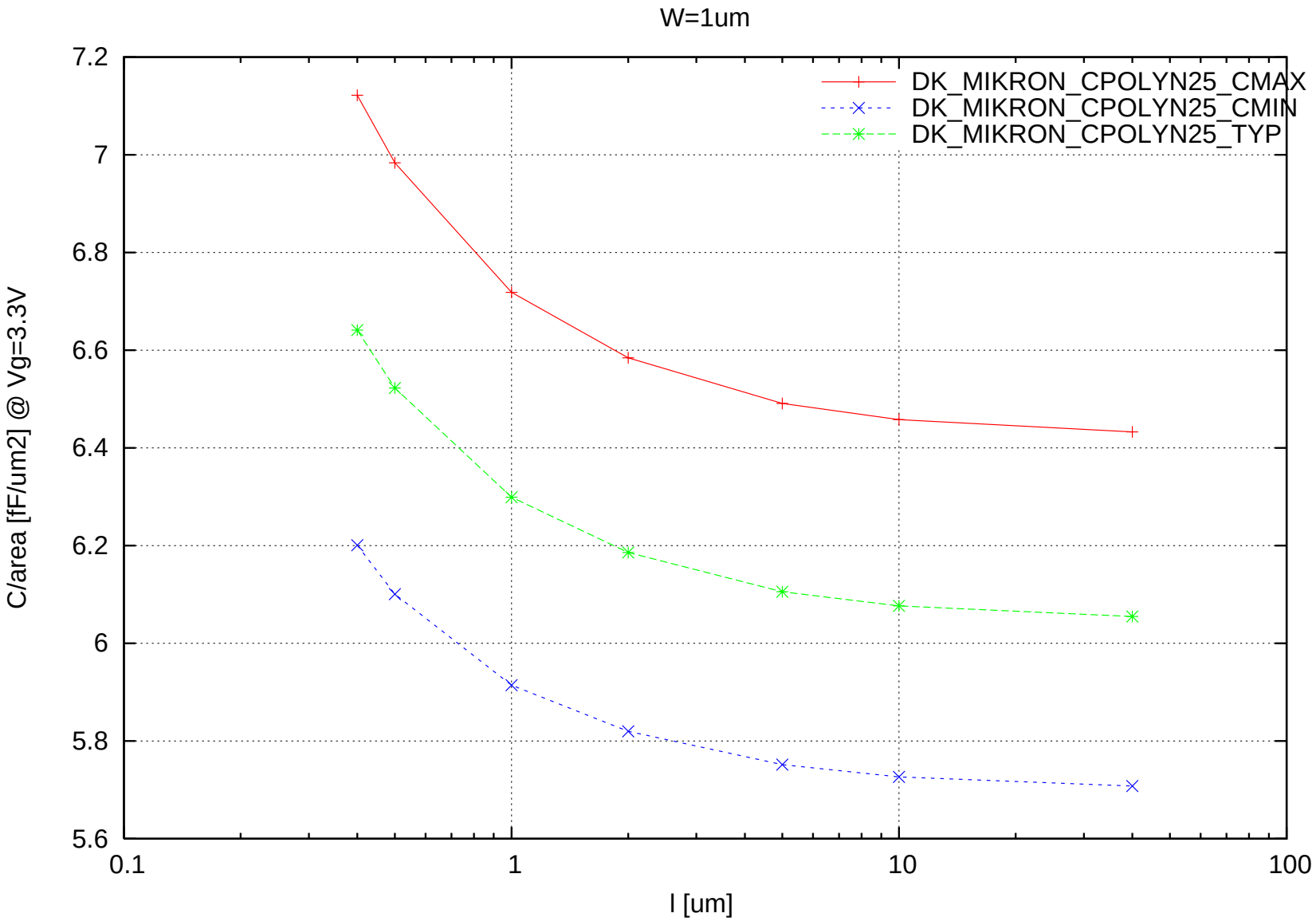
cpo25pw carea=40 cperi=2

	CPOLYN25_CMIN	CPOLYN25_TYP	CPOLYN25_CMAX
Cgg_inv [fF]	230.83	245.25	261
Cgd_0V [fF]	130.18	164.4	198.02

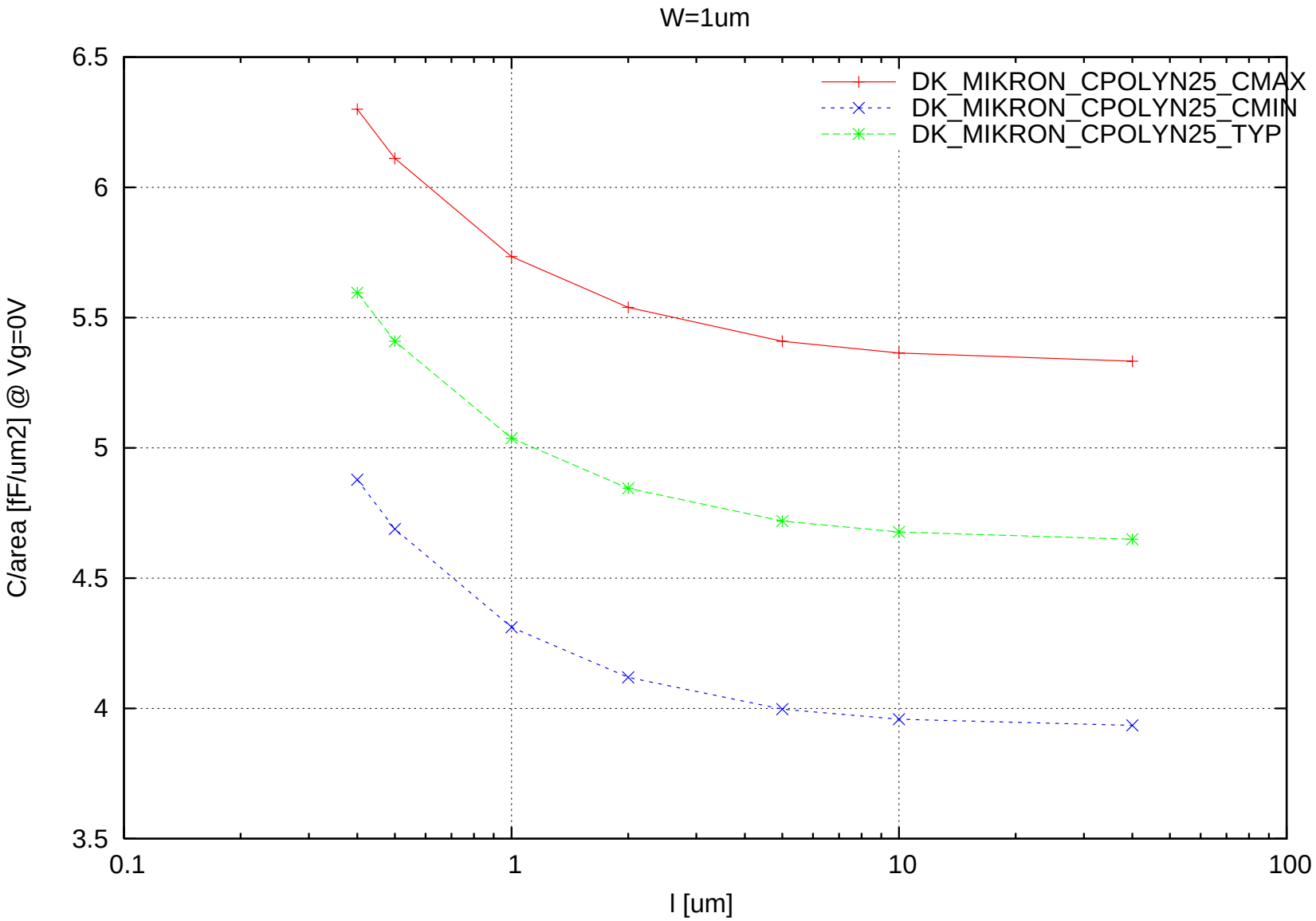
CPO25NW

Electrical characteristics scaling

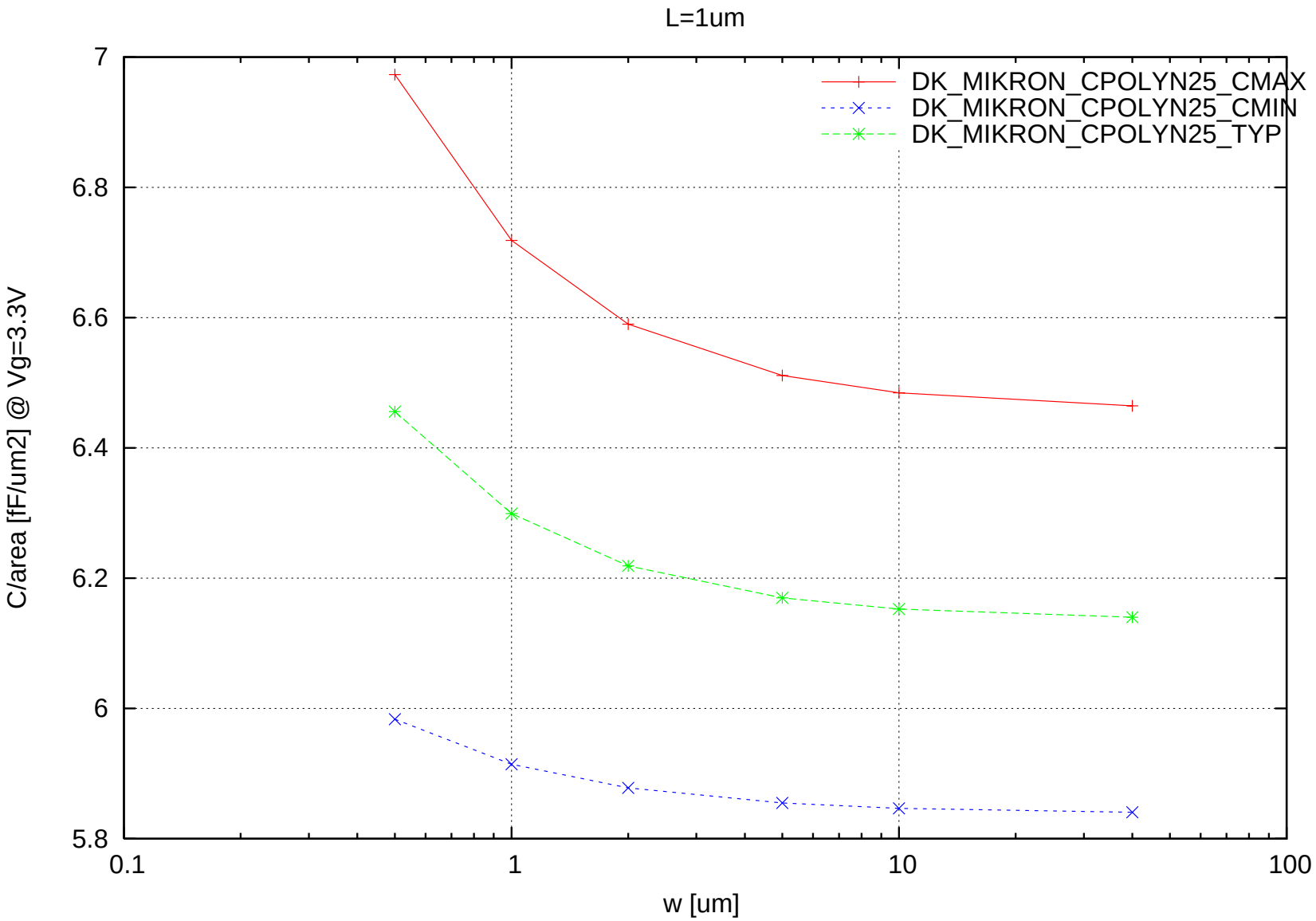
cpo25nw C/area [fF/um2] @ Vg=3.3V vs. l [um] , W=1um



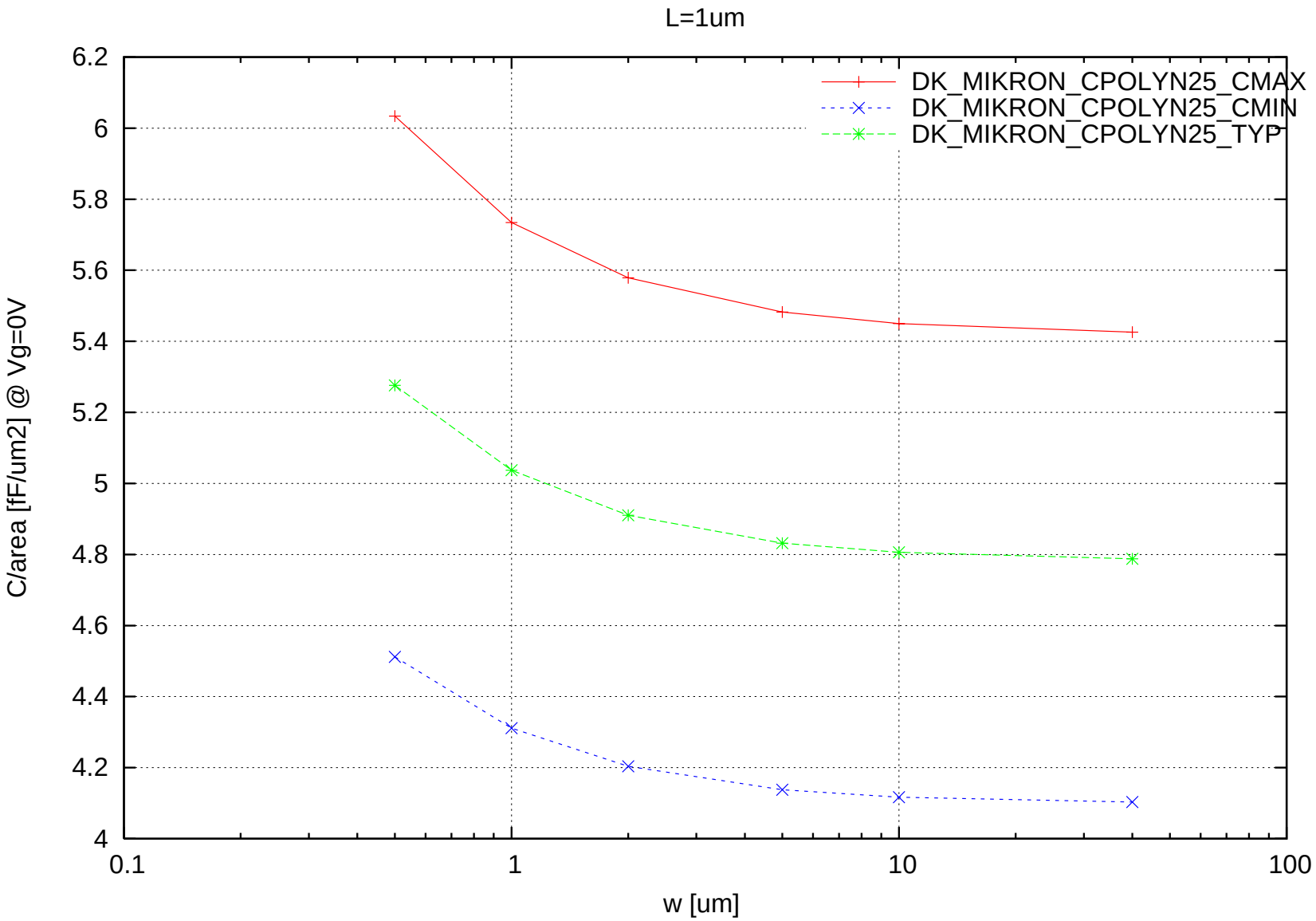
cpo25nw C/area [fF/um2] @ Vg=0V vs. l [um] , W=1um



cpo25nw C/area [fF/um2] @ Vg=3.3V vs. w [um] , L=1um



cpo25nw C/area [fF/um2] @ Vg=0V vs. w [um] , L=1um



CPO25PW

Electrical characteristics scaling

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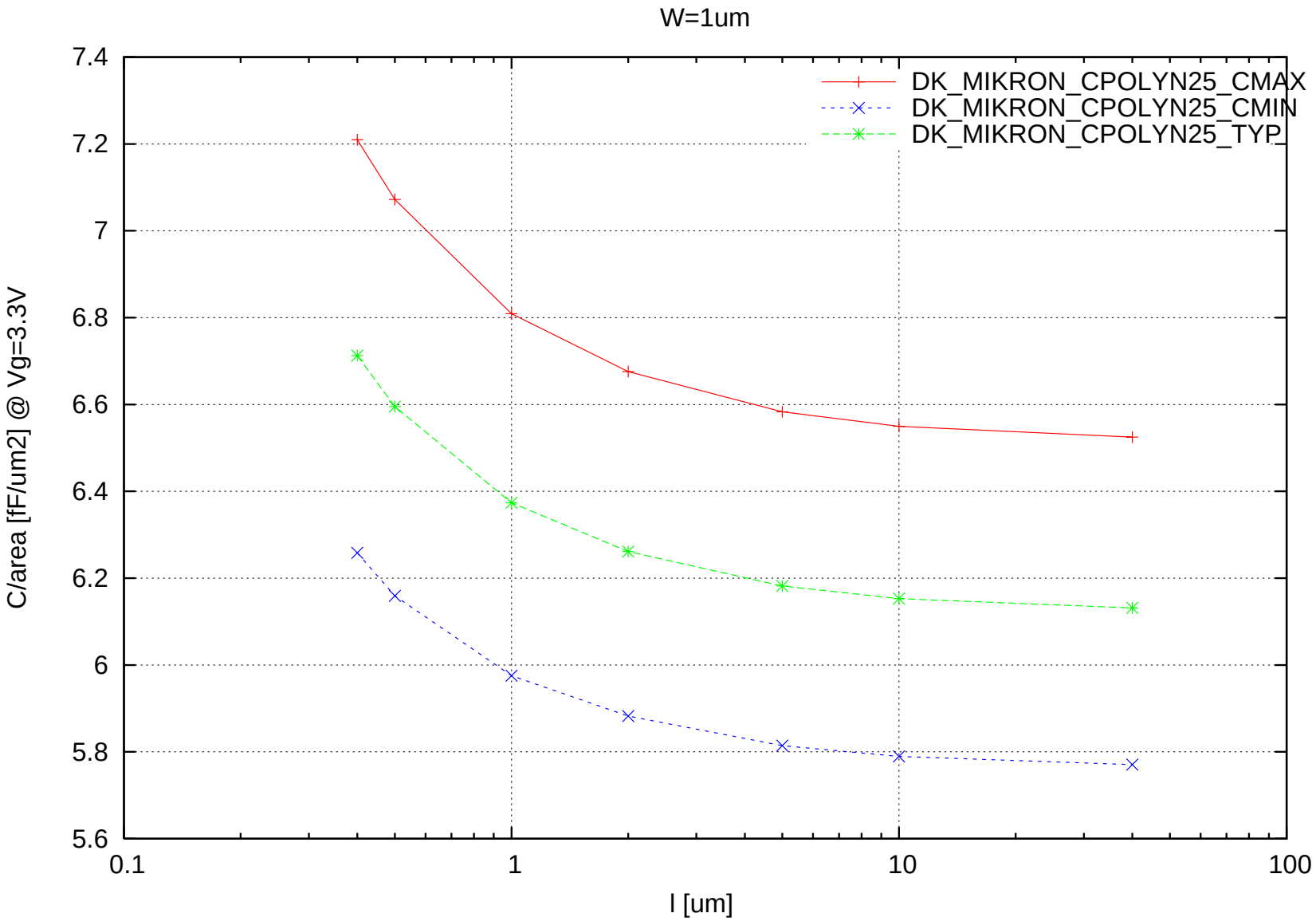
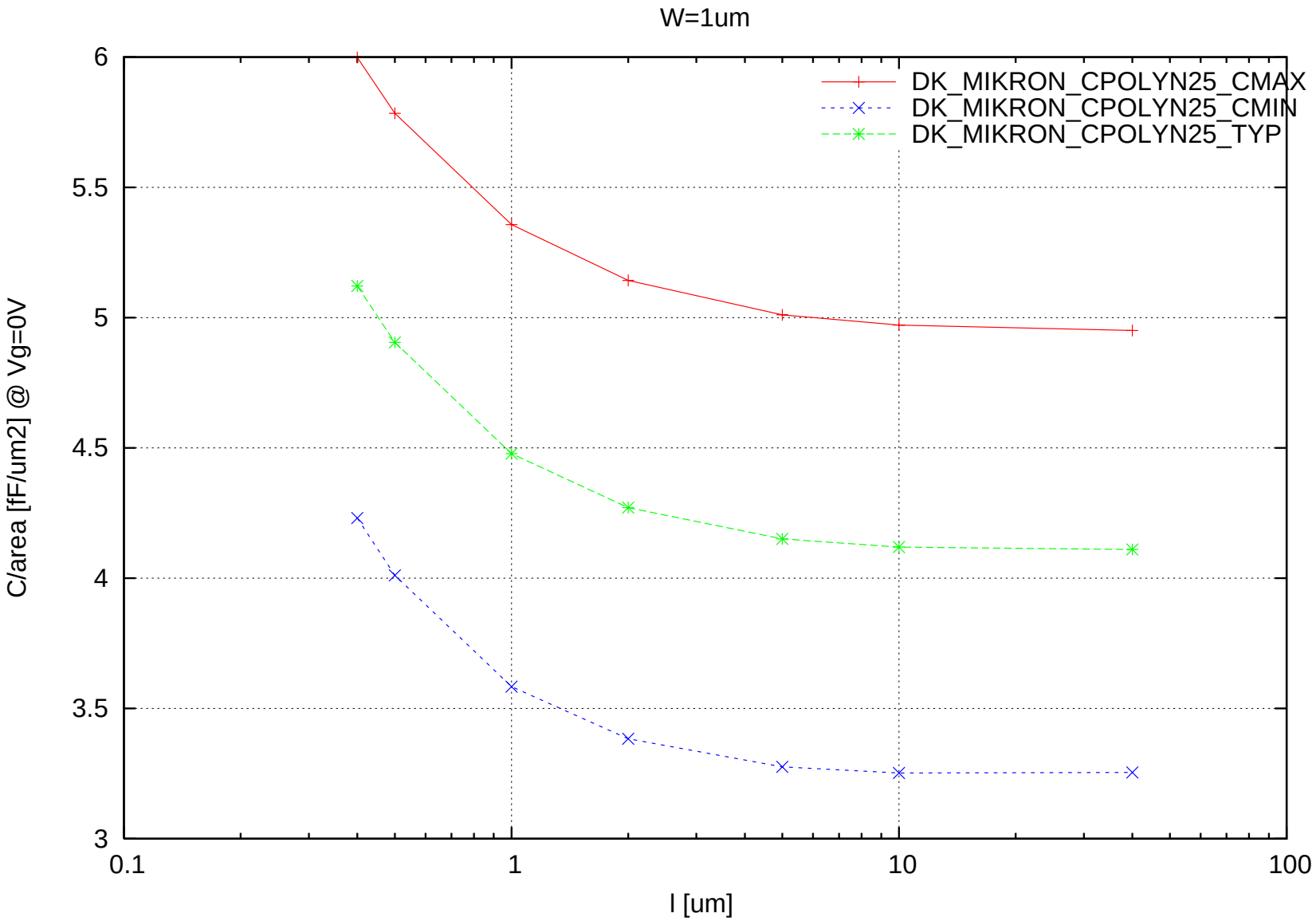
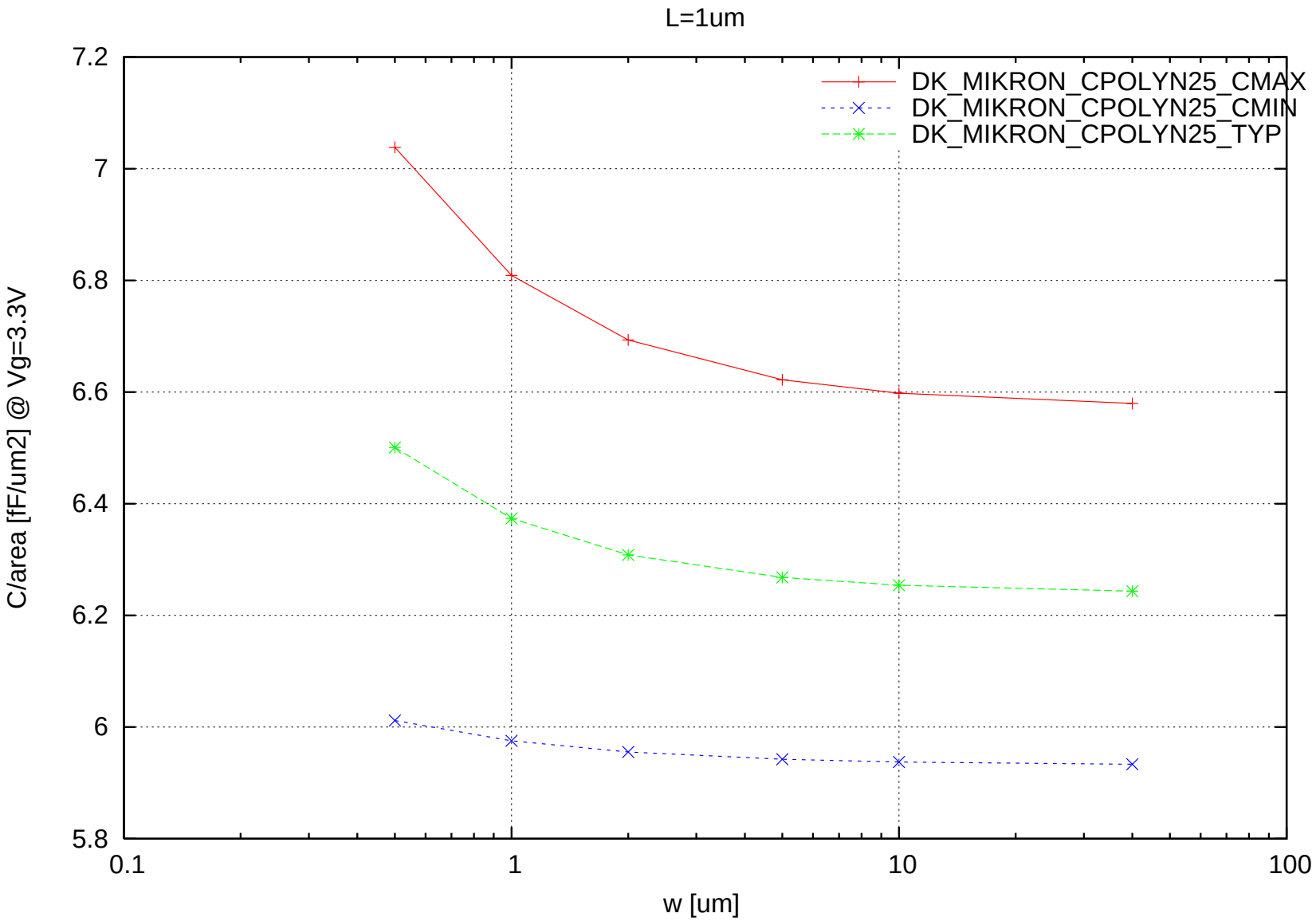


cpo25pw C/area [fF/um2] @ Vg=0V vs. l [um] , W=1um



cpo25pw C/area [fF/um2] @ Vg=3.3V vs. w [um] , L=1um



cpo25pw C/area [fF/um2] @ Vg=0V vs. w [um] , L=1um