CMOS090 technology
DIODEGATE25 models
DK_MIKRON

SPICE Models Benchmarks

June 2010

TR&D / STD / T2D /

Modeling / CM2A

General information on DIODEGATE25 models

Supply voltage (Vdd) is 2.5 V.

Validity domain is defined as follows:

Device temperature varies from -40 ˚C to 150 ˚C.

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 temp ° 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.

- **Cj:** Junction diode capacitance at Vr = 0 V, f = 100k Hz.
- **Ij:** Junction diode leakage current at Vr = 2.5 V.

DGNSVT25

Electrical characteristics per geometry

dgnsvt25 w=0.4 l=0.3 @ temp=25

	DGNSVT25_CMIN	DGNSVT25_TYP	DGNSVT25_CMAX
Cj [pF]	43.158	40.053	37.339
Ij [aA]	3395.7	354.54	36.952

DGPSVT25

Electrical characteristics per geometry

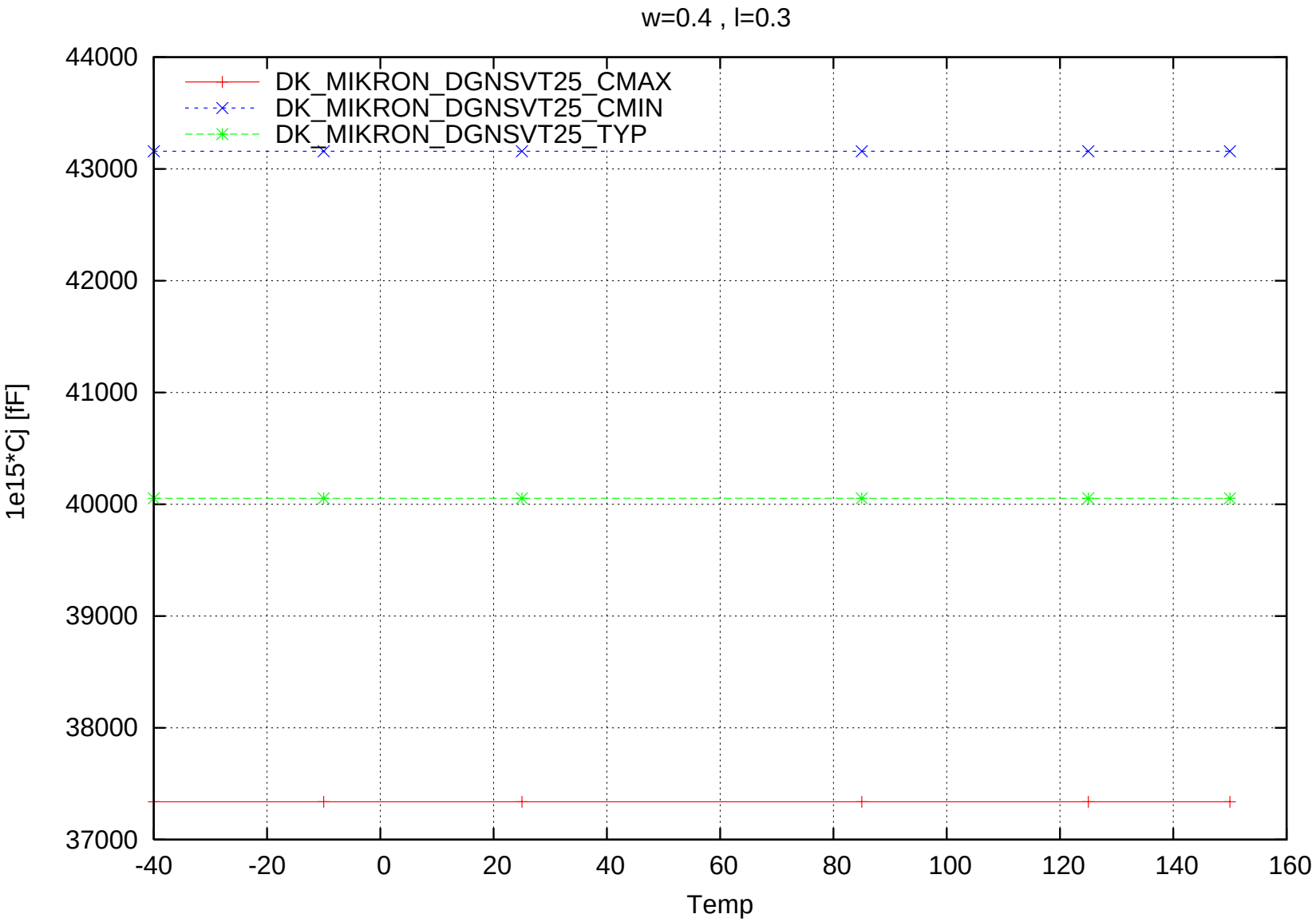
dgpsvt25 w=0.4 l=0.3 @ temp=25

	DGNSVT25_CMIN	DGNSVT25_TYP	DGNSVT25_CMAX
Cj [pF]	41.499	38.693	36.21
Ij [aA]	2867.4	299.16	31.157

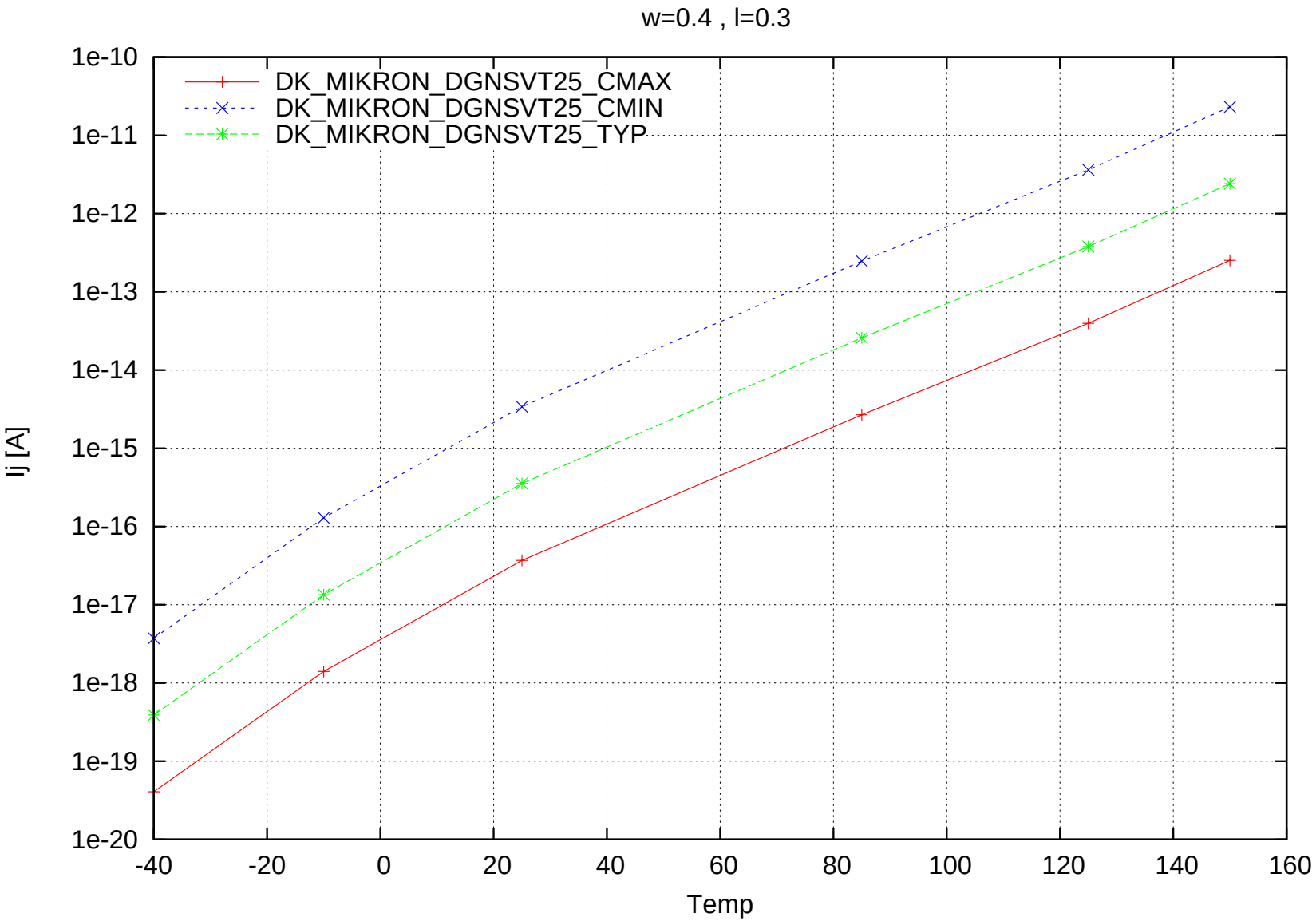
DGNSVT25

Electrical characteristics scaling

dgnsvt25 1e15*Cj [fF] vs. Temp , w=0.4 , l=0.3



dgnsvt25 Ij [A] vs. Temp , w=0.4 , l=0.3



DGPSVT25

Electrical characteristics scaling

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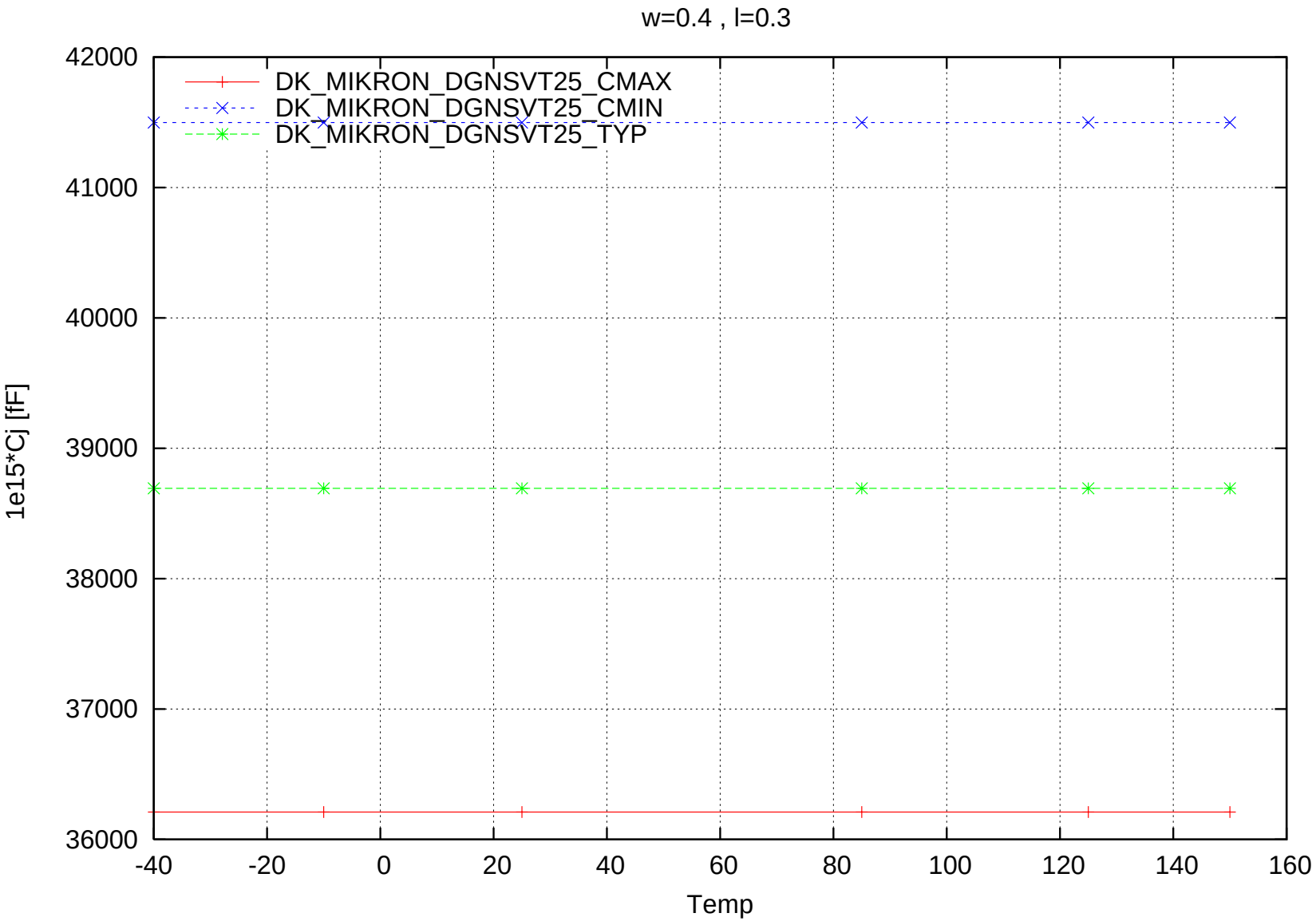

dgpsvt25 Ij [A] vs. Temp , w=0.4 , l=0.3