CMOS090 technology
DIODEISO models
DK_MIKRON

SPICE Models Benchmarks

June 2010

TR&D / STD / T2D /

Modeling / CM2A

General information on DIODEISO models

Supply voltage (Vdd) is 1.2 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 1.32 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 = 1.2 V.

DDNWPS

Electrical characteristics per geometry

ddnwps area=3 pj=10 @ temp=25

	DIODEISO_SLOW	DIODEISO_TYP	DIODEISO_FAST
Cj [fF]	10.714	8.9617	7.2096
Ij [aA]	880.84	8808.4	88084

DDNWPW

Electrical characteristics per geometry

ddnwpw area=3 pj=10 @ temp=25

	DIODEISO_SLOW	DIODEISO_TYP	DIODEISO_FAST
Cj [fF]	12.823	10.898	8.9723
Ij [aA]	404.7	4047	40470

DNWPS

Electrical characteristics per geometry

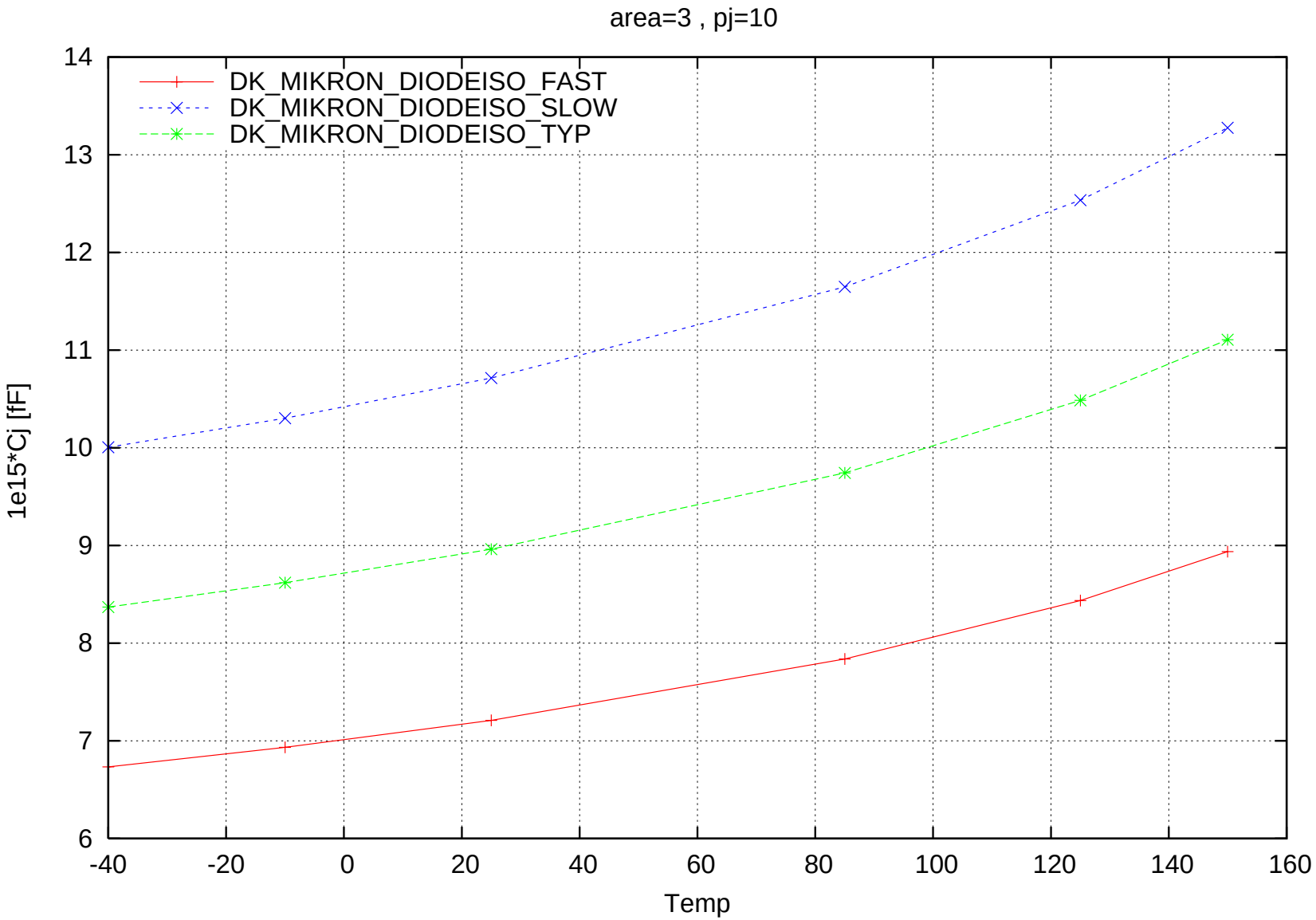
dnwps area=3 pj=10 @ temp=25

	DIODEISO_SLOW	DIODEISO_TYP	DIODEISO_FAST
Cj [fF]	11.138	9.313	7.4878
Ij [aA]	553.9	5539	55390

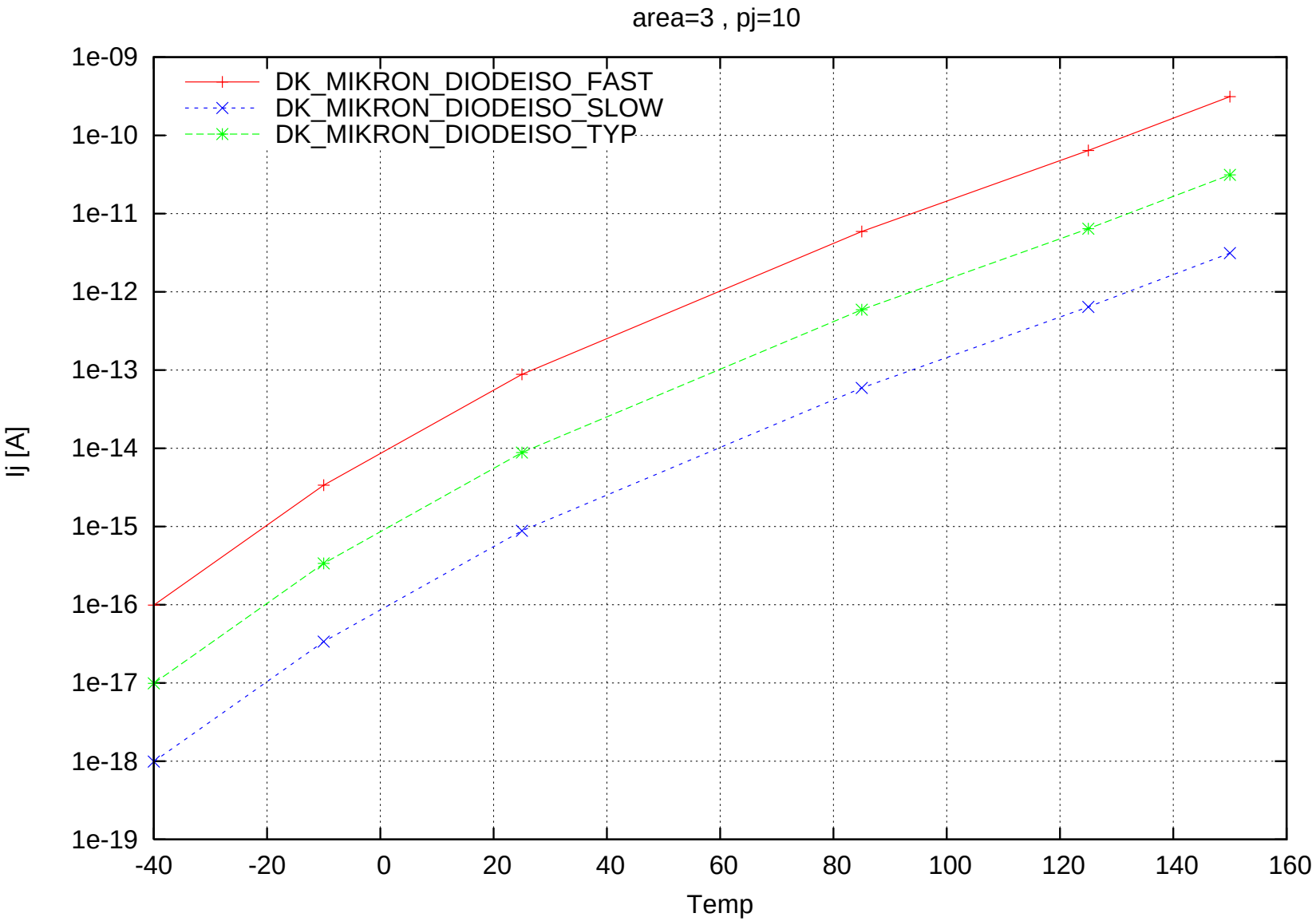
DDNWPS

Electrical characteristics scaling

ddnwps 1e15*Cj [fF] vs. Temp , area=3 , pj=10



ddnwps Ij [A] vs. Temp , area=3 , pj=10



DDNWPW

Electrical characteristics scaling

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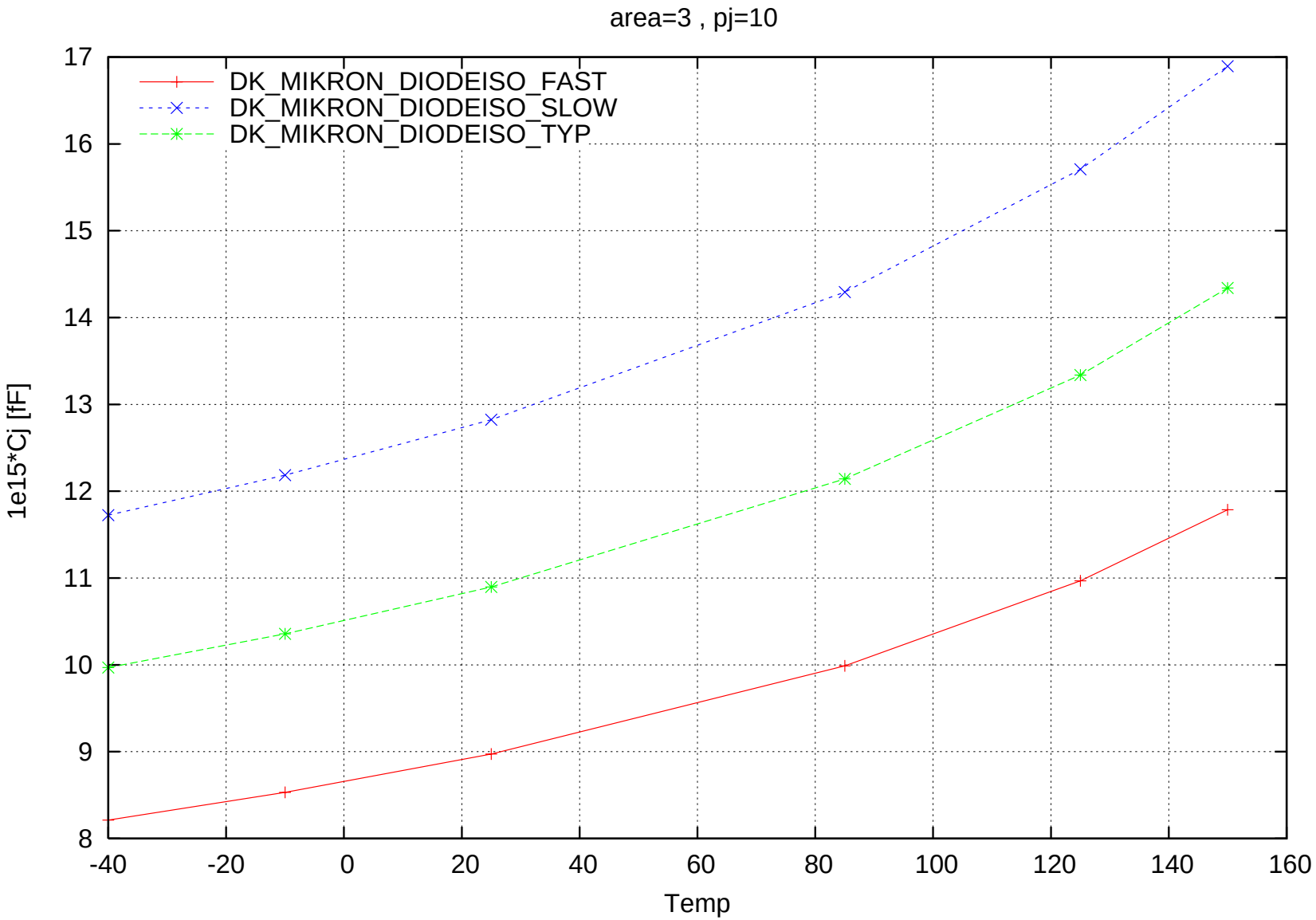
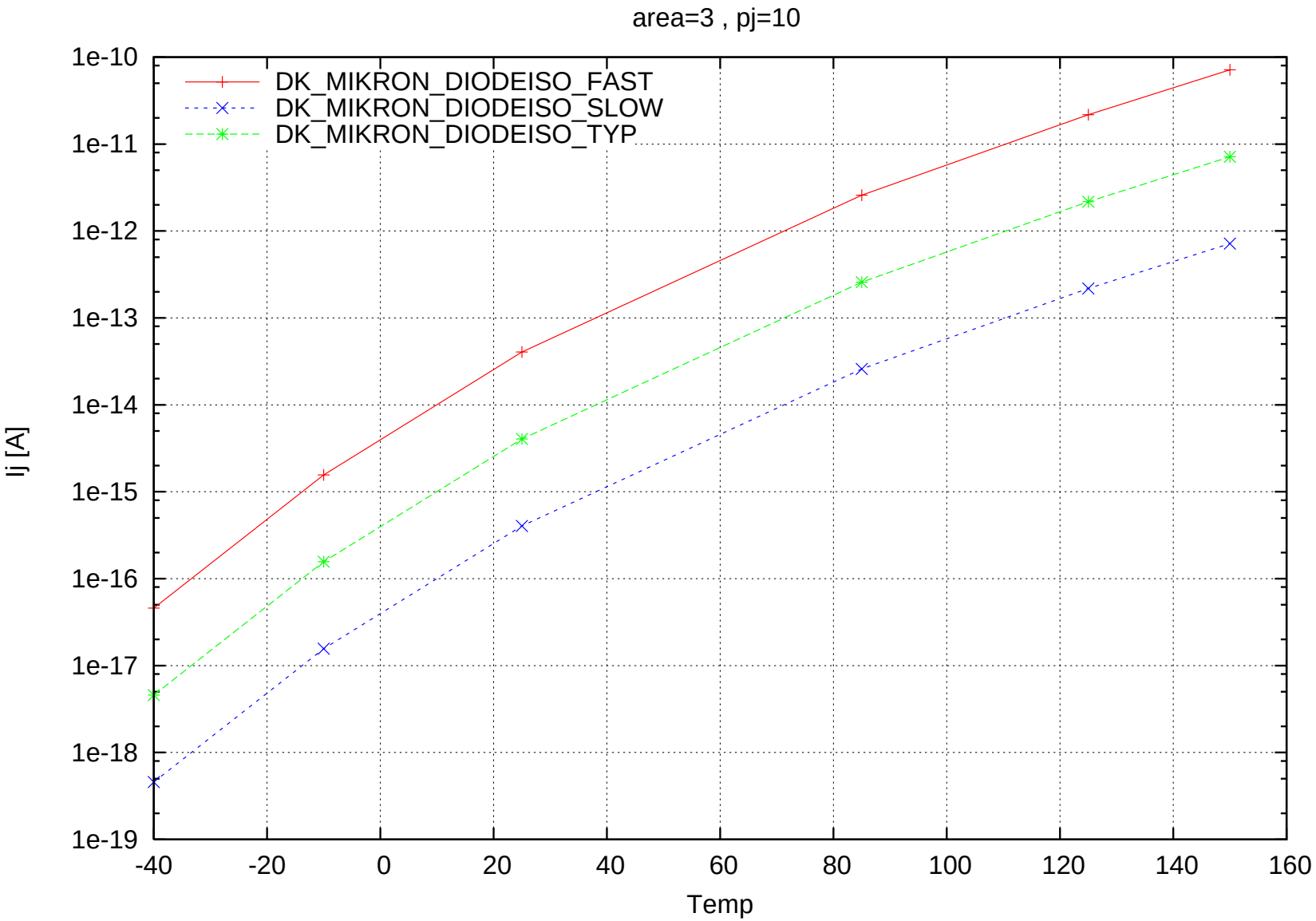


ddnwpw Ij [A] vs. Temp , area=3 , pj=10



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Electrical characteristics scaling

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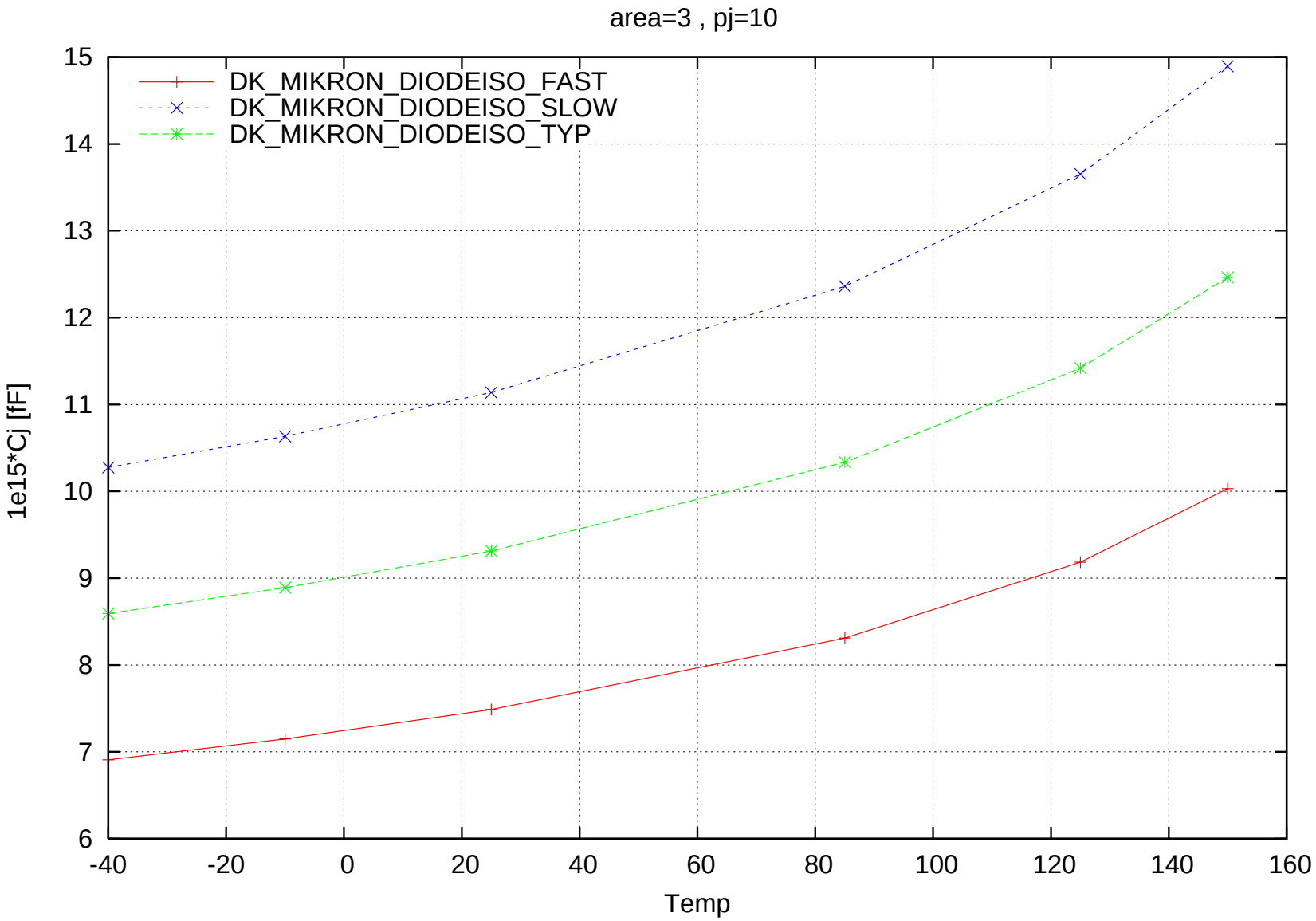

dnwps Ij [A] vs. Temp , area=3 , pj=10