

Changes from PSP 101.0 to PSP 102.0

- The value for **LG** when **SWJUNCAP** = 2 was corrected.

PSP 101.0	PSP 102.0
LGSOURCE = 0.0, LGDRAIN = 0.0 (Global)	LGSOURCE = W_E , LGDRAIN = W_E (Global)
LGSOURCE = 0.0, LGDRAIN = 0.0 (Local)	LGSOURCE = JW , LGDRAIN = JW (Local)

- The clipping/limiting behavior of **NP** has been made more transparent.

PSP 101.0	PSP 102.0
$NP = NPO \cdot \left(1 + NPL \frac{L_{EN}}{L_E}\right)$	$NP = NPO \cdot \text{MAX}(10^{-6}, 1 + NPL \frac{L_{EN}}{L_E})$
if $NP \leq 1$ or $NP \geq 10^{28}$ $k_p = 0$ if $1 < NP < 10^{28}$ $NP_1 = \text{MAX}(NP, 8 \cdot 10^7 / \text{TOX}^2)$ $NP_2 = \text{MAX}(NP_1, 3 \cdot 10^{25})$ $k_p = 2 \cdot \phi_T \cdot C_{OX}^2 / (q \cdot \epsilon_{Si} \cdot NP_2)$	if $NP = 0$ $k_p = 0$ if $NP > 0$ $NP_1 = \text{MAX}(NP, 8 \cdot 10^7 / \text{TOX}^2)$ $NP_2 = \text{MAX}(NP_1, 3 \cdot 10^{25})$ $k_p = 2 \cdot \phi_T \cdot C_{OX}^2 / (q \cdot \epsilon_{Si} \cdot NP_2)$

- The scaling rule for **DPHIB** is now correctly implemented¹.

PSP 101.0	PSP 102.0
DPHIB = DPHIBO ·	DPHIB = (DPHIBO + DPHIBL · $\left(\frac{L_{EN}}{L_E}\right)^{\text{DPHIBLEXP}}$) ·
$\left(1.0 + \text{DPHIBL} \cdot \left(\frac{L_{EN}}{L_E}\right)^{\text{DPHIBLEXP}}\right)$	$\left(1.0 + \text{DPHIBW} \cdot \left(\frac{W_{EN}}{W_E}\right)\right)$
$\left(1.0 + \text{DPHIBW} \cdot \left(\frac{W_{EN}}{W_E}\right)\right)$	$\left(1.0 + \text{DPHIBLW} \cdot \left(\frac{L_{EN}}{L_E}\right) \cdot \left(\frac{W_{EN}}{W_E}\right)\right)$
$\left(1.0 + \text{DPHIBLW} \cdot \left(\frac{L_{EN}}{L_E}\right) \cdot \left(\frac{W_{EN}}{W_E}\right)\right)$	

¹ Global parameter sets for PSP 101.0 can be transformed to PSP 102.0 by replacing **DPHIBL** (in 102.0 parameter set) by **DPHIBO·DPHIBL** (from 101.0 parameter set).

- A coding bug in the stress model (involving parameter **PKVTHO**) has been corrected.

PSP 101.0	PSP 102.0
$K_{vtho} = 1 + \frac{\mathbf{LKVTHO}}{(L + \Delta L_{PS})^{LLODVTH}} + \frac{\mathbf{WKVTHO}}{(W + \Delta WOD + \mathbf{WLOD})^{WLODVTH}}$	$K_{vtho} = 1 + \frac{\mathbf{LKVTHO}}{(L + \Delta L_{PS})^{LLODVTH}} + \frac{\mathbf{WKVTHO}}{(W + \Delta WOD + \mathbf{WLOD})^{WLODVTH}} + \frac{\mathbf{PKVTHO}}{(L + \Delta L_{PS})^{LLODVTH} \cdot (W + \Delta WOD + \mathbf{WLOD})^{WLODVTH}}$

- The parameters **LVARW** and **WVARL** have been removed from the binning model in order to ensure continuity of parameters across bin boundaries.

PSP 101.0 (binning option)	PSP 102.0 (binning option)
$\Delta L_{PS} = \mathbf{LVARO} \cdot (1 + \mathbf{LVARL} \cdot \frac{L_{EN}}{L}) \cdot (1 + \mathbf{LVARW} \cdot \frac{W_{EN}}{W})$ $\Delta W_{OD} = \mathbf{WVARO} \cdot (1 + \mathbf{WVARW} \cdot \frac{W_{EN}}{W}) \cdot (1 + \mathbf{WVARL} \cdot \frac{L_{EN}}{L})$	$\Delta L_{PS} = \mathbf{LVARO} \cdot (1 + \mathbf{LVARL} \cdot \frac{L_{EN}}{L})$ $\Delta W_{OD} = \mathbf{WVARO} \cdot (1 + \mathbf{WVARW} \cdot \frac{W_{EN}}{W})$

- A minor numerical issue has been resolved.

PSP 101.0	PSP 102.0
In the calculation of surface potential, the maximum limit of small value correction range was 10e-5 .	The maximum limit was changed to 1e-5 .

- A coding bug in JUNCAP2 (vA file "JUNCAP200_macrodefs.include") has been corrected.

PSP 101.0	PSP 102.0
<i>line 273</i> <code>`juncapfunction(...,vbigat,wdepnulrgat, VBIRBOTinv,PGAT_i,ftdgat,...)</code>	<code>`juncapfunction(...,vbigat,wdepnulrgat, VBIRGATinv,PGAT_i,ftdgat,...)</code>