

RF PDK Checklist

Foundry - TSMC Process - 0.18um RF PDK Revision - Version 1.0a 01/07/2010 Page 1 of 3

PDK Support Contact

E-mail pdk@tsmc.com

Foundry Process Documents

| Udildry 1 100033 | Documents | | | |
|----------------------------|--|-----|--------------------|----------------------|
| | | | | |
| Design Manual (Devices) | T-018-LO-DR-001 | | 2.8 | 07/16/09 |
| Electrical Parameters | ^ '0' | | | |
| Design Layout Rules | T-018-LO-DR-001 | | 2.8 | 07/16/09 |
| Spice Model | T-018-CM-SP-018 | | 1.0 | 09/11/09 |
| RF Parameters/Modeling | T-018-CM-SP-018 | | 1.0 | 09/11/09 |
| Noise Model | T-018-CM-SP-018 | | 1.0 | 09/11/09 |
| Matching Models | T-018-CM-SP-018 | | 1.0 | 09/11/09 |
| ESD Guidelines | 10 00 03 | 2.0 | | |
| DRC | T-018-LO-DR-001-C1 T-018-LO-DR-001-U1 | 0, | 2.8a 2.8a | 06/25/09 09/09/09 |
| LVS | T-018-CM-SP-018-C1 T-018-CM-SP-018-U1 | | 1.0c 1.0b | 12/02/09 12/16/09 |
| Parasitic Extraction | T-018-MM-SP-001-X1 T-018-MM-SP-001-V1 | | 1.5c 1.5a | 12/05/08 08/19/08 |
| Layer Map | T-018-LO-LE-004 | | 2.8b_pre1 10309 | 11/03/09 |
| | | | | |
| | | | | |



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EDA Tools Supported and Verified for Use with this PDK

| Туре | Vendor and Tool | Version | Version Date |
|-----------------------|--|--------------------|-----------------|
| Schematic | Cadence Design Systems, Inc / Composer | 6.1.4.500.2 | |
| Simulation Control | Cadence Design Systems, Inc / Analog Design Environment | 6.1.4.500.2 | |
| Layout Editor | Cadence Design Systems, Inc / Virtuoso VirtuosoXL | 6.1.4.500.2 | |
| Circuit Simulator (A) | Cadence Design Systems, Inc / Spectre | 7.0.1.146 | |
| Circuit Simulator (B) | Synopsys / Hspice – HspiceD | 2009.09 | |
| Circuit Simulator (C) | Cadence Design Systems, Inc / Verilog | 08.20.004 | |
| Circuit Simulator (D) | Mentor Graphics Corporation, Inc / Eldo | 2009.2 | |
| DRC Checker | Cadence Design Systems, Inc / Assura Mentor Graphics Corporation, Inc / Calibre | 41 2009.2_18.12 | |
| LVS Checker | Cadence Design Systems, Inc / Assura Mentor Graphics Corporation, Inc / Calibre | 41 2009.2_18.12 | • |
| Parasitic Extractor | Cadence Design Systems, Inc / Assura Mentor Graphics Corporation, Inc / Calibre | 41 2009.2_18.12 | 9 |

F S A

FABLESS SEMICONDUCTOR ASSOCIATION

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| Device Type | Device Name | Comment | Terminals | Symbol | Spice-Mod | 1/f Noise | HF Noise | Stat Mod | Sim-Net-A | Sim-Net-B | Sim-Net-C | Sim-Net-D | LVS Net | SDL Net | GDS | P-Params | Sim-Test-A | Sim-Test-B | Sim-Test-C | Sim-Test-D | DRC Test | LVS Test | Pcell Test |
|----------------|----------------|---------|-----------|--------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|---------|---------|-----|----------|------------|------------|------------|------------|----------|----------|------------|
| MOS | nmos2vx | | 3 | Χ | Χ | | | | Х | Х | Χ | Х | Х | Х | Х | 51 | Х | Х | Χ | Χ | Χ | Х | Χ |
| | nmos2v macx | | 3 | Χ | Χ | | | X | Х | Х | Х | Х | Х | Х | Х | 51 | Х | Х | Х | Χ | Х | Х | Χ |
| | nmos2vdnwx | | 3 | Χ | Χ | | | | × | Х | Х | Х | Х | Х | X | 51 | Х | Х | X | Χ | Х | Х | X |
| | nmos3vx | | 3 | Χ | Χ | | | | Х | Х | Х | Х | Х | Х | Χ | 51 | Х | Х | Х | Χ | Х | Х | Χ |
| | nmos3v macx | | 3 | X | Χ | | | Х | X | X | Х | Х | Х | Х | Х | 51 | Х | Х | Х | Χ | Χ | Х | X |
| | nmos3vdnwx | | 3 | X | Χ | | | | X | X | Х | Х | Х | Х | X | 51 | Х | Х | X | Χ | Х | Χ | X |
| | nmosmvt2vx | | 3 | Χ | Χ | | 4 | | Х | Χ | X | Х | Х | Х | X | 51 | Х | Х | Х | Χ | Х | Х | Χ |
| | nmosmvt2v macx | | 3 | Χ | Χ | 5 | | X | Х | Х | X | Χ | Х | Х | Х | 51 | Х | Х | Χ | Χ | Х | Х | Х |
| | nmosmvt3vx | | 3 | Χ | Χ | | | | X | X | X | X | Х | Х | X | 51 | Х | Х | Χ | Χ | Х | Х | X |
| | nmosmvt3v macx | | 3 | Χ | Х | - | | X | X | Х | Х | X | Х | X | Χ | 51 | Х | Х | Χ | Χ | Х | Х | Χ |
| | nmosnvt2vx | | 3 | Χ | X | | 7 | | Х | Х | X | Х | Х | Х | Х | 42 | Х | Х | Х | Χ | Х | Х | Х |
| | nmosnvt2v macx | | 3 | Χ | X | | | X | Х | Х | X | X | X | Χ | X | 42 | Х | Х | Χ | Χ | Х | Х | Χ |
| | nmosnvt3vx | | 3 | Χ | Х | | 2 | | X | Χ | X | Х | Х | Χ | Х | 42 | Х | Х | Χ | Χ | Х | Х | Χ |
| | nmosnvt3v macx | | 3 | Χ | Χ | | | X | X | Х | Х | Х | Х | Х | X | 42 | Х | Х | Х | Χ | Х | Х | Χ |
| | pmos2vx | | 3 | Χ | Х | | | | Х | Х | X | Х | Х | Х | X | 51 | Х | Х | Χ | Χ | Х | Х | Χ |
| | pmos2v macx | | 3 | Χ | Х | | | X | X | Х | X | Х | Х | Х | Х | 51 | X | Х | Χ | Χ | Х | Х | Χ |
| | pmos3vx | | 3 | Χ | Х | | | | X | Χ | X | Х | Х | Х | Χ | 51 | X | X | Χ | Χ | Х | Х | Χ |
| | pmos3v macx | | 3 | Χ | Х | | | Χ | X | Х | Х | X | Х | Х | Χ | 51 | Х | Χ | Χ | Χ | Х | Х | Χ |
| | pmosmvt2vx | | 3 | Χ | Х | | | | X | Х | Х | Х | Х | Х | Χ | 51 | Х | X | Χ | Χ | Х | Х | Χ |
| | pmosmvt2v macx | | 3 | Χ | Х | | | Χ | Х | Х | Х | Х | Х | Χ | Χ | 51 | Х | X | Χ | Χ | Х | Х | Χ |
| | rfnmos2v | | 4 | Χ | Χ | | | | Х | Х | Χ | Χ | Χ | Χ | ٠X | 12 | Х | Χ | Х | Χ | Х | Χ | Χ |
| | rfpmos2v | | 4 | Χ | Χ | | | | Χ | Х | Χ | Χ | Х | Χ | Χ | 11 | Х | Χ | Χ | Χ | Χ | Χ | Χ |
| | rfnmos3v | | 4 | Χ | Χ | | | | Χ | Х | Χ | Χ | Х | Х | X | 12 | Х | Χ | Χ | Χ | Х | Χ | Χ |
| | rfpmos3v | | 4 | Χ | Χ | | | | Х | Х | Χ | Χ | Х | Χ | Χ | 11 | Х | Χ | Χ | Χ | Х | Χ | Χ |
| | rfnmos2v_6t | | 6 | Χ | Χ | | | | Х | Х | Χ | Χ | Х | Χ | Χ | 14 | X | Χ | Χ | Χ | Х | Χ | Χ |
| | rfnmos3v_6t | | 6 | Χ | Χ | | | | Х | Х | Χ | Χ | Х | Χ | Χ | 14 | X | Х | Χ | Χ | Х | Χ | Χ |
| | rfpmos2v_5t | | 5 | Χ | Х | | | | Χ | Х | Χ | Х | Х | Χ | Χ | 12 | X | Χ | Χ | Χ | Χ | Χ | Χ |
| | rfpmos2v_nw | | 4 | Χ | Χ | | | | Х | Х | Χ | Χ | Х | Χ | Χ | 11 | X | Χ | X | Χ | Χ | Χ | Χ |
| | rfpmos2v_nw_5t | | 5 | Χ | Χ | | | Χ | Х | Х | Χ | Χ | Х | Χ | Χ | 12 | Х | Χ | Χ | Χ | Χ | Χ | Χ |
| | rfpmos3v_5t | | 5 | Х | Х | | | | Х | Х | Х | Х | Х | Χ | Χ | 12 | Х | Х | X | Χ | Χ | Χ | Χ |
| | rfpmos3v_nw | | 4 | Х | Х | | | | Х | Х | Х | Х | Х | Χ | Χ | 11 | Х | Χ | Χ | Χ | Χ | Χ | Χ |
| | rfpmos3v_nw_5t | | 5 | Χ | Χ | | | Χ | Х | Х | Х | Х | Х | Х | Χ | 12 | Х | Х | Χ | Х | Х | Х | Χ |
| | nmos2v | | 4 | Χ | Χ | | | | Х | Х | Х | Х | Х | Χ | Χ | 51 | Х | Х | Χ | Χ | Χ | Χ | Χ |
| | nmos2v_mac | | 4 | Χ | Χ | | | Χ | Х | Х | Х | Х | Х | Χ | Χ | 51 | Х | Х | Χ | Χ | Χ | Х | Χ |
| | nmos2vdnw | | 4 | Χ | Χ | | | | Χ | Х | Х | Χ | Х | Χ | Χ | 51 | Х | Х | Χ | Χ | Χ | Χ | Χ |
| | nmos3v | | 4 | Χ | Χ | | | | Х | Х | Х | Х | Х | Χ | Χ | 51 | Х | Х | Χ | Χ | Χ | Χ | Χ |
| | nmos3v_mac | | 4 | Χ | Χ | | | Χ | Х | Х | Х | Х | Х | Χ | Χ | 51 | Х | Х | Χ | Χ | Χ | Χ | Χ |
| | nmos3vdnw | | 4 | Χ | Χ | | | | Х | Χ | Х | Х | Х | Х | Χ | 51 | Х | Х | Χ | Х | Χ | Х | Χ |

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| | nmosmvt2v | | 4 | Х | Х | | | | Х | Х | Х | Х | Х | Х | Х | 51 | Х | Х | Х | Х | Х | Х | Х |
|---------|-----------------------|---|---|-----|----------|---|---|---|---|---|---|----|---|---|---|----|---|---|---|---------------------------------------|---|---|---|
| | nmosmvt2v mac | | 4 | Χ | Χ | | | Х | Х | Х | Х | Х | Х | Х | Х | 51 | Х | Х | Х | Х | Х | Х | Х |
| | nmosnvt2v | | 4 | Х | Χ | | | | Х | Х | Х | Х | Х | Х | Х | 42 | Х | Х | Х | Х | Х | Х | Х |
| | nmosnvt2v mac | | 4 | Χ | Χ | | | Х | Х | Х | Х | Х | Х | Х | Х | 42 | Х | Х | Х | Х | Х | Х | Х |
| | nmosnvt3v | | 4 | Х | Х | | | | Х | Х | Χ | Х | Х | Х | Х | 42 | Х | Х | Х | Х | X | Х | X |
| | nmosnvt3v mac | | 4 | Χ | Χ | | | Х | Х | Х | Х | Х | Х | Х | Х | 42 | Х | Χ | Х | Х | Х | Х | Х |
| | nmosmvt3v | | 4 | Х | X | | | | Х | Х | Χ | Х | Х | Х | Х | 51 | Х | Х | Х | Х | Х | Х | X |
| | nmosmvt3v mac | | 4 | Х | Х | | | Х | Х | Х | Х | Х | Х | Х | Х | 51 | Х | Х | Х | Х | X | Х | X |
| | pmos2v | | 4 | Х | X | | | | Х | Х | Х | Х | Х | Х | Х | 51 | Х | Х | Х | Х | Х | Х | X |
| | pmos2v mac | | 4 | Χ | Χ | | | Х | Х | Х | Х | Х | Х | Х | Х | 51 | Х | Χ | Х | Х | Х | Х | Х |
| | pmos3v | | 4 | X | X | | | | X | X | X | X | X | X | X | 51 | X | Х | X | X | X | X | X |
| | pmos3v mac | | 4 | X | X | | | Х | X | X | X | X | X | Х | Х | 51 | X | Х | X | Х | X | X | X |
| | pmosmvt2v | | 4 | X | X | | | | X | X | X | X | X | Х | Х | 51 | X | Х | X | Х | X | X | X |
| | pmosmvt2v mac | | 4 | X | X | | | Х | X | X | X | X | X | X | X | 51 | X | Х | X | X | X | X | X |
| | pincomitter_mac | | | | <u> </u> | | | | | | | ,, | 1 | | | | | | | , , , , , , , , , , , , , , , , , , , | | | |
| PAD | Icesd1 rf | | 2 | X | Χ | | | | Χ | Χ | Х | Χ | Х | Χ | Χ | 1 | Х | Х | Χ | Χ | Χ | Χ | Х |
| 17.0 | lcesd2_rf | | 2 | X | X | | | | X | X | X | X | X | X | Х | 1 | X | Х | X | X | X | X | X |
| | 100002_11 | | | -/- | | | | | | | | | | | | | | | | | | | |
| VAR | ivar | | 3 | Х | X | | | | Х | Х | Χ | Χ | Χ | Χ | Χ | 5 | Х | Х | Χ | Χ | Х | Χ | Х |
| V/ (1 C | moscap_rf | | 3 | X | X | | | | Х | X | X | X | X | X | Х | 6 | X | Х | X | X | X | X | X |
| | moscap_rf33 | | 3 | X | X | | | | Х | X | X | X | X | X | Х | 6 | X | Х | X | X | X | X | X |
| | moscap_rf33 nw | | 3 | X | X | | - | | X | X | X | X | X | X | Х | 6 | X | Х | X | Х | X | X | X |
| | moscap_rf_nw | | 3 | X | X | | | | X | X | X | X | X | X | X | 6 | X | X | X | X | X | X | X |
| | mos var b | | 2 | X | X | | | | X | X | X | X | X | X | X | 4 | X | X | X | X | X | X | X |
| | mos_var_b3 | | 2 | X | X | | | | X | X | X | X | X | X | X | 4 | X | Х | X | X | X | X | X |
| | IIIOS_vai_US | | | ^ | ^ | | | | ^ | ^ | ^ | ^ | ^ | ^ | ^ | | ^ | ^ | ^ | ^ | ^ | ^ | ^ |
| DIO | dioden | | 2 | Χ | Х | | , | | Χ | Χ | X | Χ | Χ | Χ | Χ | 3 | Χ | Χ | Χ | Χ | Χ | Χ | Х |
| | dioden3v | | 2 | Х | X | | | | X | Χ | X | X | Х | Х | Х | 2 | Χ | Х | Χ | Χ | Х | Χ | Χ |
| | diodenw | | 2 | X | Х | • | | | X | X | Χ | X | Х | Χ | Х | 3 | Χ | Х | Χ | Χ | Х | Χ | Χ |
| | diodenw3v | | 2 | X | X | | | | Х | X | X | X | X | X | Χ | 3 | Χ | Х | Χ | Χ | Χ | Χ | Х |
| | diodep | | 2 | Χ | X | | | | X | X | X | Χ | X | X | Χ | 3 | Х | Χ | Χ | Χ | Χ | Х | Х |
| | diodep3v | | 2 | Χ | X | | | | X | Χ | X | X | Χ | X | Χ | 2 | Χ | Х | Χ | Χ | Χ | Х | Х |
| | ndio_3m | | 2 | Х | Χ | | | | X | X | Χ | Х | Χ | X | X | 3 | Х | Х | Χ | Χ | Χ | Χ | Χ |
| | ndio_m | | 2 | Х | Χ | | | 3 | X | X | Χ | Χ | Χ | Χ | X | 3 | Х | Х | Χ | Χ | Χ | Χ | Χ |
| | pdio_m | | 2 | Х | Х | | | | X | Χ | X | Χ | Х | Χ | Χ | 3 | X | Х | Χ | Х | Χ | Χ | Χ |
| | sbd_rf | | 3 | Х | Х | | | | X | Χ | X | Χ | Χ | Χ | Χ | 4 | Χ | Х | Χ | Χ | Χ | Χ | Χ |
| | sbd_rf_nw | | 3 | Х | Х | | | | Χ | Χ | X | Χ | Χ | Χ | Χ | 4 | X | Χ | Χ | Χ | Χ | Χ | Х |
| CAP | crtmom | | 3 | Х | Х | | | X | X | X | X | X | X | X | Х | 9 | X | X | Х | Х | Х | Х | Х |
| - O/ 11 | cfmom | | 3 | X | X | | | X | X | X | X | X | X | X | X | 8 | X | X | X | X | X | X | X |
| | cfmom_rf | | 3 | X | X | | | X | X | X | X | X | X | X | X | 13 | X | X | X | X | X | X | X |
| | cfmom_mx | | 5 | X | X | | | X | X | X | X | X | X | X | X | 8 | X | X | X | X | X | X | X |
| | mimcap_1p0_sin | | 2 | X | X | | | X | X | X | X | X | X | X | X | 9 | X | X | X | X | X | X | X |
| | mimcap_1p0_sin_3 | | 3 | X | X | | | X | X | X | X | X | X | X | X | 9 | X | X | X | X | X | X | X |
| | t | | | | | | | | ^ | | | | | | | | | ^ | | | | ^ | |
| | mimcap_2p0_sin | | 2 | Χ | Χ | | | Х | Х | Х | Х | Х | Х | Х | Х | 9 | X | Χ | Х | Х | Х | Х | Χ |
| | mimcap_2p0_sin_3 t | | 3 | Х | Х | | | Х | Х | Х | Х | Х | Х | Х | Х | 9 | X | X | X | Х | Х | Х | Х |
| | mimcap_rf_40k_2p | | 3 | Х | Х | | | Х | Х | Х | Х | Х | Х | Х | Х | 8 | Х | Χ | X | Х | Х | Х | Х |
| | mimcap_rf_2p0 | | 3 | Х | Χ | | | Χ | Х | Χ | Χ | Χ | Х | Χ | Χ | 8 | Х | Χ | Χ | Χ | Χ | Х | Χ |
| ріт | nnn | 1 | 2 | | | | | | ~ | | | | V | | ~ | 2 | | ~ | | | | | _ |
| BJT | npn npn min | 1 | 3 | X | X | | | | X | X | X | X | X | X | X | 2 | X | X | X | X | X | X | X |
| | npn_mis | 1 | | X | X | | | Χ | X | X | X | X | X | X | X | 2 | X | X | X | X | X | X | X |
| | vpnp | 1 | 3 | X | X | | | - | X | X | X | X | X | X | X | 2 | X | X | X | X | X | X | X |
| - | vpnp3 | 1 | 3 | X | | | | | X | X | X | X | X | X | X | 2 | X | X | X | X | X | X | X |
| | vpnp_mis | 1 | 3 | Χ | X | | | Χ | Χ | Χ | Х | Χ | Χ | Χ | Χ | | Χ | Χ | Χ | Χ | Χ | Χ | Χ |

| RES | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|----------------------------|---|-----|---|---|---|---|---|---|---|---|---|---|---|----|---|---|---|---|---|----------|------------------------|
| - 1 | rm1 | | 2 | Х | Х | | | Х | Х | Х | Х | Х | Х | Х | 5 | Х | Х | Х | Х | Х | Х | Х |
| 1 | rm2 | | 2 | X | X | | | Х | X | X | Х | X | X | Х | 5 | X | X | Х | X | Х | X | X |
| | rm3 | | 2 | Х | Х | | | Х | Х | X | Х | X | X | Х | 5 | X | X | Х | X | Х | X | X |
| | rm4 | | 2 | X | X | | | Х | Х | X | Х | X | X | Х | 5 | X | X | X | X | Х | X | X |
| | rm5 | | 2 | Х | Х | | | Х | Х | Х | Х | Х | Х | Х | 5 | Х | Х | Х | Х | Х | Х | Х |
| | rmt | | 2 | Х | Х | | | Х | Х | Х | Х | Х | Х | Х | 5 | Х | Х | Х | Х | Х | Х | X |
| | rmu 40k | | 2 | Х | Х | | | Х | Х | Х | Х | Х | Х | Х | 5 | Х | Х | Х | Х | Х | Х | X |
| | rnhpoly | | 2 | Х | Х | | Х | Х | Х | Х | Х | Х | Х | Х | 9 | Х | Х | Х | Х | Х | Х | Х |
| | rnhpoly dis | | 3 | Х | Χ | | Х | Χ | Х | Х | Х | Х | Х | Х | 9 | Х | Х | Х | Х | Х | Χ | Х |
| | rnlplus | | 3 | Х | Х | | Х | Х | Х | Х | Х | Х | Х | Х | 9 | Х | Х | Х | Х | Х | Χ | Х |
| | rnlplus_2t | | 2 | Х | Х | | Χ | Х | Х | Х | Х | Х | Х | Х | 9 | Х | Х | Х | Х | Х | Χ | Х |
| | rnlpoly | | 2 | Х | Х | | Χ | Х | Х | Х | Х | Х | Х | Х | 9 | Х | Х | Х | Х | Х | Χ | Χ |
| | rnlpoly dis | | 3 | Х | Х | | Χ | Х | Х | Х | Х | Х | Χ | Х | 9 | Х | Х | Х | Х | Х | Χ | Χ |
| | rnplus | | 3 | Х | Х | | Χ | Х | Х | Χ | Х | Χ | Χ | Х | 9 | Χ | Х | Х | Χ | Х | Χ | Х |
| | rnplus_2t | | 2 | X | Χ | | Χ | Х | Х | Χ | Х | Х | Х | Х | 9 | Х | Х | Х | Х | Χ | Χ | Х |
| | rnwell | | 2 | Χ | X | | | Χ | Χ | Х | Х | Х | Х | Х | 6 | Х | Х | Х | Х | Х | Х | Х |
| | rnwod | | 3 | Х | X | | | Х | Х | Χ | Х | Χ | Х | Х | 6 | Х | Х | Х | Х | Χ | Χ | Х |
| | rnwod_2t | | 2 | Х | Χ | | | Χ | Х | Х | Χ | Х | Х | Х | 6 | Х | Х | Х | Х | Х | Х | Χ |
| | rnwsti_m | • | 3 | Х | Х | | | Х | Х | Х | Х | Х | Х | Х | 6 | Χ | Х | Х | Х | Х | Χ | Х |
| | rphpoly | | 2 | Х | Х | | Х | Х | Х | Х | Х | Х | Х | Х | 9 | Х | Х | Х | Х | Х | Х | Х |
| | rphpoly_dis | | 3 | Х | Х | | X | Х | Х | Х | Х | Х | Х | Х | 9 | Х | Х | Х | Х | Х | Х | Х |
| | rphripoly | | 2 | Х | Х | | X | X | Х | Х | Х | Х | Х | Х | 9 | Х | Х | Х | Х | Х | Χ | Х |
| | rphripoly_dis | | 3 | X | Х | | Χ | X | X | Χ | Х | Χ | Χ | Χ | 9 | Χ | Χ | Χ | Χ | Χ | Χ | Χ |
| | rplplus | | 3 < | Χ | X | | Χ | X | X | Х | Х | Х | Х | Х | 9 | Х | Χ | Х | Х | Х | Х | Χ |
| | rplplus_2t | | 2 | X | Χ | | X | Х | X | Χ | Х | Χ | Χ | Х | 9 | Х | Χ | Χ | Х | Χ | Χ | Χ |
| | rplpoly_dis | | 2 | Х | X | 4 | X | X | X | X | X | Χ | Χ | Х | 9 | Х | Х | Χ | Х | Х | Χ | Χ |
| | rplpoly_dis | | 3 | Х | X | | Χ | X | Χ | X | X | Χ | Х | Х | 9 | Χ | Х | Х | Х | Χ | Χ | Χ |
| | rpplus | | 3 | X | Х | | Х | X | X | X | X | Х | Х | Х | 9 | Х | Х | Х | Х | Х | Χ | Х |
| | rpplus_2t | | 2 | X | X | | Χ | X | X | X | X | X | X | Χ | 9 | Х | Х | Χ | Х | Х | Χ | Х |
| | rphpoly_rf | | 3 | X | X | | X | Χ | X | X | Χ | X | X | Χ | 6 | Χ | Χ | Х | Χ | Χ | Χ | Х |
| | rphripoly_rf | | 3 | Χ | X | | Χ | X | Χ | X | X | X | X | Χ | 6 | Χ | Х | Χ | Χ | Χ | Χ | Χ |
| | rplpoly_rf | | 3 | Χ | Χ | | Χ | X | Χ | Χ | Χ | Х | X | X | 6 | Χ | Χ | Χ | Χ | Χ | Χ | Χ |
| | | | | | | | | | | | | | | | | | | | | | | |
| IND | spiral_std_mu_x_2 0k | | 3 | Х | Х | | | X | X | X | Х | Х | X | X | 10 | X | Х | X | Х | Х | X | Х |
| | spiral_sym_ct_mu_ x_20k | | 3 | Х | Х | | | X | X | X | X | X | X | Х | 10 | X | X | Х | X | Х | Х | Х |
| | spiral_std_mu_x_2 0k | | 3 | Х | Х | | | Χ | Х | Х | Χ | X | X | Х | 10 | Х | X | X | Х | Х | Х | Х |
| | spiral_std_mu_x_4 0k | | 3 | Х | Х | | | Х | Х | Х | Х | Х | X | Х | 10 | Х | Х | X | Х | Х | Х | Х |
| | spiral_sym_ct_mu_ x_40k | | 3 | Х | Х | | | Х | Х | Х | Х | Х | Х | X | 10 | Х | Х | Х | Х | Х | Х | Х |
| | spiral_std_mu_x_4 0k | | 3 | Х | Х | | | Х | Х | Х | Х | Х | Х | X | 10 | X | Х | Х | Х | Х | Х | Х |
| | V II. | | | | | | | | | | | | | | | | | | | | | |
| SPE | dio_dnwpsub | 2 | 2 | Х | Х | | | Х | Х | Х | Х | Х | | | 0 | Х | X | Χ | Χ | | † | $\vdash \vdash \vdash$ |
| -· - | dio pwdnw | 2 | 2 | Х | Х | | | Х | Х | X | Х | X | | | 0 | Х | X | X | Х | | † | \Box |
| | diodesd3v | 2 | 2 | Х | Х | | | Х | Х | X | Х | X | | | 0 | X | X | X | X | | | |

Comments

- 1. The npn/vpnp/vpnp3 cells don't have the layout view. It will be automatically generated during the schematic driven layout procedures.
- 2. This PDK only provides front-end information for these devices. Users have to provide the layouts and set those parameters manually depending on the layouts wanted.
- 3. This PDK only provide front-end information for these devices. These devices are designed for designers to take the RC substrate network effect into consideration during the design phase. Users have to pre prepare the corresponding models for those devices and incorporate them into TSMC's spice model before running the simulation.