

This mature Power Management technology provides devices that support high voltage range switching (450V, 700V) and low voltage (6.5V to 30V) to facilitate integration required to drive greener AC to DC solutions.

The design package includes analog components (Resistors, BJT, capacitor and Zener), LDMOS, and JFET Transistors, as well as standard 6.5V Transistors.

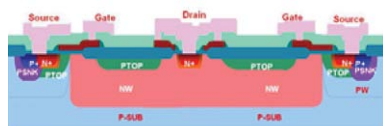
### Our 700V Fully Developed Process Features:

- Non EPI Wafers
- Single Poly, single Gate-oxide
- Double Metal
- LOCOS Isolation
- Single Poly (minimum size 1.0 $\mu$ m) single Gate-oxide, that can tolerate 30V
- Double Metal. Minimum contact (via) size 1.0 $\mu$ m
- Planarized passivation with thick polyimide
- Selection of devices, including Bipolar transistors, Zener Diode, resistors, including highly linear HIPO resistor (add masks), and poly capacitor
- Total 16 masks for base process
- Maximum operation current tolerance 1.0Amp
- Operation temperature tolerance -40 C–125 C, high voltage devices are tested up to 150 C
- Inductor Toolbox
- DFM (Design-for-Manufacturing) kit, including DFM manual, dedicated DRC scripts and utilities

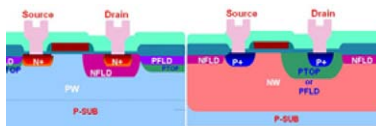
### Our 700V Design Kit fully supports:

	DEVICE	PROCESS FEATURES
1	450V LDMOS transistor	RDSON 16 Ohm*mm <sup>2</sup> BVDSS>600V
2	700V LDMOS transistor	RDSON 30.6 Ohm*mm <sup>2</sup> BVDSS>750V
3	20V PNP	Beta=300 BVcbo=96V, BVebo=30V
4	Zener Diode	BV=6.0V (V@I=100uA)
5	6.5V Nmos transistor	Vt=1.05; Id=210uA/ $\mu$ m (Id @ Vgs=Vds=6.5V, Vbs=0V)
6	6.5V Pmos transistor	Vt=0.83V; Id=83uA/ $\mu$ m (Id @ Vgs=Vds=6.5V, Vbs=0V)
7	20V Nmos transistor	Vt=1.05V; Id=141uA/ $\mu$ m (Id @ Vgs=Vds=20V, Vbs=0V)
8	20V Pmos transistor	Vt=0.86V; Id=265uA/ $\mu$ m (Id @ Vgs=Vds=20V, Vbs=0V)
9	700V JFET	Vp=29V@Id=10nA; Id=3mA (@Vgs=6.5V Vds=700V, Vbs=0V)
10	Metal 1	Rs=37 Ohm/Square
11	Top Metal	Rs=27 Ohm/Square

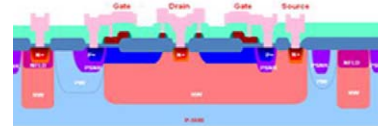
## Sample Cross Sections



450V and 700V NLD MOS transistors



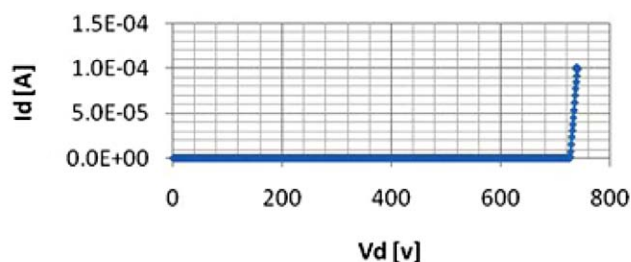
20V NMOS/PMOS (LDMOS) transistors



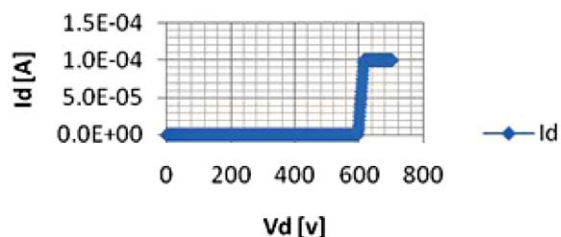
700V JFET Transistors

## HV LDMOS Breakdown Voltage

### 700V Nldmos Bvdss



### 450V Nldmos Bvdss



## Analog Mixed-Signal Design Kit Features

- Cadence®-based Design Kit
- Cadence® Assura™ DRC/LVS/RCX
- Support for Mentor® Calibre interactive/XRC
- Support for Spectre, ADS (& RFDE), HSPICE simulators
- Includes basic ESD structures

## Supported Models

- MOSFETs:** Binned BSIM4 models, mismatch, statistical and noise models
- NPNs:** Scalable HiCum, mismatch, statistical and noise models
- Resistors:** Mismatch, statistical and noise models

## Customer Service and Support

- Online Customer Portal
- File Exchange for design kits and online documentation
- Online WIP
- Online Tape-Out System
- Online Help Ticket System
- Manufacturing status, logistics and inventory management
- Dedicated Sales and Engineering Support