

# POLYFET RF DEVICES

## LDMOS

Lateral Double Diffuse MOS  
Transistor

The Next Generation



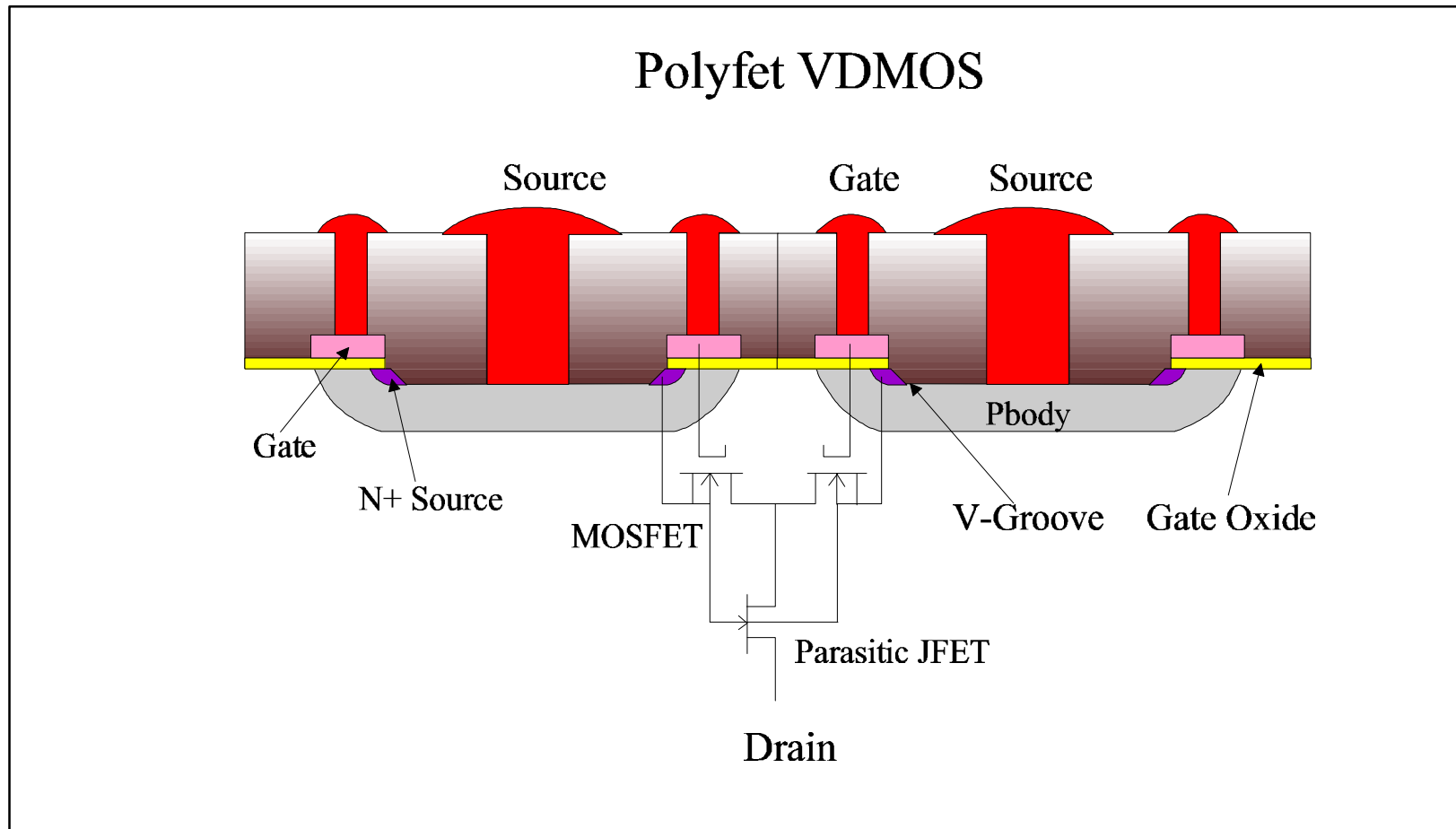
# DMOS Technology

- Vertical DMOS
- Bottom Side Drain
- Source bond wire reducing gain
- Higher Crss
- BEO isolation
- High Package Cost

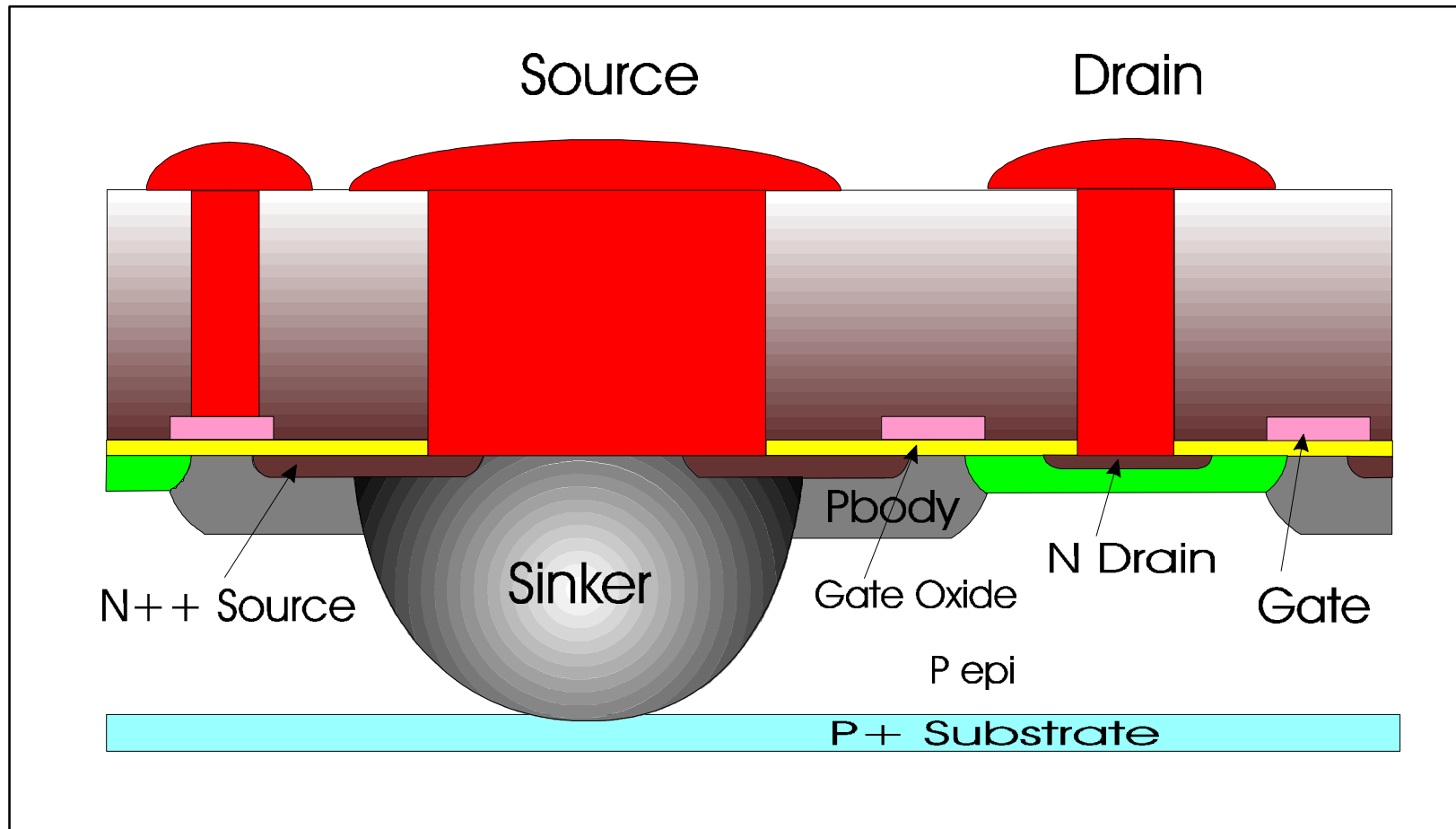
- Lateral DMOS
- Bottom Side Source
- No source bondwire
- 3 dB higher gain
- Lower Crss
- Higher Power
- Higher Efficiency
- Lower Package Cost
- No BEO required
- Improve  $\theta_{jc}$



# Cross Section VDMOS

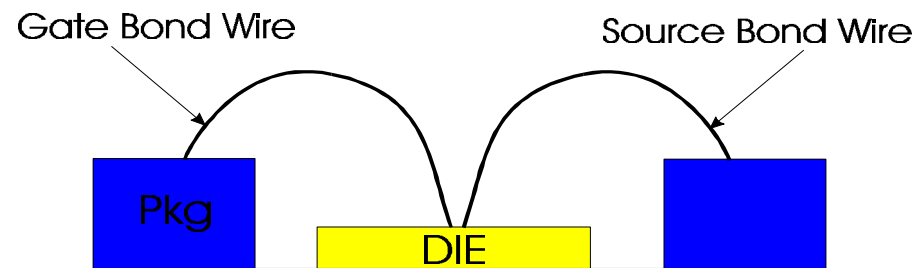


# Cross Section LDMOS

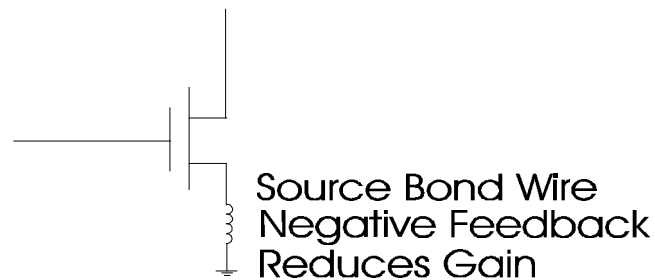


# Source Bond Wires

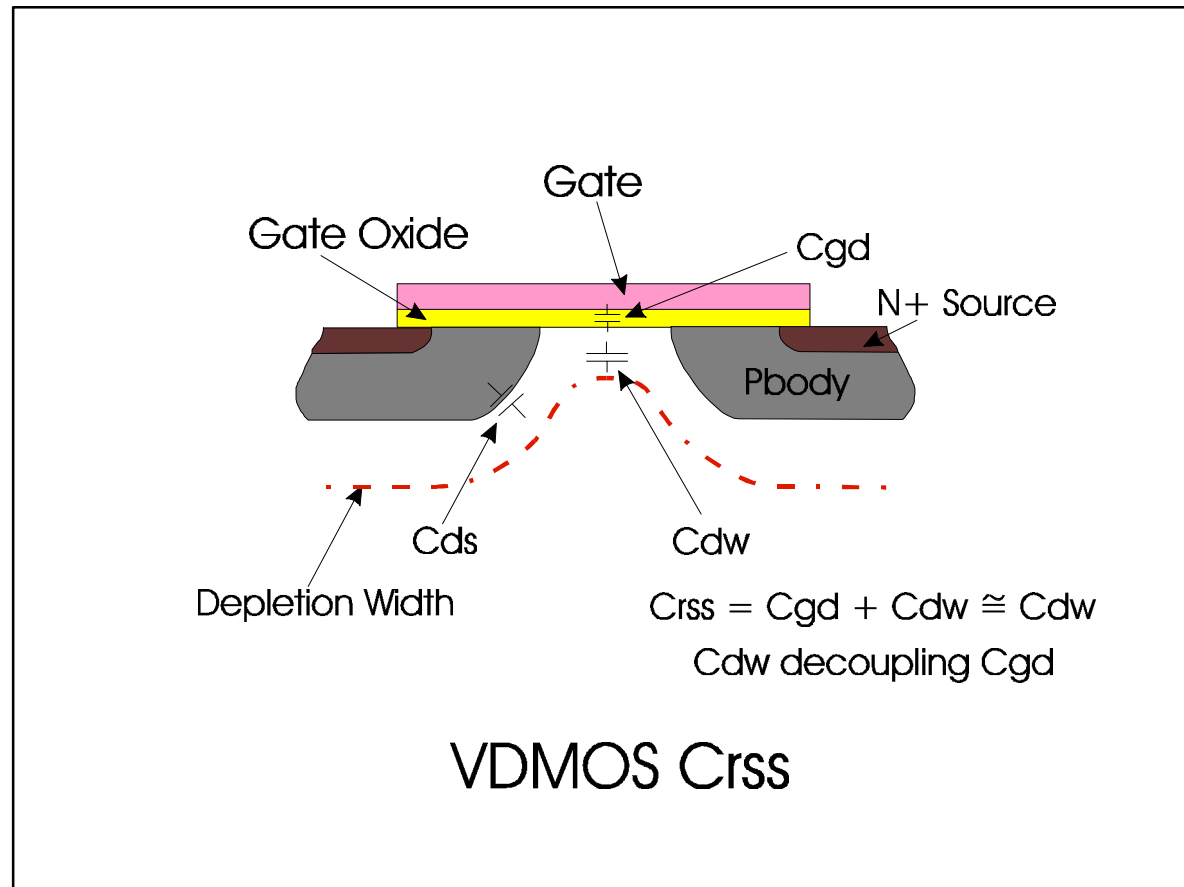
## VDMOS WIRE BONDS



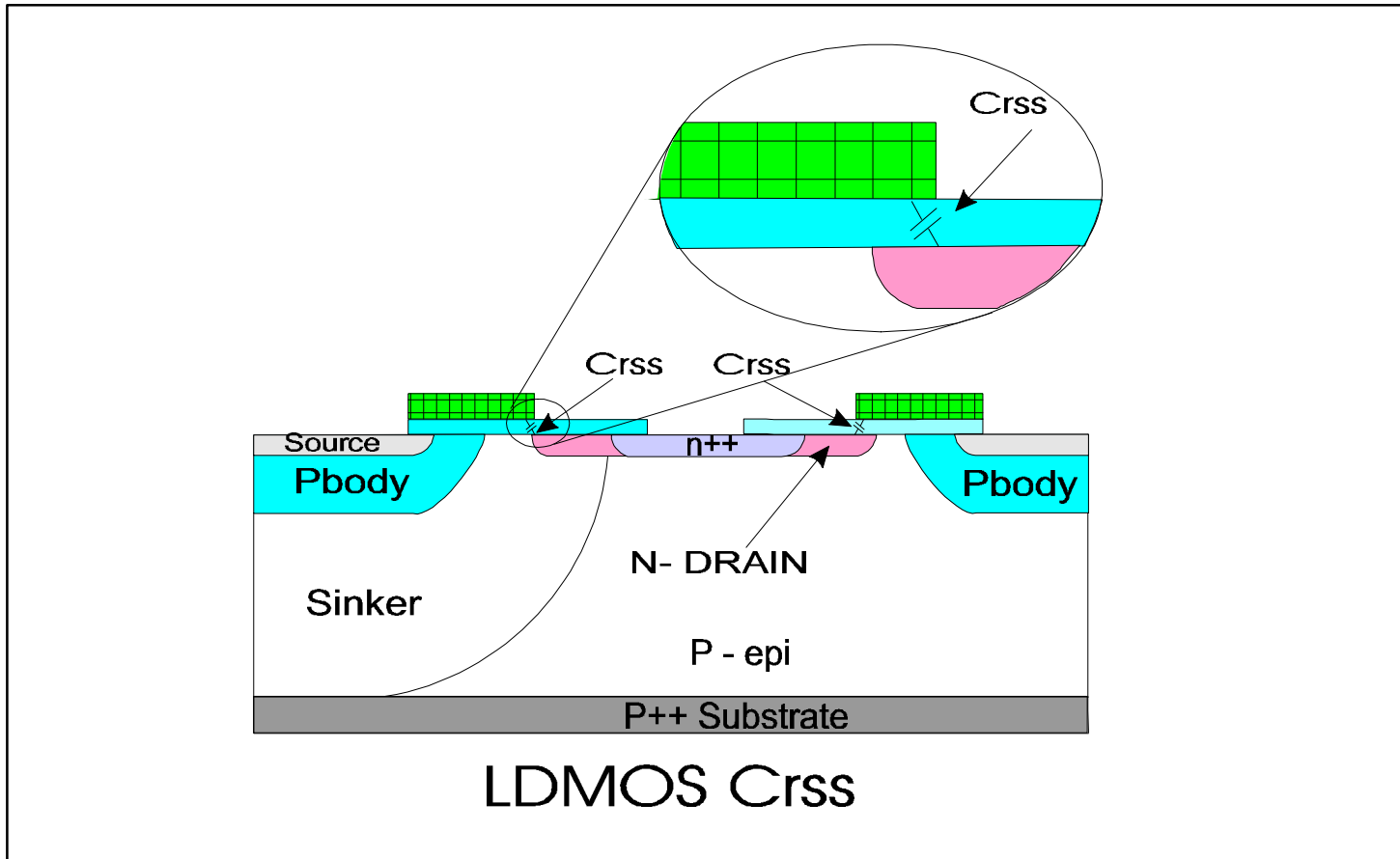
Bottom of Die is Drain - Vdd  
Metal is connected to Ground



# VDMOS Crss



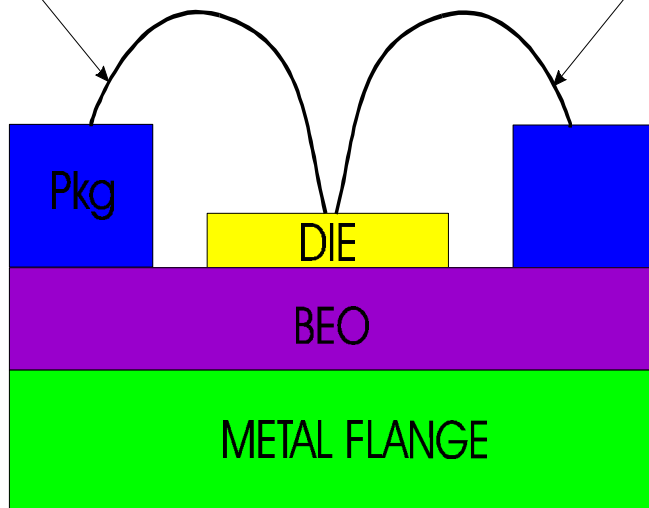
# LDMOS Crss



# Packaging

## VDMOS Requires BEO

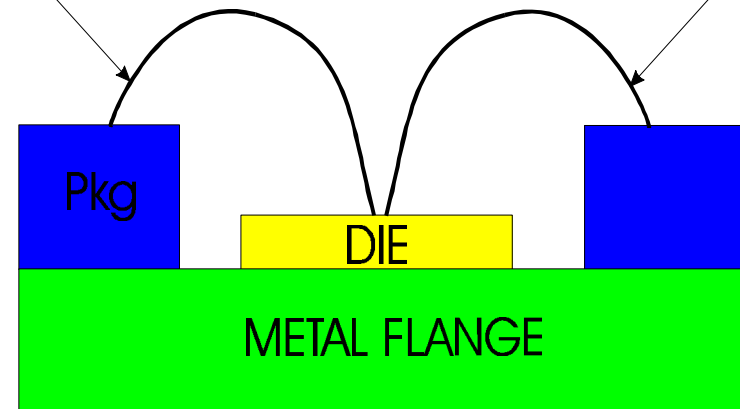
Gate Bond Wire      Source Bond Wire



Bottom of Die is Drain - Vdd  
Metal is connected to Ground

## LDMOS No BEO

Gate Bond Wire      Drain Bond Wire



Bottom of Die is Drain - Vdd  
Metal is connected to Ground





# Polyfet DMOS Line

|   |        |     |       |         |     |     |              |
|---|--------|-----|-------|---------|-----|-----|--------------|
| 🐾 | L88081 | 15W | 12 dB | 1000Mhz | 60% | LX2 | Single Ended |
| 🐾 | L88082 | 30W | 12 dB | 1000Mhz | 55% | LX2 | Single Ended |
| 🐾 | L88013 | 30W | 12dB  | 1000Mhz | 55% | AQ  | Push Pull    |
| 🐾 | P125   | 8W  | 13 dB | 1000Mhz | 50% | S08 | Single Ended |
| 🐾 | L88012 | 15W | 12 dB | 1000Mhz | 60% | AP  | Single Ended |
| 🐾 | L88008 | 60W | 14 dB | 500Mhz  | 60% | AK  | Push Pull    |
| 🐾 | L88007 | 30W | 14 dB | 500Mhz  | 55% | AK  | Push Pull    |
| 🐾 | L88016 | 30W | 14 dB | 500Mhz  | 55% | AQ  | Push Pull    |
| 🐾 | L88026 | 50W | 12 dB | 1000Mhz | 50% | AK  | Push Pull    |

