

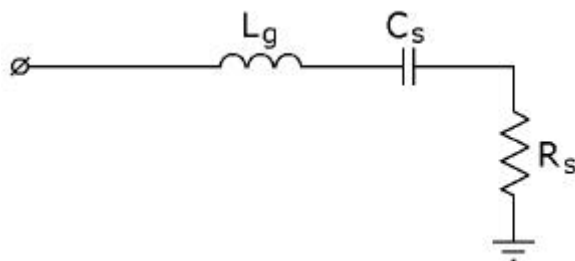
## Philips Semiconductors LDMOS Broadcast Drivers

### Equivalent Circuits

- BLF1043, BLF1822-10 and BLF2045 are LDMOS transistors which can be used in Band IV/V applications in conjunction with BLF861A
- To support the use of these drivers in Band IV/V, equivalent in- and output circuits are shown
- Conditions
  - Frequency band: 470MHz – 860MHz
  - Supply voltage: 32V
  - Output power: 15W for BLF1043  
15W for BLF1822-10  
45W for BLF2045

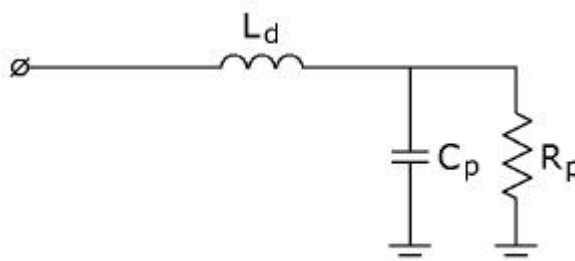
#### BLF1043

- Input Equivalent Circuit



$$\begin{aligned}C_s &= 18\text{pF} \\ R_s &= 1.2\Omega \\ L_g &= 0.9\text{nH}\end{aligned}$$

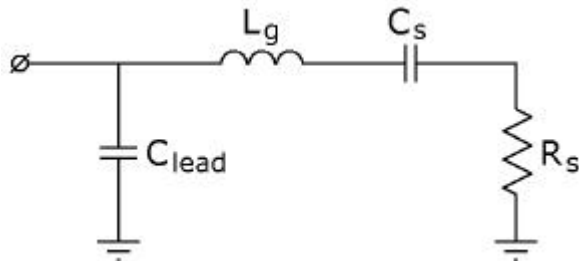
- Output Equivalent Circuit  
( $P_o = 15\text{W} @ 32\text{V}$ )



$$\begin{aligned}C_p &= 10\text{pF} \\ R_p &= 26\Omega \\ L_d &= 0.9\text{nH}\end{aligned}$$

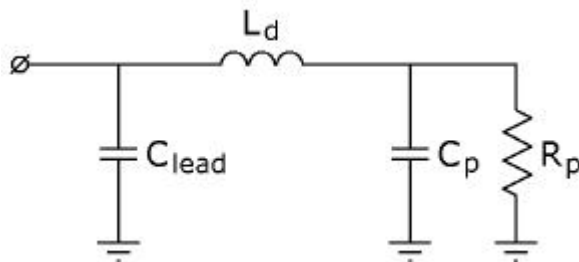
## BLF1822-10

- Input Equivalent Circuit



$$\begin{aligned} C_{\text{lead}} &= 1.5\text{pF} \\ C_s &= 18\text{pF} \\ R_s &= 1.2\Omega \\ L_g &= 0.7\text{nH} \end{aligned}$$

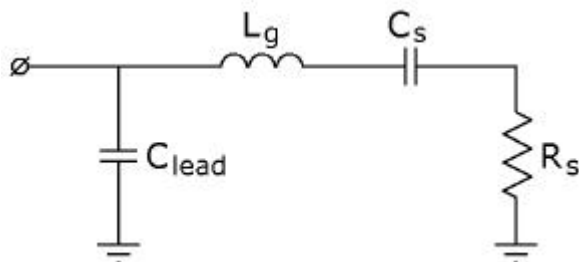
- Output Equivalent Circuit  
( $P_o = 15\text{W} @ 32\text{V}$ )



$$\begin{aligned} C_{\text{lead}} &= 1.5\text{pF} \\ C_p &= 10\text{pF} \\ R_p &= 26\Omega \\ L_d &= 0.7\text{nH} \end{aligned}$$

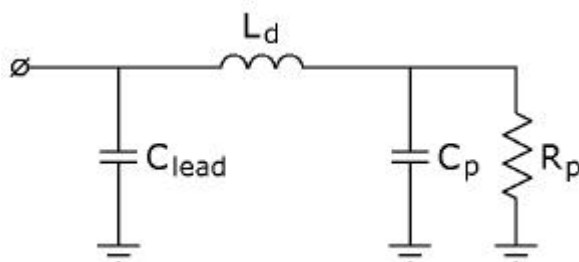
## BLF2045

- Input Equivalent Circuit



$$\begin{aligned} C_{\text{lead}} &= 1.5\text{pF} \\ C_s &= 60\text{pF} \\ R_s &= 1.0\Omega \\ L_g &= 0.25\text{nH} \end{aligned}$$

- Output Equivalent Circuit  
( $P_o = 45\text{W} @ 32\text{V}$ )



$$\begin{aligned} C_{\text{lead}} &= 1.5\text{pF} \\ C_p &= 33\text{pF} \\ R_p &= 8.5\Omega \\ L_d &= 0.2\text{nH} \end{aligned}$$