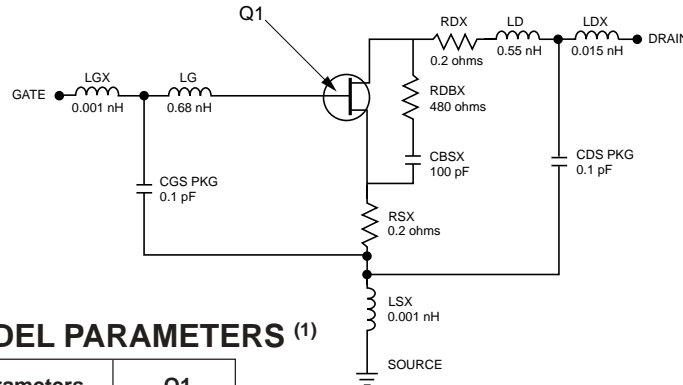


## SCHEMATIC



## FET NONLINEAR MODEL PARAMETERS (1)

| Parameters             | Q1       | Parameters | Q1    |
|------------------------|----------|------------|-------|
| VTO                    | -2.585   | RG         | 0.2   |
| VTOSC                  | 0        | RD         | 0.001 |
| ALPHA                  | 3        | RS         | 0.001 |
| BETA                   | 1.28     | RGMET      | 0     |
| GAMMA                  | 0        | KF         | 0     |
| GAMMADC <sup>(2)</sup> | 0.035    | AF         | 1     |
| Q                      | 1.7      | TNOM       | 27    |
| DELTA                  | 0.02     | XTI        | 3     |
| VBI                    | 0.6      | EG         | 1.43  |
| IS                     | 1e-14    | VTOTC      | 0     |
| N                      | 1        | BETATCE    | 0     |
| RIS                    | 0        | FFE        | 1     |
| RID                    | 0        |            |       |
| TAU                    | 10e-12   |            |       |
| CDS                    | 0.5e-12  |            |       |
| RDB                    | 0.001    |            |       |
| CBS                    | 0        |            |       |
| CGSO <sup>(3)</sup>    | 25e-12   |            |       |
| CGDO <sup>(4)</sup>    | 4.5e-12  |            |       |
| DELTA1                 | 1        |            |       |
| DELTA2                 | 0.2      |            |       |
| FC                     | 0.5      |            |       |
| VBR                    | Infinity |            |       |

## UNITS

| Parameter   | Units       |
|-------------|-------------|
| capacitance | picofarads  |
| inductance  | nanohenries |
| resistance  | ohms        |

## MODEL RANGE

Frequency: 0.4 to 8 GHz  
 Bias:  $V_{DS} = 3\text{ V to } 8\text{ V}$ ,  $I_D = 300\text{ mA to } 500\text{ mA}$   
 Date: 8/03

(1) Series IV Libra TOM Model

The parameter in Libra corresponds to the parameter in PSpice:

|             |       |
|-------------|-------|
| (2) GAMMADC | GAMMA |
| (3) CGSO    | CGS   |
| (4) CGDO    | CGD   |

## Life Support Applications

These NEC products are not intended for use in life support devices, appliances, or systems where the malfunction of these products can reasonably be expected to result in personal injury. The customers of CEL using or selling these products for use in such applications do so at their own risk and agree to fully indemnify CEL for all damages resulting from such improper use or sale.

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